

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING
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2. CONTRACT NO. NRC-04-96-040	3. EFFECTIVE DATE	4. REQUISITION/PROJECT NO. RES-95-044
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5. ISSUED BY Code: U.S. Nuclear Regulatory Commission Division of Contracts Technical Acquisition Branch 1 Washington, DC 20555	6. ADMINISTERED BY Code: (If other than Item 5) U.S. Nuclear Regulatory Commission Division of Contracts Technical Acquisition Branch 1 Washington, DC 20555
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7. NAME AND ADDRESS OF CONTRACTOR Pennsylvania State University 110 Technology Center University Park, PA 16802 Principal Investigator/Technical Contact: Dr. John H. Mahaffy Telephone No: (814) 865-0043	8. DELIVERY [] FOB ORIGIN [X] OTHER (See below) 9. DISCOUNT FOR PROMPT PAYMENT N/A
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10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN ITEM: 6

11. SHIP TO/MARK FOR CODE US Nuclear Regulatory Commission Norman Lauben, MS T10-G6 Division of Systems Technology Washington, DC 20555-0001	12. PAYMENT WILL BE MADE BY CODE U.S. Nuclear Regulatory Commission Division of Accounting and Finance GOV/COM Accounting Section Washington, DC 20555
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13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION
[] 10 U.S.C. 2304(c) [] [X] 41 U.S.C. 253(c) [1]

14. ACCOUNTING AND APPROPRIATION DATA
APPN: 31X0200.660 B&R: 66015122010 BOC: 252A
JCN: W6462 RES ID: RES-C96-086 Obligated Amount \$45,595.00

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
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See Schedule

15G. TOTAL AMOUNT OF CONTRACT \$45,595.00

EXCEPTION TO STANDARD FORM SF26 (REV. 4-85)
FAR(48 CFR) 53.214(a)

Prescribed by GSA

X SEC	16. TABLE OF CONTENTS DESCRIPTION	PAGE(S)
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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 2 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print) Robert Killoren, Director, OSP	20A. NAME OF CONTRACTING OFFICER Mary H. Mace
19B. NAME OF CONTRACTOR by <u>R. Killoren</u> (Signature of person authorized to sign)	20B. UNITED STATES OF AMERICA by <u>Mary H. Mace</u> (Signature of Contracting Officer)
19C. DATE SIGNED 4/9/96	20C. DATE SIGNED 4-17-96

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PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 PROJECT TITLE

The title of this project is as follows:

RELAP5/CONTAIN LINKAGE FOR AP600 ANALYSIS

[End of Clause]

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987)

Research project for further development, testing and documentation of the "LINK" code.

[End of Clause]

**B.3 CONSIDERATION AND OBLIGATION--COST REIMBURSEMENT
(JUN 1988)**

- (a) The total estimated cost to the Government for full performance under this contract is \$45,595.00.
- (b) The amount obligated by the Government with respect to this contract is \$45,595.00.

[End of Clause]

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**C.1 STATEMENT OF WORK****C.1.1 BACKGROUND**

NRC's preliminary analyses of the Westinghouse AP600 and General Electric Simplified Boiling Water Reactor (SBWR) designs suggest that coupling between conditions in the containment and reactor coolant system (RCS) may have some impact on the long-term progression of certain design-basis scenarios. For both of these advanced light water reactor (ALWR) designs, the NRC currently envisions using the RELAP5 and CONTAIN codes for long-term transient analysis of the RCS and the containment, respectively. Recent work on developing and documenting a linkage between RELAP5 and CONTAIN for ALWR audit analyses has been only partially completed. The project described herein resumes that work in support of the ALWR review.

The so-called LINK code, a series of subroutines that connect RELAP5 and CONTAIN using the Parallel Virtual Machine (PVM) code platform, has been developed to its current level by Pennsylvania State University (PSU). Past development efforts were able to only partially complete, document, and test the coding of LINK features needed for modeling break flows to the containment and feedback to the RCS.

C.1.2 Contract Objectives

The objective of the work described herein is to link the RELAP5 code to the CONTAIN code to facilitate the audit analysis of selected AP600 and SBWR transients.

C.1.3 Statement of Work**Task 1: Identification of Functional Requirements, Linkage Deficiencies and Detailed Work Plans**

Review the latest versions of the RELAP5 and CONTAIN codes, the AP600 and SBWR input decks, the existing LINK code, draft documentation, and related background materials, all of which will be provided by the NRC as needed. Identify and prioritize the functional requirements for linked RELAP5/CONTAIN analyses of selected AP600 and SBWR transients that actuate all stages of the automatic depressurization systems. For those high-priority functional requirements that exceed existing LINK capabilities, identify and evaluate technical approaches to establishing the new capabilities and plan their implementation and demonstration. For example, if the long-term transient responses of the RCS and

C.1.3 (Continued)

containment are found to be consistently insensitive to time stepping and nodalization, then the use of simplified RELAP5 and CONTAIN input decks may be identified as a planning option. Summarize the requirements, deficiencies, and work plans in a draft letter report and submit it to the NRC project manager for comment and approval.

<u>Deliverables</u>	<u>Estimated Completion Date</u> (weeks after contract start)
1A. Task-1 draft letter report to PO	12
1B. Comments/approval by PO	14
1C. Revised Task-1 draft letter report to PO	16 (as needed)

Task 2: Development and Testing of Link Package

Based on the approved plans documented in Task 1, complete the implementation of the most essential LINK coding improvements and demonstrate the resulting code for two cases selected from the AP600 or SBWR transient types considered under Task 1. For such demonstrations, the most recent available versions of the RELAP5 and CONTAIN codes and AP600 input decks will be provided by the NRC as needed. Inform the NRC Project Manager of any recommended or necessary plan deviations, update the Task-1 letter report as needed, and issue a letter report documenting the coding improvements and demonstration cases. Submit that letter report, as well as any updates of the Task-1 report, to the NRC Project Manager for comment and approval.

<u>Deliverables</u>	<u>Estimated Completion Date</u> (weeks after contract start)
2A. Updated Task-1 draft letter report to PO	30 (as needed)
2B. Draft of Task-2 letter report to PO	30
2C. Comments/approval by PO	32
2D. Final Task-2 letter report to PO	34

Task 3: Peer Review and Final Documentation

Building upon the existing draft documentation from previous efforts and the letter reports from Tasks 1 and 2, prepare a draft final report describing the improved LINK package. The report should provide or reference all information needed for use and maintenance of the package. Submit that report, along with a well-commented source code listing of the LINK package on an approved electronic medium, to the NRC Project Manager and to two prospective LINK users from BNL and INEL for peer review and comment. Address the reviewers' comments and submit the revised report and LINK package to the NRC Project Manager for final comment and approval.

<u>Deliverables</u>	<u>Estimated Completion Date</u> (weeks after contract start)
3A. Draft of Task-3 report to PO and panel	42
3B. Comments form INEL/BNL reviewers and PO	46
3C. Revised draft Task-3 report to PO	49
3D. Comments/approval from PO	50
3E. Finalized Task-3 report to PO	52

Task 4: On-Call Assistance

Attend NRC meetings, make presentations, and provide technical and planning assistance regarding the RELAP5/CONTAIN LINKAGE for AP600 and SBWR analysis as requested by the NRC Project Manager, not to exceed 1 person-week.

Estimated Completion Date: 14 months after contract start

Meetings

It is estimated that two contractor visits to NRC Headquarters will be necessary for the performance of the work. The first visit will be for the purpose of reviewing the initial status and plans and will take place during the first month of the contract. The second visit will be for the purpose of reviewing the status of the work as it approaches completion and will take place approximately three months before the end of the period of performance. Each visit will involve travel by one or two members of the contractor's staff and will last approximately one day.

[End of Clause]

C.2 NRCAR 2052.215-83 TRAVEL APPROVALS (JAN 1993)

- (a) All domestic travel requires the prior approval of the project officer.
- (b) All foreign travel must be approved in advance by the NRC on NRC Form 445 and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. Foreign travel approval must be communicated in writing through the contracting officer.

[End of Clause]

SECTION D - PACKAGING AND MARKING**D.1 PACKAGING AND MARKING (MAR 1987)**

The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Interstate Commerce Commission Regulations, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation. On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

[End of Clause]

SECTION E - INSPECTION AND ACCEPTANCE

E.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	TITLE	DATE
52.246-9	INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR 1984

[End of Clause]

E.2 PLACE OF INSPECTION AND ACCEPTANCE (MAR 1987)

Inspection and acceptance of the deliverable items to be furnished hereunder shall be made by the Project Officer at the destination.

[End of Clause]

SECTION F - DELIVERIES OR PERFORMANCE

F.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	TITLE	DATE
52.242-15	STOP-WORK ORDER Alternate I (APR 1984)	AUG 1989

[End of Clause]

F.2 NRCAR 2052.212-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)

All technical reports required by Section C and all Technical Progress Reports required by Section F are to be prepared in accordance with the attached Management Directive 3.8, "Unclassified Contractor and Grantee Publications in the NUREG Series." Management Directive 3.8 is not applicable to any Contractor Spending Plan (CSP) and any Financial Status Report that may be included in this contract. (See Section J for List of Attachments).

[End of Clause]

F.3 NRCAR 2052.212-71 TECHNICAL PROGRESS REPORT

The contractor shall provide a monthly Technical Progress Report to the project officer and the contracting officer. The report is due within 15 calendar days after the end of the report period and must identify the title of the project, the contract number, job code number, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report must include the following for each discrete task/task order:

- (a) A listing of the efforts completed during the period, and milestones reached or, if missed, an explanation provided;
- (b) Any problems or delays encountered or anticipated and recommendations for resolution. If the recommended resolution involves a contract modification, e.g., change in work

F.3 (Continued)

requirements, level of effort (cost) or schedule delay, the contractor shall submit a separate letter to the contracting officer identifying the required change and estimated cost impact.

- (c) A summary of progress to date; and
- (d) Plans for the next reporting period.

[End of Clause]

**F.4 NRCAR 2052.212-73 FINANCIAL STATUS REPORT
- ALTERNATE 1 (DEC 1995)**

The Contractor shall provide a monthly Financial Status Report to the project officer and the contracting officer. Also, whenever the report references the acquisition of, or changes in status of property valued at the time of purchase at \$50,000 or more, send a copy of the report to the Chief, Property Management Branch, Division of Facilities and Property Management, Office of Administration. The report is due within 20 calendar days after the end of the report period and shall identify the title of the project, the contract number, job code, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report shall include the following for each discrete task:

- (a) Total estimated contract amount.
- (b) Total funds obligated to date.
- (c) Total costs incurred this reporting period.
- (d) Total costs incurred to date.
- (e) Detail of all direct and indirect costs incurred during the reporting period for each task.
- (f) Balance of obligations remaining.
- (g) Balance of funds required to complete contract.
- (h) Property Status:
 - (1) List property acquired for the project during the month with an acquisition cost of \$500 or more and less than \$50,000. Give the item number for the specific piece of equipment.
 - (2) List property acquired for the project during the month with an acquisition cost of \$50,000 or more. Provide the following information for each item of property: item description or nomenclature, manufacturer, model number, serial number, acquisition cost, and receipt date. If no property was acquired during the month, include a statement to that effect. Note: The same information shall be provided for any component or peripheral equipment which is part of a "system or system unit."

F.4 (Continued)

- (3) For multi-year projects, in the September monthly financial status report provide a cumulative listing of property with an acquisition cost of \$50,000 or more (\$5,000 or more if purchased prior to October 1, 1995) showing the above information.
- (4) In the final monthly status report provide a closeout property report containing the same elements as described above for the monthly financial status reports, for all property purchased with NRC funds regardless of value unless title has been vested in the contractor. If no property was acquired under the contract, provide a statement to that effect. The contractor shall note any property requiring special handling for security, health, safety, or other reasons as part of the report.

(j) Travel status:

List the starting and end dates for each trip, the starting point and destination, and the traveler(s) for each trip.

If the data in this report indicates a need for additional funding beyond that already obligated, this information may only be used as support to the official request for funding required in accordance with the Limitation of Cost (LOC) Clause (FAR 52.232-20) or the Limitation of Funds (LOF) Clause (FAR 52.232-22).

(End of Clause)

F.5 PLACE OF DELIVERY--REPORTS (JUN 1988)

The items to be furnished hereunder shall be delivered, with all charges paid by the Contractor, to:

(a) Project Officer (3 copies)

US Nuclear Regulatory Commission
Norman Lauben
Division of Systems Technology, MD T10-G6
Office of Nuclear Regulatory Research
Washington, DC 20555-0001

(b) Contracting Officer (1 copy)

[End of Clause]

F.6 DURATION OF CONTRACT PERIOD (MAR 1987)

This contract shall commence on the effective date and will expire 14 months thereafter.

[End of Clause]

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 NRCAR 2052.215-71 PROJECT OFFICER AUTHORITY
(JAN 1993)

- (a) The contracting officer's authorized representative hereinafter referred to as the project officer for this contract is:

Name: Norman Lauben

Address: US Nuclear Regulatory Commission
Division of Systems Technology, MS T10-G6
Office of Nuclear Regulatory Research
Washington, DC 20555-0001

Telephone Number: (301) 415-6762

- (b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. The term technical direction is defined to include the following:
- (1) Technical direction to the contractor which shifts work emphasis between areas of work or tasks, fills in details, or otherwise serves to accomplish the contractual statement of work.
 - (2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.
 - (3) Review and, where required by the contract, approval of technical drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.
- (c) Technical direction must be within the general statement of work stated in the contract. The project officer does not have the authority to and may not issue any technical direction which:
- (1) Constitutes an assignment of work outside the general scope of the contract.
 - (2) Constitutes a change as defined in the "Changes" clause of this contract.
 - (3) In any way causes an increase or decrease in the total

G.1 (Continued)

- estimated contract cost, the fixed fee, if any, or the time required for contract performance.
- (4) Changes any of the expressed terms, conditions, or specifications of the contract.
 - (5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.
- (d) All technical directions must be issued in writing by the project officer or must be confirmed by the project officer in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the contracting officer.
 - (e) The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause.
 - (f) If, in the opinion of the contractor, any instruction or direction issued by the project officer is within one of the categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.
 - (g) Any unauthorized commitment or direction issued by the project officer may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.
 - (h) A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect there to is subject to FAR 52.233-1 - Disputes.
 - (i) In addition to providing technical direction as defined in paragraph (b) of the section, the project officer shall:
 - (1) Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the contracting officer changes in requirements.

G.1 (Continued)

- (2) Assist the contractor in the resolution of technical problems encountered during performance.
- (3) Review all costs requested for reimbursement by the contractor and submit to the contracting officer recommendations for approval, disapproval, or suspension of payment for supplies and services required under this contract.

[End of Clause]

**G.2 NRCAR 2052.215-82 TRAVEL REIMBURSEMENT
- ALTERNATE 1 (JAN 1993)**

- (a) The contractor is encouraged to use Government contract airlines, AMTRAK rail services, and discount hotel/motel properties in order to reduce the cost of travel under this contract. The contracting officer shall, upon request, provide each traveler with a letter of identification which is required in order to participate in this program. The Federal Travel Directory (FTD) identifies carriers, contract fares, schedules, payment conditions, and hotel/motel properties which offer their services and rates to Government contractor personnel traveling on official business under this contract. The FTD, which is issued monthly, may be purchased from the U.S. Government Printing Office, Washington, DC 20402.
- (b) The contractor will be reimbursed for reasonable travel costs incurred directly and specifically in the performance of this contract. The cost limitations for travel costs are determined in accordance with the specific travel regulations cited in FAR 31.303, as are in effect on the date of the trip. Travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.
- (c) When the Government changes the Federal Travel Regulations, or other applicable regulations, it is the responsibility of the contractor to notify the contracting officer in accordance with the Limitations of Cost clause of this contract if the contractor will be unable to make all of the approved trips and remain within the cost and fee limitations of this contract due to the changes.

G.2 (Continued)

(End of Clause)

G.3 NRCAR 2052.216-71 INDIRECT COST RATES (JAN 1993)

- (a) Pending the establishment of final indirect rates which must be negotiated based on audit of actual costs, the contractor shall be reimbursed for allowable indirect costs as follows:

<u>Rate</u>	<u>Period</u>	<u>Base</u>
Overhead 42.42%	7/1/95 - 5/30/97	Modified total direct costs (excludes tuition remission, equip., plant construction)

- (b) The contracting officer may adjust the above rates as appropriate during the term of the contract upon acceptance of any revisions proposed by the contractor. It is the contractor's responsibility to notify the contracting officer in accordance with FAR 52.232-20, Limitation of Cost, or FAR 52.232-22, Limitation of Funds, as applicable, if these changes affect performance of work within the established cost or funding limitations.

[End of Clause]

G.4 USE OF AUTOMATED CLEARING HOUSE (ACH)
ELECTRONIC PAYMENT

It is the policy of the Nuclear Regulatory Commission to pay Government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system in lieu of a U.S. Treasury check. The electronic system is known as Vendor Express. Payment shall be made in accordance with FAR 52.232-28, entitled "Electronic Funds Transfer Payment Methods".

To receive payment by Vendor express, the contractor shall complete the "Company Information" portion of the Form SF 3881, entitled "Payment Information Form - ACH Vendor Payment System" found in Section J. The contractor shall take the form to the ACH Coordinator at the financial institution that maintains its company's bank account. The contractor shall discuss with the ACH Coordinator how the payment identification information (addendum record) will be passed to them once the payment is received by the financial institution. The contractor must ensure that the addendum record will not be stripped from the payment. The ACH Coordinator will fill out the "Financial Institution Information"

G.4 (Continued)

portion of the form and return it to the Office of the Controller at the following address: Nuclear Regulatory Commission, Division of Accounting and Finance, Mailstop T-9-E-2, Washington, DC 20555, ATTN: ACH/Vendor Express. Once the Office of the Controller has processed the contractor's sign-up form, the contractor will begin to receive payments electronically via Vendor Express/ACH.

If the offeror/bidder has questions concerning ACH/Vendor Express, he/she may call the Commercial Payments staff at (301) 415-7520.

[End of Clause]

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 NRCAR 2052.209-73 CONTRACTOR ORGANIZATIONAL
CONFLICTS OF INTEREST (JAN 1993)

- (a) Purpose. The primary purpose of this clause is to aid in ensuring that the contractor:
- (1) Is not placed in a conflicting role because of current or planned interests (financial, contractual, organizational, or otherwise) which relate to the work under this contract; and
 - (2) Does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.
- (b) Scope. The restrictions described apply to performance or participation by the contractor, as defined in 48 CFR 2009.570-2 in the activities covered by this clause.
- (c) Work for others.
- (1) Notwithstanding any other provision of this contract, during the term of this contract the contractor agrees to forego entering into consulting or other contractual arrangements with any firm or organization, the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The contractor shall ensure that all employees under this contract abide by the provision of this clause. If the contractor has reason to believe with respect to itself or any employee that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the contractor shall obtain the written approval of the contracting officer before the execution of such contractual arrangement.
 - (2) The contractor may not represent, assist, or otherwise support an NRC licensee or applicant undergoing an NRC audit, inspection, or review where the activities that are the subject of the audit, inspection or review are the same as or substantially similar to the services within the scope of this contract (or task order as appropriate), except where the NRC licensee or applicant requires the contractor's support to explain or defend the contractor's prior work for the utility or other entity which NRC questions.

H.1 (Continued)

- (3) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site, the contractor shall neither solicit nor perform work in the same or similar technical area for that licensee or applicant organization for a period commencing with the award of the task order or beginning of work on the site (if not a task order contract) and ending one year after completion of all work under the associated task order, or last time at the site (if not a task order contract).
 - (4) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site,
 - (i) The contractor may not solicit work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate.
 - (ii) The contractor may not perform work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate, and for one year thereafter.
 - (iii) Notwithstanding the foregoing, the contracting officer may authorize the contractor to solicit or perform this type of work (except work in the same or similar technical area) if the contracting officer determines that the situation will not pose a potential for technical bias or unfair competitive advantage.
- (d) Disclosure after award.
- (1) The contractor warrants that to the best of its knowledge and belief, and except as otherwise set forth in this contract, it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.
 - (2) The contractor agrees that, if after award, it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the contracting officer. This statement must include a description of the action which the contractor has taken or proposes to take to avoid or mitigate such conflicts. The NRC may, however, terminate the contract if termination is in the best interest of the government.
 - (3) It is recognized that the scope of work of a task-order-type contract necessarily encompasses a broad

H.1 (Continued)

spectrum of activities. Consequently, if this is a task-order-type contract, the contractor agrees that it will disclose all proposed new work involving NRC licensees or applicants which comes within the scope of work of the underlying contract. Further, if this contract involves work at a licensee or applicant site, the contractor agrees to exercise diligence to discover and disclose any new work at that licensee or applicant site. This disclosure must be made before the submission of a bid or proposal to the utility or other regulated entity and must be received by the NRC at least 15 days before the proposed award date in any event, unless a written justification demonstrating urgency and due diligence to discover and disclose is provided by the contractor and approved by the contracting officer. The disclosure must include the statement of work, the dollar value of the proposed contract, and any other documents that are needed to fully describe the proposed work for the regulated utility or other regulated entity. NRC may deny approval of the disclosed work only when the NRC has issued a task order which includes the technical area and, if site-specific, the site, or has plans to issue a task order which includes the technical area and, if site-specific, the site, or when the work violates paragraphs (c)(2), (c)(3) or (c)(4) of this section.

(e) Access to and use of information.

- (1) If in the performance of this contract, the contractor obtains access to information, such as NRC plans, policies, reports, studies, financial plans, internal data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), the contractor agrees not to:
 - (i) Use this information for any private purpose until the information has been released to the public;
 - (ii) Compete for work for the Commission based on the information for a period of six months after either the completion of this contract or the release of the information to the public, whichever is first;
 - (iii) Submit an unsolicited proposal to the Government based on the information until one year after the release of the information to the public; or
 - (iv) Release the information without prior written approval by the contracting officer unless the information has previously been released to the

H.1 (Continued)

public by the NRC.

- (2) In addition, the contractor agrees that, to the extent it receives or is given access to proprietary data, data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), or other confidential or privileged technical, business, or financial information under this contract, the contractor shall treat the information in accordance with restrictions placed on use of the information.
- (3) Subject to patent and security provisions of this contract, the contractor shall have the right to use technical data it produces under this contract for private purposes provided that all requirements of this contract have been met.
- (f) Subcontracts. Except as provided in 48 CFR 2009.570-2, the contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms contract, contractor, and contracting officer, must be appropriately modified to preserve the Government's rights.
- (g) Remedies. For breach of any of the above restrictions, or for intentional nondisclosure or misrepresentation of any relevant interest required to be disclosed concerning this contract or for such erroneous representations that necessarily imply bad faith, the Government may terminate the contract for default, disqualify the contractor from subsequent contractual efforts, and pursue other remedies permitted by law or this contract.
- (h) Waiver. A request for waiver under this clause must be directed in writing to the contracting officer in accordance with the procedures outlined in 48 CFR 2009.570-9.
- (i) Follow-on effort. The contractor shall be ineligible to participate in NRC contracts, subcontracts, or proposals therefor (solicited or unsolicited), which stem directly from the contractor's performance of work under this contract. Furthermore, unless so directed in writing by the contracting officer, the contractor may not perform any technical consulting or management support services work or evaluation activities under this contract on any of its products or services or the products or services of another firm if the contractor has been substantially involved in the development or marketing of the products or services.
- (1) If the contractor, under this contract, prepares a complete or essentially complete statement of work or

H.1 (Continued)

specifications, the contractor is not eligible to perform or participate in the initial contractual effort which is based on the statement of work or specifications. The contractor may not incorporate its products or services in the statement of work or specifications unless so directed in writing by the contracting officer, in which case the restrictions in this paragraph do not apply.

- (2) Nothing in this paragraph precludes the contractor from offering or selling its standard commercial items to the Government.

[End of Clause]

H.2 NRCAR 2052.215-70 KEY PERSONNEL (JAN 1993)

- (a) The following individuals are considered to be essential to the successful performance of the work hereunder:

Dr. John H. Mahaffy

The contractor agrees that personnel may not be removed from the contract work or replaced without compliance with paragraphs (b) and (c) of this section.

- (b) If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the contractor shall immediately notify the contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.
- (c) Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer or his/her authorized representative shall evaluate the request and promptly notify the contractor of his or her approval or disapproval in writing.
- (d) If the contracting officer determines that suitable and timely

H.2 (Continued)

replacement of key personnel who have been reassigned, terminated, or have otherwise become unavailable for the contract work is not reasonably forthcoming, or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the contracting officer for default or for the convenience of the Government, as appropriate. If the contracting officer finds the contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss, or damage.

[End of Clause]

H.3 NRCAR 2052.235-71 PUBLICATION OF RESEARCH RESULTS - UNIVERSITIES (JAN 1993)

- (a) The principal investigator(s)/contractor shall comply with the provisions of NRC Handbook 3.8 (formerly MC 3202) and NRC Manual Chapter 3206 regarding publication in refereed scientific and engineering journals or dissemination to the public of any information, oral or written, concerning the work performed under this contract. Failure to comply with this clause shall be grounds for termination of this contract.
- (b) The principal investigator(s)/contractor may publish the results of this work in refereed scientific and engineering journals or in open literature and present papers at public or association meetings at interim stages of work, in addition to submitting to NRC the final reports and other deliverables required under this contract. However, such publication and papers shall focus on advances in science and technology and minimize conclusions and/or recommendations which may have regulatory implications.
- (c) The principal investigator(s) shall coordinate all such publications with, and transmit a copy of the proposed article or paper to, the NRC Contracting Officer or Project Officer, prior to publication. The NRC agrees to review and provide comments within thirty (30) days after receipt of a proposed publication. However, in those cases where the information to be published is (1) subject to Commission approval, (2) has not been ruled upon, or (3) disapproved by the Commission, the NRC reserves the right to disapprove or delay the publication. Further, if the NRC disagrees with the proposed publication for any reason, it reserves the right to require that any publication not identify the NRC's sponsorship of the work and that any associated publication costs shall be borne by the contractor.

H.3 (Continued)

[End of Clause]

H.4 NRCAR 2052.235-72 SAFETY, HEALTH, AND FIRE PROTECTION (JAN 1993)

The contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of its employees and of members of the public, including NRC employees and contractor personnel, and to minimize danger from all hazards to life and property and shall comply with all applicable health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission and the Department of Labor. In the event that the contractor fails to comply with these regulations or requirements, the contracting officer may, without prejudice to any other legal or contractual rights of the Commission, issue an order stopping all or any part of the work; thereafter, a start order for resumption of work may be issued at the discretion of the contracting officer. The contractor shall make no claim for an extension of time or for compensation or damages by reason of, or in connection with, this type of work stoppage.

[End of Clause]

H.5 CONTRACTOR ACQUIRED GOVERNMENT EQUIPMENT/PROPERTY (DEC 1995)

The Contractor is authorized to acquire and/or fabricate the equipment/property listed below for use in the performance of this contract.

Quantity Description

1	4.3GB external hard disk drive, high-speed (7200RPM) electronic data storage unit. DEC compatible with external SCSI id switch, external terminator, and external cable.
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(b) In the event that, during contract performance, the contractor determines that the acquisition cost for the above item(s) is expected to exceed the amount(s) contained in the contractor's proposal, the contractor shall refer to the Limitation of Cost or Funds Clause when either is included in the contract.

(c) Only the equipment/property listed above, in the quantities shown, will be acquired by the contractor. Additional equipment/property valued at \$500 or more may be acquired only after contracting officer approval is authorized by an amendment to this clause. The above listed equipment/property is subject to the provisions of the "Government Property" clause. [End of Clause]

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	TITLE	DATE
52.202-1	DEFINITIONS	OCT 1995
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	APR 1984
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	SEP 1990
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	JAN 1990
52.204-4	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER	MAY 1995
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	JUL 1995
52.215-2	AUDIT AND RECORDS--NEGOTIATION Alternate II (OCT 1995)	OCT 1995
52.215-26	INTEGRITY OF UNIT PRICES Alternate I (APR 1991)	OCT 1995
52.215-33	ORDER OF PRECEDENCE	JAN 1986
52.216-11	COST CONTRACT - NO FEE	APR 1984
52.219-8	UTILIZATION OF SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS CONCERNS	OCT 1995
52.222-3	CONVICT LABOR	APR 1984
52.222-26	EQUAL OPPORTUNITY	APR 1984
52.222-35	AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM ERA VETERANS	APR 1984
52.222-36	AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS	APR 1984
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA	JAN 1988
52.223-2	CLEAN AIR AND WATER	APR 1984
52.223-6	DRUG-FREE WORKPLACE	JUL 1990

I.1 (Continued)

NUMBER	TITLE	DATE
52.225-11	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	MAY 1992
52.227-1	AUTHORIZATION AND CONSENT Alternate I (APR 1984)	JUL 1995
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	APR 1984
52.227-11	PATENT RIGHTS - RETENTION BY THE CONTRACTOR (SHORT FORM)	JUN 1989
52.227-14	RIGHTS IN DATA - GENERAL Alternate IV (JUN 1987)	JUN 1987
52.228-7	INSURANCE - LIABILITY TO THIRD PERSONS	APR 1984
52.232-20	LIMITATION OF COST	APR 1984
52.232-23	ASSIGNMENT OF CLAIMS	JAN 1986
52.232-25	PROMPT PAYMENT	MAR 1994
52.232-28	ELECTRONIC FUNDS TRANSFER PAYMENT METHODS	APR 1989
52.233-1	DISPUTES	OCT 1995
52.233-3	PROTEST AFTER AWARD Alternate I (JUN 1985)	OCT 1995
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984
52.242-13	BANKRUPTCY	JUL 1995
52.243-2	CHANGES - COST-REIMBURSEMENT Alternate V (APR 1984)	AUG 1987
52.244-2	SUBCONTRACTS (COST-REIMBURSEMENT AND LETTER CONTRACTS)	FEB 1995
52.244-5	COMPETITION IN SUBCONTRACTING	APR 1984
52.245-5	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) Alternate I (JUL 1985)	JAN 1986
52.249-5	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (EDUCATIONAL AND OTHER NONPROFIT INSTITUTIONS)	APR 1984
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

[End of Clause]

I.2 52.203-9 REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY--MODIFICATION (SEP 1995)

- (a) Definitions. The definitions set forth in FAR 3.104-4 are hereby incorporated in this clause.
- (b) The Contractor agrees that it will execute the certification set forth in paragraph (c) of this clause when requested by the Contracting Officer in connection with the execution of

I.2 (Continued)

any modification of this contract.

- (c) Certification. As required in paragraph (b) of this clause, the officer or employee responsible for the modification proposal shall execute the following certification. The certification in paragraph (c)(2) of this clause is not required for a modification which procures commercial items.

CERTIFICATE OF PROCUREMENT INTEGRITY--
MODIFICATION (NOV 1990)

(1) I, [Name of certifier] _____, am the officer or employee responsible for the preparation of this modification proposal and hereby certify that, to the best of my knowledge and belief, with the exception of any information described in this certification, I have no information concerning a violation or possible violation of subsection 27(a), (b), (d), or (f) of the Office of Federal Procurement Policy Act, as amended* (41 U.S.C. 423), (hereinafter referred to as "the Act"), as implemented in the FAR, occurring during the conduct of this procurement (contract and modification number).

(2) As required by subsection 27(e)(1)(B) of the Act, I further certify that to the best of my knowledge and belief, each officer, employee, agent, representative, and consultant of [Name of Offeror] _____ who has participated personally and substantially in the preparation or submission of this proposal has certified that he or she is familiar with, and will comply with, the requirements of subsection 27(a) of the Act, as implemented in the FAR, and will report immediately to me any information concerning a violation or possible violation of subsections 27(a), (b), (d), or (f) of the Act, as implemented in the FAR, pertaining to this procurement.

(3) Violations or possible violations: (Continue on plain bond paper if necessary and label Certificate of Procurement Integrity--Modification (Continuation Sheet), ENTER NONE IF NONE EXISTS)

I.2 (Continued)

[Signature of the officer or employee responsible for the modification proposal and date]

[Typed name of the officer or employee responsible for the modification proposal]

* Subsections 27(a), (b), and (d) are effective on December 1, 1990. Subsection 27(f) is effective on June 1, 1991.

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER TITLE 18, UNITED STATES CODE, SECTION 1001.

- (d) In making the certification in paragraph (2) of the certificate, the officer or employee of the competing Contractor responsible for the offer or bid, may rely upon a one-time certification from each individual required to submit a certification to the competing Contractor, supplemented by periodic training. These certifications shall be obtained at the earliest possible date after an individual required to certify begins employment or association with the contractor. If a contractor decides to rely on a certification executed prior to the suspension of section 27 (i.e., prior to December 1, 1989), the Contractor shall ensure that an individual who has so certified is notified that section 27 has been reinstated. These certifications shall be maintained by the Contractor for a period of 6 years from the date a certifying employee's employment with the company ends or, for an agency, representative, or consultant, 6 years from the date such individual ceases to act on behalf of the contractor.
- (e) The certification required by paragraph (c) of this clause is a material representation of fact upon which reliance will be placed in executing this modification.

[End of Clause]

I.3 52.216-7 ALLOWABLE COST AND PAYMENT (JUL 1991)

- (a) Invoicing. The Government shall make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Subpart 31.3 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.
- (b) Reimbursing costs. (1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (2) below, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only--
- (i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;
 - (ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for--
 - (A) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;
 - (B) Direct labor;
 - (C) Direct travel;
 - (D) Other direct in-house costs; and
 - (E) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and
 - (iii) The amount of progress payments that have been paid to the Contractor's subcontractors under similar cost standards.
- (2) Contractor contributions to any pension or other postretirement benefit, profit-sharing or employee stock

I.3 (Continued)

ownership plan funds that are paid quarterly or more often may be included in indirect costs for payment purposes; Provided, that the Contractor pays the contribution to the fund within 30 days after the close of the period covered.

- (3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) below, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) below.
 - (4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.
- (c) Small business concerns. A small business concern may be paid more often than every 2 weeks and may invoice and be paid for recorded costs for items or services purchased directly for the contract, even though the concern has not yet paid for those items or services.
- (d) Final indirect cost rates. (1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.
- (2) The Contractor shall, within 90 days after the expiration of each of its fiscal years, or by a later date approved by the Contracting Officer, submit to the cognizant Contracting Officer responsible for negotiating its final indirect cost rates and, if required by agency procedures, to the cognizant audit activity proposed final indirect cost rates for that period and supporting cost data specifying the contract and/or subcontract to which the rates apply. The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.
 - (3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the

I.3 (Continued)

rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

- (4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.
- (e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates--
- (1) Shall be the anticipated final rates; and
 - (2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.
- (f) Quick-closeout procedures. When the Contractor and Contracting Officer agree, the quick-closeout procedures of Subpart 42.7 of the FAR may be used.
- (g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be (1) reduced by amounts found by the Contracting Officer not to constitute allowable costs or (2) adjusted for prior overpayments or underpayments.
- (h) Final payment. (1) The Contractor shall submit a completion invoice or voucher, designated as such, promptly upon completion of the work, but no later than one year (or longer, as the Contracting Officer may approve in writing) from the completion date. Upon approval of that invoice or voucher, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.
- (2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest,

I.3 (Continued)

if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver--

- (i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and
- (ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except--
 - (A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;
 - (B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and
 - (C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

[End of Clause]

I.4 52.222-2 PAYMENT FOR OVERTIME PREMIUMS (JUL 1990)

- (a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed \$0.00 or the overtime premium is paid for work--
- (1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;
 - (2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;
 - (3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or
 - (4) That will result in lower overall costs to the Government.
- (b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall--
- (1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;
 - (2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;
 - (3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and
 - (4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

[End of Clause]

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

J.1 ATTACHMENTS (MAR 1987)

<u>Attachment Number</u>	<u>Title</u>
01	Billing Instructions
02	NRC Contractor Organizational Conflicts of Interest
03	NRC Handbook 3.8
04	ACH Vendor Payment Information Form Standard Form SF 3881

Revised 12/13/94

BILLING INSTRUCTIONS FOR
COST-REIMBURSEMENT TYPE CONTRACTS

General: The contractor shall prepare vouchers/invoices for reimbursement of costs in the manner and format described herein. A sample voucher/invoice is provided for your reference. **FAILURE TO SUBMIT VOUCHERS/INVOICES IN ACCORDANCE WITH THESE INSTRUCTIONS WILL RESULT IN REJECTION OF THE VOUCHER/INVOICE AS IMPROPER.**

Number of Copies: An original and three copies, including supporting documentation shall be submitted. A copy of all supporting documents must be attached to each copy of your voucher/invoice. Failure to submit all the required copies will result in rejection of the voucher/invoice as improper.

Designated Agency Billing Office: Vouchers/invoices shall be submitted to the following address:

US Nuclear Regulatory Commission
Division of Contracts - T7-12
Washington, DC 20555

HAND DELIVERY OF VOUCHERS/INVOICES IS DISCOURAGED AND WILL NOT EXPEDITE PROCESSING BY NRC. However, should you choose to deliver vouchers/invoices by hand, including delivery by any express mail services or special delivery services which use a courier or other person to deliver the voucher/invoice in person to the NRC, such vouchers/invoices must be addressed to the above Designated Agency Billing Office and will only be accepted at the following location:

US Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike - Mail Room
Rockville, MD 20852

HAND-CARRIED SUBMISSIONS WILL NOT BE ACCEPTED AT OTHER THAN THE ABOVE ADDRESS.

Note that the official receipt date for hand-delivered vouchers/invoices will be the date it is received by the official agency billing office in the Division of Contracts.

Agency Payment Office: Payment will continue to be made by the office designated in the contract in Block 12 of SF 26 or Block 25 of SF 33, whichever is applicable.

Frequency: The contractor shall submit claims for reimbursement once each month, unless otherwise authorized by the Contracting Officer.

Form: Claims should be submitted in the format depicted on the attached sample form entitled "Voucher for Purchases and Services Other than Personal" (see attachment 1). The sample form is provided for guidance only. The form is not required for submission of a voucher/invoice. Alternate formats are

permissible provided all requirements of the billing instructions are addressed. Additional copies of the form are available from the Contracting Officer. The instructions form preparation and itemization of the voucher/invoice are included with the sample form (see attachment 2).

Task Ordering Contracts: If the contractor bills for more than one task order under a voucher/invoice, detailed cost information for each individual task order shall be submitted, together with a cumulative summary of all charges billed on the voucher/invoice. This includes all applicable cost elements discussed in paragraphs (a) through (p) of the attached instructions.

Fee Recovery Billings: Pursuant to the provisions of 10 CFR Part 170 and 171 on license fees, the NRC must recover the cost of work performed. Accordingly, the contractor must provide the total amount of funds billed during the period, fiscal year to date and the cumulative total for each task or task assignment by facility or report. The fee recovery billing reports shall be on a separate page, and shall be in the format provided in attachment 3. The billing period for fee recovery costs should be from the first day of each calendar month to the last day of the same month. Each separate fee billing report must be attached to the monthly invoice and cover the same period as the invoice.

Each report will contain a docket number or other unique identifier. The NRC will provide a unique identifier for all work performed. Costs should be reported as whole number to the nearest cent. For work that involves more than one facility at the same site, each facility should be listed separately and the costs should be split appropriately between the facilities. Common costs, as defined below, shall be identified as a separate line item in the fee recovery billing report each month.

Common costs are those costs that are not licensee unique and associated with the performance of an overall program that

benefit all similar licensees covered under that program or that are required to satisfactorily carry out the program. Common costs include costs associated with the following: preparatory or start-up efforts to interpret and reach agreement on methodology, approach, acceptance criteria, regulatory position, or technical reporting requirements; efforts associated with the "lead plant" concept that might be involved during the first one or two plant reviews; meetings and discussions involving the above efforts to provide orientation, background knowledge or guidance during the course of a program; any technical effort applied to a docket or other unique identifier; and project management. Common costs must be reported monthly for each docket or unique identifier. Common costs must be computed based on the proportion of direct costs incurred against each docket or unique identifier for the billing period.

Billing of Cost After Expiration of Contract: If costs are incurred during the contract period and claimed after the contract has expired, the period during which these costs were incurred must be cited. To be considered a proper expiration voucher/invoice, the contractor shall clearly mark it "EXPIRATION VOUCHER" or "EXPIRATION INVOICE."

Final vouchers/invoices shall be marked "FINAL VOUCHER" or "FINAL INVOICE."

Currency: Billings may be expressed in the currency normally used by the contractor in maintaining his accounting records; payments will be made in that currency. However, the US dollar equivalent for all vouchers/invoices paid under the contract may not exceed the total US dollars authorized in the contract.

Supersession: These instructions supersede any previous billing instructions.

VOUCHERS FOR PURCHASES AND SERVICES OTHER THAN PERSONAL

SAMPLE VOUCHER

Official Agency Billing Office
 U.S. Nuclear Regulatory Commission
 Division of Contracts and Property
 Management, P-902
 Washington, DC 20555
Payee's Name and Address

(a) Contract Number _____
 Task Order No. (If Applicable) _____
 (b) Title of Project _____

 (c) Voucher Number _____
 (d) Project Officer _____
 (e) Date of Voucher _____
 (f) Contract Amount _____
 (g) Fixed Fee _____

Individual to Contact
 Regarding This Voucher:
 Name: _____
 Tel. No.: _____

(h) This voucher represents reimbursable costs from _____ thru _____

	Amount Billed	
	(l) Current Period	(m) Inception to Date
(i) Direct Costs		
(1) Direct Labor *	_____	_____
(2) Fringe Benefits * If computed as percentage _____	_____	_____
(3) Capitalized Nonexpendable Equipment *	_____	_____
(4) Materials, Supplies and Noncapitalized Equipment *	_____	_____
(5) Premium Pay _____	_____	_____
(6) Consultants *	_____	_____
(7) Travel - Domestic * _____ Foreign * _____	_____	_____
(8) Subcontract * _____	_____	_____
(9) Other Costs * _____	_____	_____
Total Direct Costs	_____	_____
(j) INDIRECT COSTS		
(A) Overhead _____ % of _____ (Indicate Base)	_____	_____
Subtotal	_____	_____
(B) General & Administrative Expense _____ % of Cost Elements Nos. _____	_____	_____
Total Costs	_____	_____
(k) FIXED-FEE EARNED (Formula)	_____	_____
(n) Total Amount Claimed	_____	_____
(o) Adjustments	_____	_____
Outstanding Suspensions	_____	_____
(p) Grand Totals	_____	_____

* (REQUIRES SUPPORTING INFORMATION—SEE ATTACHED)

SAMPLE

SUPPORTING INFORMATION

1) Direct Labor - \$2400

<u>Labor Category</u>	<u>Labor Hours Negotiated</u>	<u>Hours Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative Hours Billed</u>
Senior Engineer I	2400	100	\$14.00	\$1400	975
Engineer	1500	50	\$10.00	\$500	465
Computer Analyst	700	100	\$5.00	\$500	320
				<u>\$2400</u>	

2) Direct Equipment

Spectrometer - General Electric (as approved in Property Schedule) \$5,000

4) Materials, Supplies & Other Expendable Items

10 Radon Tubes @ \$110.00 = \$1100.00
6 Pairs Electrostatic Gloves @ \$150.00 = \$900.00
\$2000.00

5) Premium Pay

Walter Murphy - 10 hours @ \$10.00 Per Hour = \$100
(This was approved by NRC in letter dated 3/6/89.)

6) Consultants' Fee

Dr. Carney - 1 hour @ \$100 = \$100

7) Travel

<u>Date</u>	<u>Traveler</u>	<u>Destination</u>	<u>Purpose</u>	<u>Costs</u>
<u>From</u> <u>To</u>		<u>From</u> <u>To</u>		
3/1/89 3/6/89	William King	Chicago, Wash., IL DC	Meeting with Project Officer	\$200

INSTRUCTIONS FOR PREPARING
COST INFORMATION FOR NRC CONTRACTS

Preparation and Itemization of the Voucher/Invoice: In order to constitute a proper invoice, the contractor shall furnish all the information set forth below. These notes are keyed to the entries on the sample voucher/invoice.

Official Agency Billing Office: Address the original and 3 copies of the voucher/invoice, together with supporting documentation attached to each copy to: US Nuclear Regulatory Commission, Division of Contracts - T7-12, Washington, DC 20555.

Vouchers/invoices delivered by hand, including delivery by express mail or special delivery services which use a courier or other person to deliver the voucher/invoice in person to the NRC, should be addressed in accordance with the foregoing and delivered to: US Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike - Mail Room, Rockville, Maryland 20852. Hand-delivered vouchers/invoices will not be accepted at other than the above address. Note, however, that the official receipt date for hand-delivered vouchers/invoices will be the date it is received by the official agency billing office in the Division of Contracts.

Payee's Name and Address. Show the name of the contractor as it appears in the contract and its correct address. When an approved assignment has been made by the contractor, or a different payee or addressee has been designated, insert the name and address of the payee. Indicate the name and telephone number of the individual responsible for answering any questions that the NRC may have regarding the invoice.

- (a) Contract Number. Insert the NRC contract number.
Task Order Number, if applicable. Insert the task order number.
- (b) Title of Project. List the full title of the project being performed under the contract.
- (c) Sequential voucher/invoice number. The appropriate sequential number of the voucher/invoice, beginning with 001 should be designated. Contractors may also include an individual internal accounting number, if desired, in addition to the 3-digit sequential number.
- (d) Project Officer's name as designated in the contract.

- (e) Date of Voucher Invoice. Insert the date the voucher/invoice is prepared.
- (f) Contract Amount. Insert the total estimated cost of the contract, exclusive of fixed-fee. Include this information as it applies to individual task orders as well.
- (g) Fixed-Fee. Insert total fixed-fee. Include this information as it applies to individual task orders as well.
- (h) Billing Period. Insert the beginning and ending dates (day, month, year) of the period during which costs were incurred and for which reimbursement is claimed.
- (i) Direct Costs - Insert the major cost elements:

- (1) Direct Labor. This consists of salaries and wages paid (or accrued) for direct performance of the contract itemized as follows:

<u>Labor Category</u>	<u>Labor Hrs. Negotiated</u>	<u>Hrs. Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative Hrs. Billed</u>
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- (2) Fringe Benefits. This represents fringe benefits applicable to direct labor and billed as a direct cost. Where a rate is used indicate the rate. Fringe benefits included in direct labor or in other indirect cost pools should not be identified here.
- (3) Direct Equipment. For educational institutions, list each item costing \$500 or more and having a life expectancy of more than one year. For contractors other than educational institutions, list each item costing \$200 or more and having a life expectancy of more than one year. List only those items of equipment for which reimbursement is requested. A reference shall be made to the following (as applicable): (a) the item number for the specific piece of equipment listed in the property schedule of the contract; (b) the Contracting Officer's approval letter if the equipment is not covered by the property schedule; or (c) be preceded by an asterisk (*) if the equipment is below the approval level.

For each piece of equipment purchased provide: (1) an item description, (2) make and model, (3) serial number, (4) acquisition cost, (5) date of purchase, and (6) a copy of the purchasing document.

Further itemization of vouchers/invoices shall only be required for items having specific limitations set forth in the contract.

- (4) Materials, Supplies, or Other Expendable Items. These are consumable materials, supplies, and equipment other than that described in (3) above. For each piece of equipment provide the

information set forth in (3) above.

- (5) Premium Pay. This remuneration in excess of the basic hourly rate. (Requires written approval of the Contracting Officer.)
- (6) Consultant's Fee. The supporting information must include the name, hourly or daily rate of the consultant, and reference the NRC approval (if not specifically approved in the original contract).
- (7) Travel. Domestic travel is travel within the United States, its territories, possessions, and Canada. It should be billed separately from foreign travel.

All costs associated with each trip must be shown in the following format:

Date	Traveler	Destination	Purpose	Cost
From	To	From	To	\$

- (8) Subcontracts. Include separate detailed breakdown of all costs paid to approved subcontractors during the billing period.
- (9) Other. List all other direct costs by cost element and dollar amount separately.
- (j) Indirect Costs - Overhead. Cite the formula (rate and base) in effect during the time the cost was incurred and for which reimbursement is claimed.
- (k) Fixed Fee. If the contract provides for a fixed fee, it must be claimed as provided for by the contract. Cite the formula or method of computation. The contractor may bill for fixed fee only up to 85% of total fee.
- (l) Amount Billed for Current Period. Insert the amount billed for the major cost elements, adjustments, and total amount for the period.
- (m) Cumulative Amount from Inception to Date of Current Billing. Insert the cumulative amounts billed for the major cost elements and adjusted amounts claimed during this contract.

- (n) Total Amounts Claimed. Insert the total amounts claimed for the current cumulative periods.
- (o) Adjustments. This includes cumulative amounts billed that have been suspended or disallowed.
- (p) Grand Totals.

FEE RECOVERY BILLING REPORT

FIN: _____

Facility Name or Report Title: _____

TAC or Inspection Report Number: _____
(or other unique identifier)

Docket Number (if applicable): _____

Cost Categories	Period Amt.	Period Cost Incurred	Fiscal Year To Date Costs	Total Cumulative Costs
Labor				
Materials				
Subcontractor/ Consultant				
Travel				
Other (specify)				
Common Costs				
Total				

Remarks: