AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING

2. CONTRACT NO.	3. EFFECTIVE DATE	4. REQUISITION/PROJECT NO.
NRC-04-94-085	OCT 1 1994	RES-94-085

5. ISSUED BY Code:	6. ADMINISTERED BY Code: (If other than Item 5)
U.S. Nuclear Regulatory Commission Division of Contracts Tech. Acq. Br. #1, T-7E33 Washington, DC 20555	U.S. Nuclear Regulatory Commission Division of Contracts Tech. Acq. Br. #1, T-7E33 Washington, DC 20555

7. NAME AND ADDRESS OF CONTRACTOR	8. DELIVERY
Micro Analysis & Design, Inc. 4900 Pearl East Circle, Suite 201 E Boulder, CO 80301 Principal Investigator/Technical Contact: K. Ronald Laughery Telephone No: (303) 442-6947	[ ] FOB ORIGIN [X] OTHER (See below) 9. DISCOUNT FOR PROMPT PAYMENT N/A

10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN ITEM: 6

11. SHIP TO/MARK FOR CODE	12. PAYMENT WILL BE MADE BY CODE
U.S. Nuclear Regulatory Commission Division of Systems Research Julius Persensky, M/S T-10-E33 Washington, DC 20555	U.S. Nuclear Regulatory Commission Div. of Accounting & Finance GOV/COM Acctng. Section, T-9E2 Washington, DC 20555

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION
[ ] 10 U.S.C. 2304(c)[ ] [ ] 41 U.S.C. 253(c)[ ]

14. ACCOUNTING AND APPROPRIATION DATA
APPN: 31X0200.460 B&R: 46019202400 Job Code: W6368
BOC: 252A RES I.D.: RES-C94-459 OBLIGATED AMT.:$105,000.00

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	The NRC hereby accepts the contractor's SBIR Phase II technical proposal dated 4/28/94, and revised 7/25/94, to perform research entitled "Studying & Validating the Use of Task Network Models for Predicting Human/System Performance in the Control Room" which are incorporated herein by reference and made a part of this cost-plus-fixed-fee contract.				
				15G. TOTAL AMOUNT OF CONTRACT	$198,358.00

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

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NRC-04-94-085 PDR

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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [X] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 3 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)	20A. NAME OF CONTRACTING OFFICER
K Ronald Laughery President	Mary H. Mace
19B. NAME OF CONTRACTOR by _____ (Signature of person authorized to sign)	20B. UNITED STATES OF AMERICA by _____ (Signature of Contracting Officer)
19C. DATE SIGNED 9/20/94	20C. DATE SIGNED 9-26-94

EXCEPTION TO STANDARD FORM 26 (REV.4-85)

PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 PROJECT TITLE

The title of this project is as follows:

"Studying and Validating the Use of Task Network Models for Predicting Human/System Performance in the Control Room"

[End of Clause]

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987)

The objective of this research is to provide a continuation of the validation research with a more detailed analysis of the NCSU data as well as the collection of new data, test the methods' practicality in a regulatory environment, and integrate with best-estimate thermal-hydraulic codes.

[End of Clause]

B.3 CONSIDERATION AND OBLIGATION--COST PLUS FIXED FEE (JUN 1988) ALTERNATE I (JUN 1991)

(a) The total estimated cost to the Government for full performance of this contract is $198,353.00, of which the sum of $183,787.00 represents the estimated reimbursable costs, and of which $14,566.00 represents the fixed fee.

(b) There shall be no adjustment in the amount of the Contractor's fixed fee by reason of differences between any estimate of cost for performance of the work under this contract and the actual cost for performance of that work.

(c) The amount currently obligated by the Government with respect to this contract is $105,000.00.

(d) It is estimated that the amount currently allotted will cover performance through approximately 9 months from the effective date.

[End of Clause]

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 STATEMENT OF WORK

The work to be performed and the objectives to be met in this contract shall be in accordance with the contractor's technical proposal which was submitted in response to the FY 94 Small Business Innovation Research (SBIR) Program and which is incorporated herein by reference.

[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
52.212-13	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, Financial Identification Number (FIN), 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 2052.212-72 FINANCIAL STATUS REPORT

The contractor shall provide a monthly Financial Status 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, Financial Identification Number (FIN), 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:

(a) Provide total estimated cost (value) of the project as reflected in the contract, the amount of funds available in the contract to date, and the balance of funds required to complete the work as follows:

(1) Total estimated contract amount.

(2) Total funds obligated to date.

(3) Total costs incurred this reporting period.

(4) Total costs incurred to date.

(5) Provide a detail of all direct and indirect costs incurred during the reporting period for the entire contract or each task, if it is a task ordering contract.

(6) Balance of obligations remaining.

(7) Balance of funds required to complete contract/task order.

(8) Contractor Spending Plan (CSP) status:

(i) Projected percentage of completion cumulative through the report period for the project/task order as reflected in the current CSP.

(ii) Indicate if there has been a significant change in

F.4 (Continued)

the original CSP projection in either dollars or percentage of completion. Identify the change, the reasons for the change, whether there is any projected overrun, and when additional funds would be required. If there have been no changes to the original NRC-approved CSP projections, a written statement to that effect is sufficient in lieu of submitting a detailed response to item 8.

(9) A revised CSP is required with the Financial Status Report whenever the contractor or the contracting officer has reason to believe that the total cost for performance of this contract will be either greater or substantially less than what had been previously estimated.

(b) 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)

U S. Nuclear Regulatory Commission
Julius Persensky, M/S T-10-E33
Division of Systems Research, RES
Washington, D.C. 20555

(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 24 months thereafter.

[End of Clause]

F.7 ADDITIONAL REPORTING REQUIREMENTS

F.7 (Con*inued)

a. A draft of the final report which includes the results of the work performed under this contract, shall be submitted to the NRC Project Officer 30 days prior to contract expiration.

b. The NRC shall review the draft report and provide the contractor with his/her comments within two weeks from receipt of the draft report.

c. The contractor shall make any necessary changes and submit the final report to the NRC Project Officer in one camera-ready copy and three copies by the contract expiration date. The final report shall be prepared in accordance with Handbook 3.8 (see Section J for List of Attachments).

[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: Julius Persensky

Address: U.S. Nuclear Regulatory Commission
Division of Systems Research, M/S T-10-E33
Office of Nuclear Regulatory Research
Washington, D.C. 20555

Telephone Number: (301) 415-6759

(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 2052.216-71 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:

Category	Rate	Base	Applicable Period
Overhead	51.03%	Direct Labor	Effective Date thru Contract Expiration
G&A	19.54%	Total Cost	Effective Date thru Contract Expiration
Fringe Benefits	32.80%	Total Labor	Effective Date thru Contract Expiration

(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]

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:

K. Ronald Laughery, Jr.
Carl Drews
Daniel Bennett

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 2052.235-70 PUBLICATION OF RESEARCH RESULTS (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) Prior to any such publication, the contractor shall submit the proposed publication to the NRC Contracting Officer and Project Officer for review and approval.

[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

H.4 (Continued)

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 GOVERNMENT FURNISHED EQUIPMENT/PROPERTY - NONE PROVIDED (JUN 1988)

The Government will not provide any equipment/property under this contract.

[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	SEP 1991
52.203-1	OFFICIALS NOT TO BENEFIT	APR 1984
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	APR 1984
52.203-7	ANTI-KICKBACK PROCEDURES	OCT 1988
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
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	NOV 1992
52.215-1	EXAMINATION OF RECORDS BY COMPTROLLER GENERAL	FEB 1993
52.215-2	AUDIT - NEGOTIATION	FEB 1993
52.215-22	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA	JAN 1991
52.215-24	SUBCONTRACTOR COST OR PRICING DATA	DEC 1991
52.215-26	INTEGRITY OF UNIT PRICES	APR 1991
52.215-27	TERMINATION OF DEFINED BENEFIT PENSION PLANS	SEP 1989
52.215-33	ORDER OF PRECEDENCE	JAN 1986
52.215-39	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (PRB)	JUL 1991
52.216-7	ALLOWABLE COST AND PAYMENT	JUL 1991
52.216-8	FIXED FEE	APR 1984
52.219-6	NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE	APR 1984

I.1 (Continued)

NUMBER	TITLE	DATE
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS	FEB 1990
52.219-13	UTILIZATION OF WOMEN-OWNED SMALL BUSINESSES	AUG 1986
52.219-14	LIMITATIONS ON SUBCONTRACTING	JAN 1991
52.220-3	UTILIZATION OF LABOR SURPLUS AREA CONCERNS	APR 1984
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
52.225-11	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	MAY 1992
52.227-1	AUTHORIZATION AND CONSENT Alternate I (APR 1984)	APR 1984
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
52.227-20	RIGHTS IN DATA - SBIR PROGRAM	MAR 1994
52.228-7	INSURANCE - LIABILITY TO THIRD PERSONS	APR 1984
52.232-17	INTEREST	JAN 1991
52.232-22	LIMITATION OF FUNDS	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	MAR 1994
52.233-3	PROTEST AFTER AWARD Alternate I (JUN 1985)	JUN 1985
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984
52.242-13	BANKRUPTCY	APR 1991
52.243-2	CHANGES - COST-REIMBURSEMENT Alternate V (APR 1984)	AUG 1987
52.244-2	SUBCONTRACTS (COST-REIMBURSEMENT AND LETTER CONTRACTS)	JUL 1985
52.244-5	COMPETITION IN SUBCONTRACTING	APR 1984
52.249-6	TERMINATION (COST-REIMBURSEMENT)	MAY 1986
52.249-14	EXCUSABLE DELAYS	APR 1984

I.1 (Continued)

NUMBER	TITLE	DATE
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

[End of Clause]

I.2 52.203-9 REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY--MODIFICATION (NOV 1990)

(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 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:

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.

I.2 (Continued)

(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)

_____
_____
_____
_____
_____

_____
[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.

I.2 (Continued)

[End of Clause]

I.3 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)

Attachment Number	Title
1	Billing Instructions
2	NRC Contractor Organizational Conflicts of Interest
3	NRC Handbook 3.8
4	Contractor Spending Plan (CSP) Instructions
5	Publishing Documents in the NUREG Series, NUREG-0650, Revision 1

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:

U.S. Nuclear Regulatory Commission
Division of Contracts and Property Management
Contract Administration Branch, P-902
Washington, DC 20555

HAND DELIVERY OF VOUCHERS/INVOICES IS DISCOURAGES 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 locations:

U.S. 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 and Property Management.

Agency Payment Office: Payment will continue to be made by the office designated in the contract in Block 12 of SF 26 of 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 Purchase and Services Other than Personal" (see Enclosure 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 Enclosure 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, together with appropriate supporting information (see Enclosure 3 for a sample of support information).

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 Enclosure 4. 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 carryout the program. Common costs include costs associated with the following: preparatory or startup 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 reporting 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 U.S. dollar equivalent for all vouchers/invoices paid under the contract may not exceed to the total U.S. dollars authorized in the contract.

Supersession: These instructions supersede any previous billing instructions.

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: U.S. Nuclear Regulatory Commission, Division of Contracts and Property Management, P-902, 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: U. S. Nuclear Regulatory Commission, One White Flint North, 1155 Rockville Pike, 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 and Property Management.

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 designted, 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 amy 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 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 accured) for direct performance of the contract itemized as follows:

Labor Category	Labor Hrs. Negotiated	Hrs. Billed	Rate	Total	Cumulative Hrs. Billed

(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 education institutions, list each item costing $500 or more and having a life expenctancy of more than one year. For contractors other than educational institutions, list each item costing $200 or more and having a life expectany of more than one year. List only those items of equiment 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 contrac; (b) the Contracting Officer's approvel letter if the quipment is not covered by the properyt schedule; or (c) be preceded by an asterisk (*) if the quipment is below the approvel level. 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.

(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 Stated, 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 computuation. 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.

(1) Direct Labor - $2400

Labor Category	Labor Hour Negotiated	Hours Billed	Rate	Total	Cumulative Hours Billed
Senior Engineer 1	2400	100	$14	$1400	975
Engineer	1500	50	$10	$500	465
Computer Analyst	700	100	$5	$500	320
				$2400	

(3) Direct Equipment

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

(4) Materials, Supplies & Other Expendable Items

10 Radon Tubes @ $110 = $1100

6 Pairs Electrostatic Gloves @ $150 = $900

$2000

(5) Premium Pay

Walter Murphy - 10 hours @ $10 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

Date		Traveler	Destination		Purpose	Costs
From	To		From	To		
3/1/89	3/6/89	William King	Chicago	Wash	Mtg. w/PO	$200

MONTHLY CONTRACTUAL COST SUMMARY REPORT FOR FEE BILLING

FIN: _____

Facility Name or Report Title: _____

_____

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

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:

2009.570 NRC organizational conflicts of interest.

§2009.570-1 Scope of policy.

(a) It is the policy of NRC to avoid, eliminate, or neutralize contractor organizational conflicts of interest. The NRC achieves this objective by requiring all prospective contractors to submit information describing relationships, if any, with organizations or persons (including those regulated by the NRC) which may give rise to actual or potential conflicts of interest in the event of contract award.

(b) Contractor conflict of interest determinations cannot be made automatically or routinely. The application of sound judgment on virtually a case-by-case basis is necessary if the policy is to be applied to satisfy the overall public interest. It is not possible to prescribe in advance a specific method or set of criteria which would serve to identify and resolve all of the contractor conflict of interest situations which might arise. However, examples are provided in these regulations to guide application of this policy guidance. The ultimate test is as follows: Might the contractor, if awarded the contract, be placed in a position where its judgment may be biased, or where it may have an unfair competitive advantage?

(c) The conflict of interest rule contained in this subpart applies to contractors and offerors only. Individuals or firms who have other relationships with the NRC (e.g., parties to a licensing proceeding) are not covered by this regulation. This rule does not apply to the acquisition of consulting services through the personnel appointment process, NRC agreements with other Government agencies, international organizations, or state, local, or foreign Governments. Separate procedures for avoiding conflicts of interest will be employed in these agreements, as appropriate.

§2009.570-2 Definitions.

As used in §2009.570:

Affiliates means business concerns which are affiliates of each other when either directly or indirectly one concern or individual controls or has the power to control another, or when a third party controls or has the power to control both.

Contract means any contractual agreement or other arrangement with the NRC except as provided in §2009.570-1(c).

Contractor means any person, firm, unincorporated association, joint venture, co-sponsor, partnership, corporation, affiliates thereof, or their successors in interest, including their chief executives, directors, key personnel (identified in the contract), proposed consultants or subcontractors, which are a party to a contract with the NRC.

Evaluation activities means any effort involving the appraisal of a technology, process, product, or policy.

Offeror or prospective contra tor means any person, firm, unincorporated association, joint venture, co-sponsor, partnership, corporation, or their affiliates or successors in interest, including their chief executives, directors, key personnel, proposed consultants, or subcontractors, submitting a bid or proposal, solicited or unsolicited, to the NRC to obtain a contract.

Organizational conflicts of interest means that a relationship exists whereby a contractor or prospective contractor has present or planned interests related to the work to be performed under an NRC contract which:

(1) May diminish its capacity to give impartial, technically sound, objective assistance and advice, or may otherwise result in a biased work product; or

(2) May result in its being given an unfair competitive advantage.

Potential conflict of interest means that a factual situation exists that suggests that an actual conflict of interest may arise from award of a proposed contract. The term potential conflict of interest is used to signify those situations that–

(1) Merit investigation before contract award to ascertain whether award would give rise to an actual conflict; or

(2) Must be reported to the contracting officer for investigation if they arise during contract performance.

Research means any scientific or technical work involving theoretical analysis, exploration, or experimentation.

Subcontractor means any subcontractor of any tier who performs work under a contract with the NRC except subcontracts for supplies and subcontracts in amounts not exceeding the small purchase threshold.

Technical consulting and management support services means internal assistance to a component of the NRC in the formulation or administration of its programs, projects, or policies which normally require that the contractor be given access to proprietary information or to information that has not been made available to the public. These services typically include assistance in the preparation of program plans, preliminary designs, specifications, or statements of work.

§2009.570-3 Criteria for recognizing contractor organizational conflicts of interest.

(a) General.

(1) Two questions will be asked in determining whether actual or potential organizational conflicts of interest exist:

(i) Are there conflicting roles which might bias an offeror's or contractor's judgment in relation to its work for the NRC?

(ii) May the offeror or contractor be given an unfair competitive advantage based on the performance of the contract?

(2) NRC's ultimate determination that organizational conflicts of interest exist will be made in light of common sense and good business judgment based upon the relevant facts. While it is difficult to identify and to prescribe in advance a specific method for avoiding all of the various situations or relationships that might involve potential organizational conflicts of interest, NRC personnel will pay particular attention to proposed contractual requirements that call for the rendering of advice, consultation or evaluation activities, or similar activities that directly lay the groundwork for the NRC's decisions on regulatory activities, future procurements, and research programs. Any work performed at an applicant or licensee site will also be closely scrutinized by the NRC staff.

(b) Situations or relationships The following situations or relationships may give rise to organizational conflicts of interest:

(1) The offeror or contractor shall disclose information, that may give rise to organizational conflicts of interest under the following circumstances. The information may include the scope of work or specification for the requirement, being performed, the period of performance, and the name and telephone number for a point of contact at the organization knowledgeable about the commercial contract.

(i) Where the offeror or contractor provides advice and recommendations to the NRC in the same technical area where it is also providing consulting assistance to any organization regulated by the NRC.

(ii) Where the offeror or contractor provides advice to the NRC on the same or similar matter on which it is also providing assistance to any organization regulated by the NRC.

(iii) Where the offeror or contractor evaluates its own products or services, or has been substantially involved in the development or marketing of the products or services of another entity.

(iv) Where the award of a contract would result in placing the offeror or contractor in a conflicting role in which its judgment may be biased in relation to its work for the NRC, or would result in an unfair competitive advantage for the offeror or contractor.

(v) Where the offeror or contractor solicits or performs work at an applicant or licensee site while performing work in the same technical area for the NRC at the same site.

(2) The contracting officer may request specific information from an offeror or contractor or may require special contract clauses such as provided in §2009.570-5(b) in the following circumstances:

(i) Where the offeror or contractor prepares specifications that are to be used in competitive procurements of products or services covered by the specifications.

(ii) Where the offeror or contractor prepares plans for specific approaches or methodologies that are to be incorporated into competitive procurements using the approaches or methodologies.

(iii) Where the offeror or contractor is granted access to information not available to the public concerning NRC plans, policies, or programs that could form the basis for a later procurement action.

(iv) Where the offeror or contractor is granted access to proprietary information of its competitors.

(v) Where the award of a contract might result in placing the offeror or contractor in a conflicting role in which its judgment may be biased in relation to its work for the NRC or might result in an unfair competitive advantage for the offeror or contractor.

(c) Policy application guidance. The following examples are illustrative only and are not intended to identify and resolve all contractor organizational conflict of interest situations.

(1) (i) Example. The ABC Corp., in response to a Request For Proposal (RFP), proposes to undertake certain analyses of a reactor component as called for in the RFP. The ABC Corp. is one of several companies considered to be technically well qualified. In response to the inquiry in the RFP, the ABC Corp. advises that it is currently performing similar analyses for the reactor manufacturer.

(ii) Guidance. An NRC contract for that particular work normally would not be awarded to the ABC Corp. because the company would be placed in a position in which its judgment could be biased in relationship to its work for the NRC. Because there are other well-qualified companies available, there would be no reason for considering a waiver of the policy.

(2) (i) Example. The ABC Corp., in response to an RFP, proposes to perform certain analyses of a reactor component that is unique to one type of advanced reactor. As is the case with other technically qualified companies responding to the RFP, the ABC Corp. is performing various projects for several different utility clients. None of the ABC Corp. projects have any relationship to the work called for in the RFP. Based on the NRC evaluation, the ABC Corp. is considered to be the best qualified company to perform the work outlined in the RFP.

(ii) Guidance. An NRC contract normally could be awarded to the ABC Corp. because no conflict of interest exists which

could motivate bias with respect to the work. An appropriate clause would be included in the contract to preclude the ABC Corp. from subsequently contracting for work with the private sector that could create a conflict during the performance of the NRC contract. For example, ABC Corp. would be precluded from the performance of similar work for the company developing the advanced reactor mentioned in the example.

(3) (i) Example. The ABC Corp., in response to a competitive RFP, submits a proposal to assist the NRC in revising NRC's guidance documents on the respiratory protection requirements of 10 CFR Part 20. ABC Corp. is the only firm determined to be technically acceptable. ABC Corp. has performed substantial work for regulated utilities in the past and is expected to continue similar efforts in the future. The work has and will cover the writing, implementation, and administration of compliance respiratory protection programs for nuclear power plants.

(ii) Guidance. This situation would place the firm in a role where its judgment could be biased in relationship to its work for the NRC. Because the nature of the required work is vitally important in terms of the NRC's responsibilities and no reasonable alternative exists, a waiver of the policy, in accordance with §2009.570-9 may be warranted. Any waiver must be fully documented in accordance with the waiver provisions of this policy with particular attention to the establishment of protective mechanisms to guard against bias.

(4) (i) Example. The ABC Corp. submits a proposal for a new system to evaluate a specific reactor component's performance for the purpose of developing standards that are important to the NRC program. The ABC Corp. has advised the NRC that it intends to sell the new system to industry once its practicability has been demonstrated. Other companies in this business are using older systems for evaluation of the specific reactor component.

(ii) Guidance. A contract could be awarded to the ABC Corp. if the contract stipulates that no information produced under the contract will be used in the contractor's private activities unless this information has been reported to the NRC. Data on how the reactor component performs, which is reported to the NRC by contractors, will normally be disseminated by the NRC to others to preclude an unfair competitive advantage. When the NRC furnishes information about the reactor component to the contractor for the performance of contracted work, the information may not be used in the contractor's private activities unless the information is generally available to others. Further, the contract will stipulate that the contractor will inform the NRC contracting officer of all situations in which the information, developed about the performance of the reactor component under the contract, is proposed to be used.

(5) (i) Example. The ABC Corp., in response to a RFP, proposes to assemble a map showing certain seismological features

of the Appalachian fold be . In accordance with the representation in the RFP and §2009.570-3(b)(1)(i), ABC Corp. informs the NRC that it is presently doing seismological studies for several utilities in the eastern United States, but none of the sites are within the geographic area contemplated by the NRC study.

(ii) Guidance. The contracting officer would normally conclude that award of a contract would not place ABC Corp. in a conflicting role where its judgment might be biased. Section 2052.209-73(c) Work for Others, would preclude ABC Corp. from accepting work which could create a conflict of interest during the term of the NRC contract.

(6) (i) Example. AD Division of ABC Corp., in response to a RFP, submits a proposal to assist the NRC in the safety and environmental review of applications for licenses for the construction, operation, and decommissioning of fuel cycle facilities. ABC Corp. is divided into two separate and distinct divisions, AD and BC. The BC Division performs the same or similar services for industry. The BC Division is currently providing the same or similar services required under the NRC's contract for an applicant or licensee.

(ii) Guidance. An NRC contract for that particular work would not be awarded to the ABC Corp. The AD Division could be placed in a position to pass judgment on work performed by the BC Division, which could bias its work for NRC. Further, the Conflict of Interest provisions apply to ABC Corp. and not to separate or distinct divisions within the company. If no reasonable alternative exists, a waiver of the policy could be sought in accordance with §2009.570-9.

7(i) EXAMPLE The ABC Corp. completes an analysis for NRC of steam generator tube leaks at one of a utility's six sites. Three months later, ABC Corp. is asked by this utility to perform the same analysis at another of its sites.

(ii) GUIDANCE §2052.290-73(c)(3) would prohibit the contractor from beginning this work for the utility until one year after completion of the NRC work at the first site.

8(i) EXAMPLE ABC Corp. is assisting NRC in a major on-site analysis of a utility's redesign of the common areas between its twin reactors. The contract is for two years with an estimated value of $5 million. Near the completion of the NRC work, ABC Corp. requests authority to solicit for a $100K contract with the same utility to transport spent fuel to a disposal site. ABC Corp. is performing no other work for the utility.

(ii) GUIDANCE The Contracting Officer, would allow the contractor to proceed with the solicitation because A) it is not in the same technical area as the NRC work and B) the potential for technical bias by the contractor because of financial ties to

the utility is slight due to the relative value of the two contracts.

9(i) EXAMPLE The ABC Corp. is constructing a turbine building and installing new turbines at a reactor site. The contract with the utility is for five years and has a total value of $100 million. ABC Corp. has responded to an NRC Request For Proposal requiring the contractor to participate in a major team inspection unrelated to the turbine work at the same site. The estimated value of the contract is $75K.

(ii) GUIDANCE An NRC contract would not normally be awarded to ABC Corp. since these factors create the potential for financial loyalty to the utility that may bias the technical judgment of the contractor.

(d) Other considerations.

(1) The fact that the NRC can identify and later avoid, eliminate, or neutralize any potential organizational conflicts arising from the performance of a contract is not relevant to a determination of the existence of conflicts prior to the award of a contract.

(2) It is not relevant that the contractor has the professional reputation of being able to resist temptations which arise from organizational conflicts of interest, or that a follow-on procurement is not involved, or that a contract is awarded on a competitive or a sole source basis.

§2009.570-4 Representation.

(a) The following procedures are designed to assist the NRC contracting officer in determining whether situations or relationships exist which may constitute organizational conflicts of interest with respect to a particular offeror or contractor. The procedures apply to small purchases meeting the criteria stated in the following paragraph (b) of this section.

(b) The organizational conflicts of interest representation provision at §2052.209-72 must be included in solicitations and unsolicited proposals, (including those for task orders and modifications for new work) for:

(1) Evaluation services or activities;

(2) Technical consulting and management support services;

(3) Research; and

(4) Other contractual situations where special organizational conflicts of interest provisions are noted in the solicitation and would be included in the resulting contract. This representation requirement also applies to all modifications for additional effort under the contract except those issued under the "Changes" clause. Where, however, a statement of the type required by the organizational conflicts of interest representation provisions has previously been submitted with regard to the contract being modified, only an updating of the statement is required.

(c) The offeror may, because of tual or potential organizational conflicts of interest, propose to exclude specific kinds of work contained in a RFP unless the RFP specifically prohibits the exclusion. Any such proposed exclusion by an offeror will be considered by the NRC in the evaluation of proposals. If the NRC considers the proposed excluded work to be an essential or integral part of the required work and its exclusion would be to the detriment of the competitive posture of the other offerors, the NRC shall reject the proposal as unacceptable.

(d) The offeror's failure to execute the representation required by paragraph (b) of this section with respect to an invitation for bids is considered to be a minor informality. The offeror will be permitted to correct the omission.

§2009.570-5 Contract clauses.

(a) General contract clause. All contracts and small purchases of the types set forth in §2009.570-4(b) must include the clause entitled, "Contractor Organizational Conflicts of Interest," set forth in §2052.209-73.

(b) Other special contract clauses. If it is determined from the nature of the proposed contract that an organizational conflict of interest exists, the contracting officer may determine that the conflict can be avoided, or, after obtaining a waiver in accordance with §2009.570-9, neutralized through the use of an appropriate special contract clause. If appropriate, the offeror may negotiate the terms and conditions of these clauses, including the extent and time period of any restriction. These clauses include but are not limited to:

(1) Hardware exclusion clauses which prohibit the acceptance of production contracts following a related non-production contract previously performed by the contractor;

(2) Software exclusion clauses;

(3) Clauses which require the contractor (and certain of its key personnel) to avoid certain organizational conflicts of interest; and

(4) Clauses which provide for protection of confidential data and guard against its unauthorized use.

§2009.570-6 Evaluation, findings, and contract award.

The contracting officer shall evaluate all relevant facts submitted by an offeror and other relevant information. After evaluating this information against the criteria of §2009.570-3, the contracting officer shall make a finding of whether organizational conflicts of interest exist with respect to a particular offeror. If it has been determined that real or potential conflicts of interest exist, the contracting officer shall:

(a) Disqualify the offeror from award;

(b) Avoid or eliminate such conflicts by appropriate measures; or

(c) Award the contract under the waiver provision of §2009.570-9.

§2009.570-7 Conflicts identified after award.

If potential organizational conflicts of interest are identified after award with respect to a particular contractor, and the contracting officer determines that conflicts do exist and that it would not be in the best interest of the Government to terminate the contract, as provided in the clauses required by §2009.570-5, the contracting officer shall take every reasonable action to avoid, eliminate, or, after obtaining a waiver in accordance with §2009.570-9, neutralize the effects of the identified conflict.

§2009.570-8 Subcontracts.

The contracting officer shall require offerors and contractors to submit a representation statement from all subcontractors (other than a supply subcontractor) and consultants performing services in excess of $10,000 in accordance with §2009.570-4(b). The contracting officer shall require the contractor to include contract clauses in accordance with §2009.570-5 in consultant agreements or subcontracts involving performance of work under a prime contract.

§2009.570-9 Waiver.

(a) The contracting officer determines the need to seek a waiver for specific contract awards, with the advice and concurrence of the program office director and legal counsel. Upon the recommendation of the Procurement Executive, and after consultation with legal counsel, the Executive Director for Operations may waive the policy in specific cases if he determines that it is in the best interest of the United States to do so.

(b) Waiver action is strictly limited to those situations in which:

(1) The work to be performed under contract is vital to the NRC program.

(2) The work cannot be satisfactorily performed except by a contractor whose interests give rise to a question of conflict of interest.

(3) Contractual and/or technical review and surveillance methods can be employed by the NRC to neutralize the conflict.

(c) For any waivers, the justification and approval documents must be placed in the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

§2009.570-10 Remedies.

In addition to other remedies permitted by law or contract for a breach of the restrictions in this subpart or for any intentional misrepresentation or intentional nondisclosure of any relevant interest required to be provided for this section, the NRC may debar the contractor from subsequent NRC contracts.

Unclassified Contractor and Grantee Publications in the NUREG Series

Directive

(Formerly MC 3202) **3.8**

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Unclassified Contractor and Grantee Publications in the NUREG Series Directive 3.8

Policy
(3.8-01)

This directive and handbook govern the publishing of (1) unclassified NRC contractor, consultant or grantee formal reports, books, and international agreement reports, in the NUREG/CR, NUREG/GR, and NUREG/IA series; (2) reports and books by contractors of the U.S. Department of Energy (DOE); and (3) publications prepared for NRC under memoranda of understanding and interagency agreements.

Objectives
(3.8-02)

- To ensure the production and dissemination of information and publications as required by the Energy Reorganization Act of 1974 and the Freedom of Information Act. (a)
- To ensure the technical and management reviews of formal reports and books prior to publication. (b)
- To ensure that national security, patent rights, copyrights, proprietary rights, and rights in other sensitive unclassified information, including those specified in interagency and international agreements and memoranda of understanding, are not compromised by the release or publication of information by NRC. (c)
- To ensure that all unclassified NRC contractor or grantee publications in the NUREG series carry the registered Government identification NUREG/CR-0000, NUREG/GR-0000, or NUREG/IA-0000, with the exception of some publications

Objectives
(3.8-02) (continued)

prepared by grantees, and indicate the availability of source material used in these publications. (d)

- To ensure that NRC-sponsored book manuscripts receive proper peer review from experts within and outside NRC. (e)
- To provide uniform procedures for publishing formal reports and books prepared by NRC contractors or grantees. (f)

Organizational Responsibilities and Delegations of Authority
(3.8-03)

Executive Director for Operations (EDO)
(031)

Delegates to the Deputy Executive Directors for Operation decisionmaking authority for the resolution of differences between NRC and contractors about the contents of publications, about granting contractors permission to publish NRC-sponsored information in the open literature, and about permitting contractors to issue press or other media releases concerning NRC-sponsored information.

Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research
(032)

As delegated from the EDO, makes final decisions in the following areas for the Office of Nuclear Reactor Regulation, Office of Nuclear Regulatory Research, and Regional Offices:

- When an Office Director refuses to publish an NRC-sponsored document because of irreconcilable differences between themselves and the author(s) about the contents of the document. (a)
- When an Office Director refuses to permit a contractor's principal investigator to publish NRC-sponsored information in the open literature. (b)

Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research
(032) (continued)

- When an Office Director refuses to permit a contractor to issue a press or other media release about an NRC-sponsored publication. (c)

Deputy Executive Director for Nuclear Materials Safety, Safeguards, and Operations Support
(033)

As delegated from the EDO, makes final decisions in the following areas for the offices reporting to this official:

- When an Office Director refuses to publish an NRC-sponsored document because of irreconcilable differences between themselves and the author(s) about the contents of the document. (a)
- When an Office Director refuses to permit a contractor's principal investigator to publish NRC-sponsored information in the open literature. (b)
- When an Office Director refuses to permit a contractor to issue a press or other media release about an NRC-sponsored publication. (c)

Directors of Offices
(034)

- Ensure that publications will be reviewed in draft prior to final printing and distribution for acceptability by determining that they are consistent with agency policy, management decisions, and that they raise no significant legal issues. (a)
- Ensure that statements of work include statements requiring contractor* compliance with this directive and handbook and Government Printing and Binding Regulations. (b)

*"Contract" in this context encompasses the "Standard Order for DOE Work" (NRC Form 173), interagency and international agreements, and grants.

Directors of Offices
(034) (continued)

- Sign, or delegate signature authority for, the NRC Form 426A, "Release to Publish Unclassified NRC Contractor, Consultant, or Conference Proceedings Reports," and for memoranda requesting reprints of contractor publications. (c)

Director, Office of Administration (ADM)
(035)

As delegated from the Deputy Executive Director for Nuclear Materials Safety, Safeguards, and Operations Support, administers NRC's programs and policies for publishing unclassified contractor and grantee reports and books in the NUREG series.

Director, Division of Freedom of Information and Publications Services, ADM
(036)

- Develops and administers, as delegated from the Director, ADM, NRC's program and policies for publishing unclassified contractor, consultant, and grantee formal reports, books, and international agreement reports in the NUREG/CR, NUREG/GR, and NUREG/IA series. (a)
- Applies the policy, procedures, standards, and guides for the documentation, formatting, composition, printing, and dissemination of NRC-sponsored publications in the NUREG series consistent with the mission of the agency and in accordance with the requirements of the Government Printing and Binding Regulations issued by the Joint Committee on Printing, U.S. Congress. (b)
- Develops and administers the central agency publication numbering system for identifying, producing, and retrieving unclassified NRC-sponsored publications in the NUREG series. (c)

Director, Division of Contracts and Property Management, ADM
(037)

Ensures that those requests for proposals, invitations for bids, and grant proposals, and the ensuring contracts and grants that require

Director, Division of Contracts and Property Management, ADM
(037) (continued)

publications as deliverables, include provisions requiring contractor compliance with this directive and handbook and Government Printing and Binding Regulations.

Applicability
(3.8-04)

Employees
(041)

This directive and handbook apply to and must be followed by all NRC employees.

Other Publications
(042)

The provisions of this directive and handbook do not apply to NRC staff publications in the NUREG series, NRC docket material, or documents created by NRC boards, panels, advisory committees, and offices that report to the Commission.

Handbook
(3.8-05)

Detailed guidelines for the preparation of publications are contained in Handbook 3.8.

References
(3.8-06)

1. Executive Order 12291—Federal Regulation, February 17, 1981.
2. Title 17, U.S. Code, Copyrights.
3. Government Printing and Binding Regulations, S. Pub. 101-9, February 1990.

References

(3.8-06) (continued)

4. DOE-NRC Memorandum of Understanding, February 24, 1978.

5. Title 44, U.S. Code, "Public Printing and Documents," Chapter 3, Government Printing Office.

6. U.S. Government Printing Office *Style Manual*, 1984.

7. Energy Reorganization Act of 1974 (42 U.S.C. 5801, et seq.).

8. The Freedom of Information Act (5 U.S.C. 522).

9. Public Law 95-224, The Federal Grant and Cooperative Agreement Act, February 3, 1978.

10. Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations, OMB Circular A-110, July 1976.

11. Cost Principles for State and Local Governments, OMB Circular A-87, January 1981.

12. NUREG-0650, Revision 1, "Publishing Documents in the NUREG Series," November 1990.

Unclassified Contractor and Grantee Publications in the NUREG Series

Handbook

(Formerly Appendix 3202) **3.8**

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Introduction

This handbook specifies the procedures necessary for Nuclear Regulatory Commission (NRC) contractors and grantees to follow when preparing the following kinds of publications for the NRC.

- Final NUREG Reports
- International Agreement Reports
- Books
- Grant Publications

The handbook is divided into five major parts and includes a glossary and exhibits. Part I provides general information for staff consideration in the preparation of statements of work. Parts II, III, IV, and V provide publishing guidelines specific to, respectively, **contractor reports**, **international agreement reports**, **books**, and **grantee publications**.

Contractor means a private contractor, consultant, expert, another State or Federal agency working under an interagency agreement, or a DOE facility or subcontractor, such as the National Laboratories, working under the DOE/NRC Memorandum of Understanding of February 24, 1978, and any subcontractors of these organizations.

This directive and handbook, as well as a copy of "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1), must be included or referenced in all contracts, interagency and international agreements, and grants for which the publications listed above are contract deliverables or grant obligations. In addition to the guidelines specific to each type of publication that appear in subsequent parts of this handbook, all statements of work must contain the applicable guidelines outlined in Part I.

Part I

Preparing Publication Requirements for Statements of Work for Contracts

Specifying Publication Requirements (A)

List and describe the type of technical reports required from each project, task or subtask, as applicable. State when, how many, and to whom they should be submitted and the scope of information they should contain. These reports may be unclassified, sensitive unclassified, or classified. For guidelines and requirements covering sensitive unclassified and classified publications, refer to NRC Management Directive 12.2, NRC Information Security Program (formerly MC 2101).

This directive and handbook pertain to publications that will be issued in the NUREG/CR, NUREG/IA, and NUREG/GR series.

Publishing Formal Reports (B)

NUREG series reports will be printed and distributed by NRC from camera-ready copy submitted by the contractor to the Regulatory Publications Branch, MS P-223, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The camera-ready copy is to be prepared in accordance with the provisions of this handbook. Recommended guidelines for the organization and format of formal reports are specified in "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1).

When the report contains sensitive unclassified or classified information, the contractor must comply with Management Directive 12.2, NRC Information Security Program (formerly MC 2101).

Publishing Formal Reports (B) (continued)

If a draft is desired prior to completion of a final report, specify in the statement of work (SOW) the due date for delivering the final camera-ready copy after receiving NRC or participant comments (if applicable) on the draft. State that all draft material be submitted to the cognizant NRC contact.

When the contractor is to submit draft material for comment prior to the preparation of the final report, state that if there are NRC program or participant comments (if applicable), the contractor will be asked to make changes. If agreement on the changes is reached, the NRC contact will authorize the contractor to prepare the final copy and submit it to the NRC contact, if it is a letter report or input to a Safety Evaluation Report or an Environmental Statement, or to the Director, Division of Freedom of Information and Publications Services (DFIPS), if it is a camera-ready copy for printing and distribution. This is to be done to ensure proper publication, handling, distribution and, among other things, to preclude further changes that might nullify the agreement.

If **special caveats** were agreed to between the contractor and the NRC contact, the caveats should accompany Form 426A (Exhibit 1) for approval when it is sent to the NRC contact. A copy of special caveats should also accompany the camera-ready copy sent to DFIPS.

If **agreement on changes** to a formal technical report to be issued in the NUREG/CR series is not reached, the NRC contact may request the contractor to prepare the camera-ready copy with, in addition to the standard disclaimer required on all contractor formal reports (see Section II.F. below), any caveats deemed necessary to cover NRC objections. Such caveats may range from "The views expressed in this report are not necessarily those of the U.S. Nuclear Regulatory Commission" to the addition of a preface setting forth the NRC opinion or footnotes at appropriate locations within the text.

If **NRC objections** cannot be covered in this manner, NRC can refuse to publish the report. In the case of DOE/National Laboratory reports, the DOE Operations Office Manager responsible for that laboratory should be informed by the NRC Office Director or Regional Administrator of the decision and the reasons therefor, with a copy to the Laboratory Director. In the case of another Federal agency, a State, or a private contractor, the person who entered into the contract should similarly be informed by the NRC contracting officer. The contractor is then free to publish the report without NRC

Publishing Formal Reports (B) (continued)

being identified as the funding sponsor of the report and without the NRC disclaimer. Office Director or designee decisions may be appealed to the appropriate Deputy Executive Director for Operations.

Publishing Unclassified Information in Open Literature and Presenting Papers (C)

Specify whether the contractor's principal investigator is permitted to publish in the **open literature** instead of submitting a final report and/or to present papers at public or association meetings during the course of the work. If that arrangement is authorized, add the following statement to the Statement of Work (SOW):

> **The principal investigator(s) may publish the results of this work in the open literature instead of submitting a final report and/or present papers at public or association meetings at interim stages of the work.**

If the NRC contact wants to review the paper or journal article prior to presentation or submission for publication, state so in the SOW, as follows:

> **The principal investigator(s) may publish the results of this work in the open literature instead of submitting a final report and/or present papers at public or association meetings at interim stages of the work, if the article or paper has been reviewed by the NRC contact in draft form and agreement has been reached on the content.**

If the agreement is not reached, NRC may also require that the paper include in addition to the standard statement "Work supported by the U.S. Nuclear Regulatory Commission," any caveats deemed necessary to cover NRC objections. If NRC objections cannot be covered in this manner, NRC may refuse to authorize publication in the open literature and/or presentation of papers.

In the latter case, NRC will inform the contractor of the decision, as stated above. The contractor is then free to publish without NRC being identified as the funding sponsor of the information. Office Director

Publishing Unclassified Information in Open Literature and Presenting Papers (C) (continued)

or designee decisions may be appealed to the appropriate NRC Deputy Executive Director for Operations.

If the contractor proposes to publish in the **open literature** or present the information at meetings *in addition* to submitting the required technical reports, approval of the proposed article or presentation should be obtained from the NRC. The NRC shall take one of the following actions: approve the material as submitted, approve it subject to NRC–suggested revisions, or disapprove it. In any event, the NRC may disapprove or delay presentation of papers on information that is subject to Commission approval that has not been ruled upon or which has been disapproved.

If the contractor requests permission to publish in the open literature even though the contract does not explicitly provide for this type of publication, the contract can be modified to provide for such presentations.

When the contractor submits journal articles for publication, each must be accompanied by the following statement:

> **The submitted manuscript has been authored by a contractor of the U.S. Government under Contract* No. ____. Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.**

All published papers and articles must include the following disclaimer:

> **This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, or any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use or the results of such use, of any information, apparatus, product or process disclosed in this report, or represents that its use by such third party would not infringe privately owned rights. The views expressed in this paper are not necessarily those of the U.S. Nuclear Regulatory Commission.**

*For DOE work orders the appropriate FIN number is applicable.

Publishing Unclassified Information in Open Literature and Presenting Papers (C) (continued)

Should the contractor be requested by the journal or other publisher to transfer the copyright, the contract author will respond to the journal or other publisher in writing in accord with the sample letter shown as follows:

Dear (Copyright Holder's Name):

We recently received a document for signature assigning copyright and republication rights in the submitted article (title) to (name of publication). This letter is offered in lieu of the document as a means of completing the transfer of ownership. Accordingly, we hereby expressly transfer and assign our rights of ownership in the above-cited work to (name of publisher).

You are advised, however, that the above assignment and any publication or republication of the above-cited work is subject to the following Government rights:

The submitted manuscript has been authored by a contractor of the U.S. Government under Contract No. _____. Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

Sincerely,

If NRC approves open literature publication and page charges and travel costs are required for the presentation of papers, see Management Directive 3.10, NRC Contractor Unclassified Papers, Journal Articles, and Press or Other Media Releases on Regulatory and Technical Subjects (formerly MC 3206).

Reports Containing Sensitive Unclassified and Classified Information (D)

Examples of the proper marking of reports designated Official Use Only, Limited Official Use, Proprietary Information, Safeguards

Reports Containing Sensitive Unclassified and Classified Information (D) (continued)

Information, and Classified (Confidential, Secret, and Top Secret) are provided in Management Directive 12.2, NRC Information Security Program (formerly MC 2101).

Conference and Workshop Proceedings (E)

If NRC approves publication of compilations of papers presented at NRC-sponsored or cosponsored meetings, conferences, and symposia, see Management Directive 3.11, Conferences and Conference Proceedings (formerly MC 3207).

Distribution of Reports to Contractors (F)

Up to 50 copies of printed unclassified NUREG/CR, NUREG/GR, and NUREG/IA reports will be bulk shipped to the contractor by NRC. (Joint Committee on Printing's *Government Printing and Binding Regulations* permit contractors to receive up to 50 copies of reports they have produced for NRC free of charge.) If fewer than 50 copies are needed, indicate the desired quantity on NRC Form 426A (Exhibit 1). Contractors requesting single copies for specific individuals in organizations other than the contractor's organization who are not included in the distribution requested by the NRC contact may address such request(s), with written justification, to the NRC contact. If the additional distribution is approved by the NRC contact, the contractor shall send address labels with the camera-ready copy to the Regulatory Publications Branch, DFIPS, USNRC, Washington, DC 20555, and that distribution will be made along with the standard distribution.

Coordinating Contractor Press or Other Media Releases of Information (G)

A contractor may request permission to issue a press or other media release on the work being done. That request must be made to the NRC Office Director or designee, who will consult with the Public Affairs staff. The contractor must not issue a press release on nonroutine information without this prior approval. This approval may be obtained by a telephone call to the Office Director or designee to expedite the request. The contractor may appeal decisions not to authorize the release of information or delays in handling the request to the appropriate Deputy Executive Director for Operations.

Part II

Draft and Final NUREG Reports

Identification Information (A)

NUREG Number (1)

Each contractor report published by NRC must be identified by a unique alphanumeric designation controlled and maintained by the Division of Freedom of Information and Publications Services (DFIPS). To obtain an NRC report number, call the Regulatory Publications Branch, DFIPS, at FTS 49-27001 or (301)49-27001.

The NRC identification numbers will have one of the following forms:

- NUREG/CR-0000
- NUREG/GR-0000
- NUREG/IA-0000

where CR indicates **contractor report**, GR indicates **grant report**, and IA indicates **international agreement report**. The contractor report number, if any, will be placed below the NUREG number on the title page and cover.

When a report consists of more than one volume or binding or is issued in more than one edition, an appropriate volume, number, supplement, part, addendum, or revision designation must appear immediately below the NRC report number and the contractor's report number, if any.

Author Names (2)

Authors' names routinely appear on the report cover and title page, unless doing so is impractical, as for an annual report having many contributors. Editors or compilers with subject-area expertise may also be identified as such on the cover and title page. Author

Identification Information (A) (continued)

Author Names (2) (continued)

affiliations need not be listed unless the affiliation differs from the organization creating the report.

Organizational Identification (3)

The Regulatory Publications Branch, DFIPS, prepares the covers and title pages for all reports and will list information about the organization that created the report as it is provided.

Previous Reports in Series (4)

If the report being prepared is one in an ongoing series, list all previous reports in the series. Include report numbers and issuance dates. Place this list on the back of the title page.

Report Dates (5)

The report dates are shown on the title page. These dates include the month and year the report is completed, and the month and year it is published.

Report Organization and Components (B)

The organization and components of contractor reports vary somewhat, depending on their purpose and scope. Recommended format and organizational guidelines appear in "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1).

Each draft and final report prepared for NRC must include an abstract of 200 words or less that appears on a separate page preceding the table of contents. The abstract must also appear on the Bibliographic Data Sheet, NRC Form 335 (Exhibit 2A). The back of Form 335 contains instructions for completing the form (Exhibit 2B). Guidelines on the special writing requirements for preparing abstracts appears in Section 5.5 of NUREG-0650, Revision 1.

Pre-Publication Reviews (C)

Patent Review (1)

Patent implications must be considered prior to approval of reports for public release so that disclosure will not adversely affect the patent rights of NRC or the contractor. If the work being reported is contractually managed through another Government agency (e.g., DOE National Laboratories), that Government agency should be requested by the contractor to perform the patent review. The result of the review must be reported on NRC Form 426A under item 8 (Exhibit 1).

If NRC directly administers the contract, or the contractor is unable to obtain a patent clearance from the Government agency administering the contract, the responsible NRC contracting officer must be consulted, and the responsible NRC technical contact shall consider the patent implications. If there is no need for patent review because of the certainty that the report contains no description of novel technical developments that may be of an inventive nature, mark "N/A" on the NRC Form 426A in the space for the Patent Counsel's signature. If there is a possibility that there is disclosure of developments of an inventive nature, the contracting officer shall request assistance from the NRC Assistant General Counsel for Administration, Office of the General Counsel, on FTS 49-21553 or (301)49-21553.

Security Review (2)

Should a report of sensitive unclassified or classified work be required, the NRC contact must work with the NRC Division of Security to establish the appropriate procedures and inform the contractor of these procedures through the contracting officer. The standards for marking and handling these reports are given in Management Directive 12.2, NRC Information Security Program (formerly MC 2101).

Copyright Review (3)

Copyrighted material must not appear in NRC-sponsored publications without written permission from the copyright holder. See NUREG-0650, Revision 1, Section 3.4, for information about obtaining copyright permission.

Color Printing (D)

Regulations issued by the Joint Committee on Printing (JCP) restrict the use of color in printed materials to those uses that are of demonstrable value. JCP regulations specify that "Demonstrably valuable multicolor printing..." includes the following categories:

- Maps and technical diagrams where additional color is necessary for clarity. (a)
- Object identification (medical specimens, diseases, plants, flags, uniforms, etc.). (b)
- Safety programs, fire prevention, savings bonds programs, and competitive areas of personnel recruiting. (c)
- Areas wherein clearly identifiable savings in costs can be soundly predicated on multicolor use. (d)
- Printing for programs required by law, whose relative success or failure is in direct ratio to the degree of public response, and where that response can be logically attributable to the number of colors planned and the manner in which they are proposed to be used. (e)
- Color for promotional or motivational purposes such as programs concerning public health, safety, consumer benefits; or to encourage utilization of Government facilities such as programs for Social Security, Medicare, and certain areas of need for veterans would come within this category. (f)

The regulations indicate that the following categories do not meet the "demonstrable value" criteria.

- Printed items wherein additional color is used primarily for decorative effect. (a)
- Printed items where additional color is used primarily in lieu of effective layout and design. (b)
- Printed items where additional color is used excessively, i.e., four colors when two or three will fulfill the need; three colors when two are adequate; two colors when one is adequate. (c)
- Printed items wherein the inclusion of multicolor does not reflect careful, competent advanced planning which recognizes the contribution that the use of color is expected to make to the ultimate end-purpose. (d)

Color Printing (D) (continued)

If color printing is anticipated when the statement of work or Standard Order for DOE work is being prepared, contact the Regulatory Publications Branch, DFIPS. Prior approval must be granted by the Director of DFIPS. If a requirement for color printing arises as the report is being prepared, submit a written justification for its use to the Director of DFIPS.

Microfiche (E)

NRC contractors and DOE Laboratories submitting microfiche with reports must submit a hard copy of each microfiche, include headers on each microfiche, as shown in Exhibit 3, and conform to the following NRC specifications.*

1. Microfiche must conform to either the 24/98 format for source documents with 14 columns and 7 rows (reduction ratio of 1:24) or the 48/270 format for computer output microfilm with 18 columns and 15 rows (reduction ratio of 1:48).
2. The microfiche sheet must be standard 105 mm x 148 mm.
3. The microfiche must be either a silver-halide master or a black or blue-black diazo placed in acid free envelopes.
4. The microfiche must contain headers as shown in the sample in Exhibit 3. Specifically, the first block of the header must contain the NUREG number (include volume or revision, if applicable), the contractor identification number, and the classification (e.g., unclassified, proprietary). The second block must contain the description of the microfiche and may include the contractor name. The third block must contain the publication date and sheet identification.
5. The header information must be eye readable on a clear background.
6. A foldout page must be microfilmed in sections if the page is too large to be microfilmed in a double frame. No less than 25 mm overlap of original material is acceptable.

*With the exception of items 3, 4, and 8, these specifications are consistent with the American National "Standard for Micrographics-Microfiche, ANSI/AIIM MS5-1985." Copies of this Standard are available from the American National Standards Institute, ATTN: Sales Department, 1430 Broadway, New York, NY 10018 (212)354-3300, or from the Association for Information and Image Management, ATTN: Publications Section, 1100 Wayne Avenue, Silver Spring, MD 20910 (301)598-8202.

Microfiche (E) (continued)

7. The first frame must be blank (on the first sheet only), and the second frame must contain the National Institute of Standards and Technology's Reference Material resolution target in Microcopy Test Charts (NBS SRM 1010A).
8. Jacketed microfiche is unacceptable.

Disclaimer (F)

The following notice will be added by the Regulatory Publications Branch, DFIPS, before the printing process on the inside front cover:

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, or any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use, or the results of such use, of any information, apparatus, product or process disclosed in this report, or represents that its use by such third party would not infringe privately owned rights.

The following additional statement, "The views expressed in this report are not necessarily those of the U.S. Nuclear Regulatory Commission" will be printed below the standard disclaimer, if appropriate. Other qualifying statements may be added, if needed.

Availability Information (G)

Reference Availability (1)

Reports or other documents referenced in text, reference sections, bibliographies, and appendixes of unclassified regulatory and technical reports in the NUREG series must be available to the public either in the public domain (as in a public library, at the Government Printing Office (GPO), at the National Technical Information Service (NTIS), or at other reference or sales outlets) or in the NRC Public Document Room (PDR). This means that references should not be made to personal communications and interviews, unpublished information and information with restricted distribution (e.g.,

Availability Information (G) (continued)

proprietary, national security, official use only, etc.). If the unretrievable information is important and unrestricted, it can be quoted in the text, in footnotes, or in appendixes. If credit is due to individuals, they can be mentioned in the text or in an acknowledgement section. Availability may be stated collectively for all entries.

Guidelines for developing and presenting reference material are provided in NUREG-0650, Revision 1.

Report Availability (2)

Most final reports are sold by the GPO and NTIS. A statement indicating this availability is added to each report, as appropriate, by the Regulatory Publications Branch, DFIPS, before the report is printed.

Draft reports for which comments are requested are typically announced in the *Federal Register* as being available from the NRC. These reports are not sold at GPO or at NTIS.

Forms (H)

Bibliographic Data Sheet (NRC Form 335) (1)

All published NRC reports must include an NRC Form 335 as the final right-hand page of the manuscript. Instructions for completing the form appear on the back of the form. A completed Form 335 must be submitted to the Regulatory Publications Branch, DFIPS, with the camera-ready copy of the report. Exhibit 2A shows a completed Form 335.

Release to Publish Unclassified NRC Contractor, Consultant, or Conference Proceedings Reports (NRC Form 426A) (2)

The NRC contact must submit a completed NRC Form 426A (Exhibit 1) with the camera-ready copy of the report to the Regulatory Publications Branch, DFIPS. NRC Form 426A must be signed by the staff member designated by the appropriate Office Director.

Printing and Reprinting (I)

The Regulatory Publications Branch, DFIPS, will review the camera-ready report submitted for printing for its adherence to the standards and requirements set forth in this directive and handbook, as well as any relevant guidelines from NUREG-0650, Revision 1. Unsatisfactory manuscripts will be returned to the NRC contractor for appropriate action.

Submit a memorandum requesting a **reprint** to the Director, DFIPS, for approval. Include with the request a written justification and the approval of the Office Director of designee for reprinting. Send address labels for recipients of the reprinted copies, if appropriate.

Distribution (J)

Distribution arrangements will be made by the Regulatory Publications Branch, DFIPS, for all copies of unclassified formal contractor reports in accordance with instructions on NRC Form 426A (Exhibit 1). The Regulatory Publications Branch, DFIPS, will also arrange automatic distribution of these reports to the NRC NUDOCS, the NRC PDR, NTIS, GPO, and the Depository Library Service.

Distribution of sensitive unclassified and classified reports will be made by the NRC sponsoring office on a case-by-case basis.

Part III

International Agreement Reports

Background and Rationale (A)

NRC has cooperative nuclear safety research programs that involve either or both foreign governments and organizations and U.S. industry. These programs include monetary contributions, information exchange, and comments on program plans and results as authorized in 42 U.S.C. 5801. To this end, international and U.S. industry agreements have been signed that provide for transmitting unclassified technical information from foreign participants to NRC. These procedures apply only to NRC-managed work.

The interests of all NRC international nuclear safety research program participants are served best by formal dissemination of information on these programs or codes developed for or in cooperation with NRC.

Identification Information (B)

Cover and Title Page (1)

These will contain a title, subtitle (if appropriate), authors, performing organization, and NRC office sponsoring the project. The cover and title page will be prepared by the Regulatory Publications Branch, DFIPS.

NRC Report Number (2)

Each report must be identified by an NRC-controlled alphanumeric number as the prime number unique to that report. The centralized document control system for unique identification is maintained by DFIPS. Numbers may be obtained by calling Regulatory Publications Branch at FTS 49-24954 or (301)49-24954.

The NRC identification number will have the form:

- NUREG/IA-0000

Identification Information (B) (continued)

NRC Report Number (2) (continued)

where IA indicates "international agreement." The foreign participant's report number, if any, may be inserted below the NUREG number on the cover, if desired.

When a report consists of more than one volume or binding or is issued in more than one edition, an appropriate volume, number, supplement, part, addendum, or revision designation must appear below the report number and the foreign participant's report number, if any.

Previous Reports in Series (3)

If the report being prepared is one in an ongoing series, list all previous reports in the series. Include report numbers and issuance dates. Place this list on the back of the title page.

Report Organization and Components (C)

The organization and components of cooperative agreement reports vary somewhat, depending on their purpose and scope. Each of these reports must include an abstract of 200 words or less that appears on a separate page before the table of contents. The abstract must also appear on the Bibliographic Data Sheet, Form 335 (Exhibit 2A). Instructions for completing the form appear on the back (Exhibit 2B). Guidance on the special writing requirements for preparing abstracts appears in Section 5.5 of NUREG-0650, Revision 1.

Availability Information (D)

References and Bibliographies (1)

Reports or other documents referenced in text, reference sections, bibliographies, and appendixes of unclassified regulatory and technical reports in the NUREG series must be available to the public either in the public domain (as in a public library, at GPO, at NTIS, or at other reference or sales outlets) or in the NRC PDR.

This means that references should not be made to personal communications, interviews, and unpublished information with restricted distribution (e.g., proprietary, national security, official use only). If the unretrievable information is important and unrestricted, it

Availability Information (D) (continued)

References and Bibliographies (1) (continued)

can be quoted in the text, in footnotes, or in appendixes. If the title of a document containing proprietary information is unclassified, it can also be quoted in the text, in a footnote, or in appendixes. If credit is due to individuals, they can be mentioned in the text or in an acknowledgement section. Availability may be stated collectively for all entries. Guidelines for developing and presenting reference material are provided in NUREG-0650, Revision 1.

Report Availability (2)

These reports will be made available for sale by GPO and NTIS.

Disclaimer (E)

The following notice will be added by the Regulatory Publications Branch, DFIPS, on the inside front cover prior to printing.

NOTICE

This report was prepared under an international cooperative agreement for the exchange of technical information. Neither the United States Government nor any agency thereof, or any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use, or the results of such use, of any information, apparatus, product, or process disclosed in this report, or represents that its use by such third party would not infringe privately owned rights.

Forms (F)

Bibliographic Data Sheet (NRC Form 335) (1)

A typed NRC Form 335 (Exhibit 2A) must be submitted with the camera-ready copy to the Regulatory Publications Branch, DFIPS, as the final right-hand page.

Forms (F) (continued)

Release to Publish Unclassified NRC Contractor, Consultant, or Conference Proceedings Reports (NRC Form 426A) (2)

An NRC Form 426A (Exhibit 1) must be completed and signed by the Office Director or designee and submitted with the camera-ready copy of the report to the Regulatory Publications Branch, DFIPS.

Classified or Sensitive Unclassified Information (G)

The NRC contact should refer to Management Directive 12.2, NRC Information Security Program (formerly MC 2101), or call the Division of Security for answers to questions about the status of classified or sensitive unclassified information in NUREG/IA reports.

Part IV

Books

These guidelines apply to books written by contractors and grantees that are printed by NRC. See Section V below for guidance on publications, including books, by grantees.

Definition (A)

A book refers to a publication intended as a permanent reference or as a textbook or major critical review of a technical or regulatory topic.

Format (B)

Books are usually 6 x 9 inches in trim size, but size will be based on such requirements as ease of use and legibility for graphics, foldouts, and the like. The binding (casebound or paperback) will be chosen according to the need for durability. Additional guidance on manuscript preparations can be found in the U.S. Government Printing Office *Style Manual* and in *The Chicago Manual of Style* (13th edition). Refer also to NRC's "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1).

The contractor shall submit to the NRC project manager the typeset (photocomposed) manuscript suitable for printing. The NRC contact shall submit the manuscript to the Chief, Regulatory Publications Branch, DFIPS, where it will be reviewed for adherence to the standards set forth and referenced in this directive and handbook. The manuscript will also undergo a printing acceptability review by the Printing, Audiovisual, and Mail Services Branch, DFIPS. Unsatisfactory manuscripts will be reported to the NRC contact for appropriate contractual action by the NRC contracting officer or, in the case of Government agency or interagency agreement work, the publications manager of the performing organization.

Format (B) (continued)

DFIPS will approve design of the cover and title page to contain the appropriate information concerning:

(1) author names(s)

(2) organizational identification

(3) public availability and sales.

All books must include a comprehensive subject index of the book's contents, unless it is made up almost exclusively of graphical or tabular matter. See NUREG-0650, Revision 1, or *The Chicago Manual of Style* (13th ed.) for guidelines on creating an index.

NRC Document Number (C)

Each book must be identified by an NRC-controlled alphanumeric code unique to that book. The alphanumeric code will have the form: NUREG/CR for contractor-prepared books and NUREG/GR for grantee-prepared books.

When a book consists of more than one volume or binding, or is issued in more than one edition, an appropriate volume, number, supplement, part, addendum, or revision designation must appear directly below the document number.

Numbers are assigned by the Regulatory Publications Branch, DFIPS. The number may be obtained in advance of the time that the manuscript is submitted to DFIPS for printing by calling the Regulatory Publications Branch at FTS 49-24954 or (301)49-24954. The DFIPS staff will arrange to meet with the NRC contact for the project and when appropriate, the author(s), to discuss the publication production requirements and schedule for the book.

Availability of Reference Materials (D)

The guidelines for availability of reference material applicable in Section II.G. of this handbook also apply to contractor-prepared and grantee-prepared books published by NRC.

Reviews (E)

Peer (1)

NRC published books must undergo peer review from experts within and outside NRC. Peer review refers to a critical evaluation of the technical contents of a publication. These reviews may be conducted anonymously by reviewers from the author's own or a related field who are totally independent of the work leading to the manuscript.

Reviewers should be chosen by the NRC Office sponsoring the book from the potential audience for the publication and should provide an independent judgment about whether the publication successfully accomplishes the author's aims. Peer reviewers should be chosen for their expertise in the subject matter of the book. They may come from academia, the National Laboratories, other Federal agencies, or from other research institutes or consulting firms. They may be identified from the membership rolls of professional societies, ANSI subcommittees, and the like. Do not choose more than one reviewer from the same organization.

When assessing potential peer reviewers, screen for demonstrated competence and achievement in a specific discipline or research specialty. Assess competence based on the quality of research accomplished, publications in refereed journals, and other significant technical activities, achievements, and honors. Consider the judgement, perspective, and objectivity of reviewers. Consider also the personal integrity of those selected to ensure the confidentiality of information reviewed. Finally, avoid real or perceived conflicts of interest. Do not choose reviewers who are licensees or consultants to licensees nor reviewers from intervenor groups. Likewise, do not choose reviewers who may profit financially from influencing the information reviewed.

The services of reviewers from outside the agency may be acquired through consultant services contracts. The decision as to whether to reimburse peer reviewers should be made on a case-by-case basis, however. Recognize that reimbursing peer reviewers may give the appearance of a conflict of interest, suggesting to some that because NRC is paying for this service, the agency will seek only reviewers thought to be favorably disposed to the material reviewed. One way to offset this impression is to seek recommendations for peer reviewers from independent organizations, like the American Physics Society,

Reviews (E) (continued)

Peer (1) (continued)

the American Nuclear Society, the American Society of Mechanical Engineers, or appropriate universities. Reimbursement could then be made to the organization.

Copyright (2)

Copyrighted material must not be reproduced in NRC books without the written permission of the copyright holder. See NUREG-0650, Revision 1, Section 3.4, for information about obtaining copyright permission.

Security (3)

Based on knowledge of the information sources used, the author is responsible for ensuring that the manuscript does not contain classified or other access-controlled information. If there is uncertainty with respect to the security classification of a reference document or manuscript, an authorized classifier or the NRC Division of Security should be contacted for assistance. See also Management Directive 12.2, NRC Information Security Program (formerly MC 2101).

Patent (4)

The patent-review guidelines for draft and final formal reports specified in Section II.C of this handbook also apply to contractor- and grantee-prepared books.

Publishing Authorization Form (F)

A completed NRC Form 426A (Exhibit 1), signed by the Office Director or designees or by a DOE National Laboratory-authorized official if the publication is done for the Office of Nuclear Regulatory Research, if applicable, must be submitted to DFIPS with the book manuscript.

Disclaimers (G)

The following standard U.S. Government notice will be added prior to printing:

Disclaimers (G) (continued)

This document was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, or any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use, or the results of such use, of any information, apparatus, product, or process disclosed in this document, or represents that its use by such third party would not infringe privately owned rights.

The following additional statement may be printed below the standard disclaimer, if authorized by the NRC Office Director or designee.

This document was prepared under U.S. Nuclear Regulatory Commission (NRC) Contract No._____ . The opinions, findings, conclusions, and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the NRC.

Other qualifying statements may be added, if needed.

Printing (H)

Book manuscripts must be submitted by DFIPS to GPO for printing. The printing cycle requires from 6 to 8 weeks.

Distribution and Sales (I)

Distribution will be arranged by the DFIPS staff in accordance with distribution guidance provided by the NRC project manager on NRC Form 426A (Exhibit 1).

Free distribution should be limited to those who contributed materially to the book or to those for whom the book's subject matter bears directly on their work at or for NRC.

DFIPS will arrange to make the book available for sale through GPO. DFIPS will also arrange to have it made available at the NRC PDR and the GPO Depository Library Program.

Part V

Grant Publications

Background and Rationale (A)

The Nuclear Regulatory Commission funds grants for educational and nonprofit institutions, State and local Governments, and professional societies for the expansion, exchange, and transfer of knowledge and ideas pursuant to the Atomic Energy Act of 1954, as amended, Sections 31.a. and 141.b.

Publication of Results (B)

The grant will specify the publication requirements of the award. Grant results may be published by NRC, by the grantee, or in the open literature.

Publication by NRC (1)

This publication option must be governed by the guidelines specified in Part I of this handbook for reports or in Part III of this handbook for books, as appropriate. See Identification of Grant Publications in the paragraphs under V.C.

Publication by a Grantee (2)

When the grant specifies that the grantee is to publish the results, the grantee must grant to the Government a royalty-free, nonexclusive, irrevocable license to reproduce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the grantee's performance under the grant.

Open Literature Publication by Grantee (3)

When the grantee submits journal articles for publication, each must be accompanied by the following statement:

Publication of Results (B) (continued)

Open Literature Publication by Grantee (3) (continued)

> The submitted manuscript has been authored by a grantee of the U.S. Government under Grant No._____. Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

All open literature publications prepared under this grant must contain the following statement:

> This paper was prepared with the support of the U.S. Nuclear Regulatory Commission (NRC) under Grant No._____. The opinions, findings, conclusions, and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the NRC.

Should the grantee be requested by the journal or other publisher to transfer the copyright, the grantee author will respond to the journal or other publisher in writing in accord with the sample letter shown as follows:

> Dear (Publisher's Name):
>
> We recently received a document for signature assigning copyright and republication rights in the submitted article (title) to (name of publication). This letter is offered in lieu of the document as a means of completing the transfer of ownership. Accordingly, we hereby expressly transfer and assign our rights of ownership in the above-cited work to (name of publisher).
>
> You are advised, however, that the above assignment and any publication or republication of the above-cited work is subject to the following Government rights:
>
> The submitted manuscript has been authored by a grantee of the U.S. Government under grant No. _____. Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.
>
> Sincerely,

Publication of Results (B) (continued)

Reprints of Open Literature Publications (4)

When any article resulting from work under the grant is published in a scientific, technical, or professional journal, two reprints of the publication must be sent to the cognizant NRC Program Officer, clearly labeled with the grant number and other appropriate identifying information.

Identification of Grant Publications (C)

Each report or book published by NRC that results from a grant must be identified by an alphanumeric number, as follows:

- NUREG/GR-0000

When the publication consists of more than one volume, number, supplement, part, or binding, or is issued in more than one edition, an appropriate volume, supplement, part, or revision designation must appear below the NUREG/GR number.

Numbers may be obtained from the Regulatory Publications Branch at FTS 49-24954 or (301)49-24954.

Pre-Publication Reviews (D)

The U.S. Congress characterizes the relationship between a Federal agency and a grant recipient as one in which "the recipient can expect to run the project without agency collaboration, participation, or intervention as long as it is run in accordance with the terms of the instrument...."

Glossary*

Book. A publication intended as a permanent reference or textbook or as a major critical review of a technical or regulatory topic. It may be *casebound* (hardback) or paperbound.

Camera-ready copy. Pages ready for printing by the offset printing process. This is a colloquial term used even though the printing process may not involve the so-called copy camera (see also *reproducible masters*).

Casebound. Term denoting a book with a hard cover.

Compose. To arrange letters, in type or film, for printing. Usually synonymous with *typesetting*.

Composition. The process of setting type by hot-metal casting, phototypesetting, or electronic character generating devices (e.g., computers) for the purpose of producing *camera copy*, negatives, a plate, or image to be used in the production of *printing* or microform.

Contractor report. Record of work done (a report) prepared in accordance with the provisions of a contract or under or pursuant to an interagency agreement.

Copyright. A form of protection provided by the laws of the United States (Title 17, U.S. Code), to the authors of "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available to both published and unpublished works. Copyrighted material may not be reproduced without the permission of the author or publisher.

Disseminate. To announce the publication of reports and make them available for free distribution, sale, or copying.

*Words in *italics* in definitions are also defined in the glossary.

Glossary (continued)

Distribute. To dispense reports to specific organizations and individuals to ensure their participation in the regulatory process and support of research and technological investigations. Such distribution may be accomplished by the use of standard distribution data banks established and maintained by the Division of Information Support Services, Office of Information Resources Management, at the request of the originating office or region.

Documentation. Classification and associated markings required for classified or sensitive unclassified documents, the NRC report number unique to the report, title (and subtitle, if any), author or correspondent (if any), organization identification and contract number (or FIN number), date, and availability.

Edition. All copies of a book printed from the same type. Edition also refers to format, such as *paperback*, *casebound*, or to the text, as revised, expanded, and so on. If extensive revisions have been made to the text and the book is reprinted, the revised version is the new edition.

Grant. A legal instrument which defines the relationship between the Government and a recipient for the transfer of money, property, services or anything of value to the recipient for the accomplishment of a public purpose of support or stimulation authorized by law. A grant presumes a limited amount of involvement by the agency in the performance by the recipient.

Grant Report. A record of work done prepared in accordance with the provisions of *grant*.

Index. An alphabetical list of all major topics discussed in a *book*. It cites the page numbers where each topic can be found. The index comes as the last section of a book.

International agreement. Cooperative nuclear safety research programs that involve either or both foreign governments and organizations and U.S. industry. Such involvement, authorized under 42 U.S.C. 5801, includes monetary contributions, information exchanges, and comments on program plans and results.

International agreement report. A record of work done prepared in accordance with the provisions of an *international agreement*.

Glossary (continued)

Manuscript. A handwritten, typewritten, or *composed* version of a document, as distinguished from a printed copy.

NRC project manager. The NRC staff member responsible for the work performed by consultants or contractors and their subcontractors, or for work performed under or pursuant to an interagency agreement.

Paperback. A *book* with a flexible paper cover.

Peer review. A critical evaluation of the technical contents of a publication. These reviews are conducted by reviewers from the author's own or a related field who are totally independent of the work leading to the *manuscript*. Reviewers should be chosen from the potential audience for the publication and should provide an independent judgment about whether the publication successfully accomplishes the author's aims.

Photocomposition. *Typesetting* performed when photosensitive paper or film is exposed to light in the form of letters and characters. Photocomposition is to be distinguished from hot metal and typewriter *composition*.

Printing. As defined by the Joint Committee on Printing, includes and applies to the process of *composition*, platemaking, presswork, collating, and microform; the equipment used in such processes; or the end product produced by such processes and equipment.

Proprietary information. Trade secrets; privileged or confidential research, development, commercial or financial information, exempt from mandatory disclosure under 10 CFR Part 2 (Sections 2.740 and 2.790) and under 10 CFR Part 9 (Section 9.17); and other information submitted in confidence to the NRC by a foreign source and determined to be unclassified by the NRC.

Public domain. Materials on which *copyright* never existed, such as U.S. Government publications, or on which copyright has expired.

Publicly available documents. Information (reports and references) that is available in the NRC Public Document Room (PDR) for public inspection and copying or available in the *public domain*.

Glossary (continued)

Reproducible masters. *Camera-ready copy* that includes (1) originals of line drawings (or prints that can be copied); (2) glossy prints of black and white photographs; (3) original *typeset* or printed text, tables, cover, title page, contents, and abstract; or (4) other forms of the materials that a printer can reproduce.

Trim size. The final size of the whole page, margins included.

Typesetting. The placement of type on a page (letters, numbers, and other characters) in conformance with specific style and layout instructions.

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3. FIN OR GRANT NUMBER (Do not list DOE contract number): A-3955

4. AUTHORS (If more than three, name first author followed by "and others"): P. Bezler and others

5. CONTRACTOR: Brookhaven National Laboratory, Department of Nuclear Energy
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(See instructions on the reverse)

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NUREG/CR-5603
EGG-2607

2. TITLE AND SUBTITLE
Pressure-Dependent Fragilities for Piping Components: Pilot Study on Davis-Besse Nuclear Power Station

3. DATE REPORT PUBLISHED
MONTH: October — YEAR: 1990

4. FIN OR GRANT NUMBER
B5699

5. AUTHOR(S)
D.A. Wesley, T.R. Kipp, D.K. Nakaki, H. Hadidi-Tamjed

6. TYPE OF REPORT
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10. SUPPLEMENTARY NOTES

11. ABSTRACT (200 words or less)
The capacities of four, low-pressure fluid systems to withstand pressures and temperatures above the design levels were established for the Davis-Besse Nuclear Power Station. The results will be used in evaluating the probability of plant damage from Interfacing System Loss of Coolant Accidents (ISLOCA) as part of the probabilistic risk assessment of the Davis-Besse nuclear power station undertaken by EG&G Idaho, Inc. Included in this evaluation are the tanks, heat exchangers, filters, pumps, valves, and flanged connections for each system. The probabilities of failure, as a function of internal pressure, are evaluated as well as the variabilities associated with them. Leak rates or leak areas are estimated for the controlling modes of failure. The pressure capacities for the pipes and vessels are evaluated using limit-state analyses for the various failure modes considered. The capacities are dependent on several factors, including the material properties, modeling assumptions, and the postulated failure criteria. The failure modes for gasketed-flange connections, valves, and pumps do not lend themselves to evaluation by conventional structural mechanics techniques and evaluation must rely primarily on the results from ongoing gasket research test programs and available vendor information and test data.

12. KEY WORDS/DESCRIPTORS (List words or phrases that will assist researchers in locating the report.)
pressure-dependent fragilities
piping components
Interfacing System Loss of Coolant Accidents (ISLOCA)
probabilistic risk assessment
Davis-Besse Nuclear Power Station

13. AVAILABILITY STATEMENT
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14. SECURITY CLASSIFICATION
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