

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS

OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. CONTRACT NO. NRC-38-05-365		3. AWARD/EFFECTIVE DATE 09/12/05		4. ORDER NO.		5. SOLICITATION NO. RS-HR-05-365		6. SOLICITATION ISSUE DATE 2/28/2005	
7. FOR SOLICITATION INFORMATION CALL:		a. NAME Paulette Smith		b. TELEPHONE NO. (No Collect Calls) 301-415-6594		8. OFFER DUE DATE/LOCAL TIME 3/17/2005 by 3:00 P.M.			
9. ISSUED BY U.S. Nuclear Regulatory Commission Division of Contracts Mail Stop: T-7-I-2 Contract Management Branch No. 1 Washington, DC 20555		CODE 3100		10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED OR <input type="checkbox"/> SET ASIDE: % FOR: <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> EMERGING SMALL BUSINESS <input type="checkbox"/> HUBZONE SMALL BUSINESS NAICS: SIZE STANDARD: \$5.0 Million <input type="checkbox"/> SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS <input type="checkbox"/> 8(A)					
11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE		12. DISCOUNT TERMS N/A		<input type="checkbox"/> 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		13b. RATING N/A 14. METHOD OF SOLICITATION <input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP			
5. DELIVER TO U.S. Nuclear Regulatory Commission Washington DC 20555		CODE		16. ADMINISTERED BY U.S. Nuclear Regulatory Commission Division of Contracts Mail Stop T-7-I-2 Washington, DC 20555					
7a. CONTRACTOR/OFFEROR Westinghouse Electric Co. LLC Nuclear Services P. O. Box 158 Madison, PA 15663 TELEPHONE NO 724-722-5002		CODE		FACILITY CODE		18a. PAYMENT WILL BE MADE BY U.S. Nuclear Regulatory Commission Payment Team, Mail Stop T-9-H-4 Attn: (insert contract or order number) Washington DC 20555			
<input type="checkbox"/> 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER		18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM							
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES			21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT		
	SEE SCHEDULE ON PAGE 2 OF STANDARD FORM 1449 DUNS: 06-266-1272								
(Use Reverse and/or Attach Additional Sheets as Necessary)									
25. ACCOUNTING AND APPROPRIATION DATA 5-8415-122114 R8432 252A 31X0200 Obligated Amount: \$73,401						26. TOTAL AWARD AMOUNT (For Govt. Use Only) \$73,401.00			
27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.									
27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.									
28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN _____ COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.				29. AWARD OF CONTRACT: REFERENCE <u>Revised Proposal</u> OFFER DATED <u>7/18/05</u> . YOUR OFFER ON SOLICITATION (BLOCK <input checked="" type="checkbox"/> 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN IS ACCEPTED AS TO ITEMS.					
30a. SIGNATURE OF OFFEROR/CONTRACTOR <i>Glenda Testa</i>				31a. UNITED STATES OF AMERICA SIGNATURE OF CONTRACTING OFFICER) <i>Elois J. Wiggins</i>					
30b. NAME AND TITLE OF SIGNER (TYPE OR PRINT) Glenda Testa, Marketing		30c. DATE SIGNED SEP 14 2005		31b. NAME OF CONTRACTING OFFICER (TYPE OR PRINT) Elois J. Wiggins			31c. DATE SIGNED 9/13/05		

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION IS NOT USABLE

STANDARD FORM 1449 (REV. 3/2005)
Prescribed by GSA - FAR (48 CFR) 53.212

TEMPLATE - ADM001 **SISP REVIEW COMPLETE**

ADM002

ITEM NO	SCHEDULE OF SUPPLIES/SERVICES			QUANTITY	UNIT	UNIT PRICE	AMOUNT
1.	FIRST CONTRACT YEAR 2005	QUANTITY	UNIT	TOTAL			
	Pressurized Water Reactor			\$41,841			
	Maintenance Course			\$31,560			
2.	SECOND CONTRACT YEAR 2006						
	Pressurized Water Reactor			\$64,766			
	Maintenance Course						
3.	THIRD CONTRACT YEAR 2007						
	Pressurized Water Reactor			\$66,458			
	Maintenance Course						
4.	FOURTH CONTRACT YEAR 2008						
	Pressurized Water Reactor			\$68,216			
	Maintenance Course						
5.	FIFTH CONTRACT YEAR 2009						
	Pressurized Water Reactor			\$70,042			
	Maintenance Course						
	TOTAL FIRM FIXED PRICE:			\$342,884			

2a. QUANTITY IN COLUMN 21 HAS BEEN

☐ RECEIVED ☐ INSPECTED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED: _____

2b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE		32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
3a. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE			32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
			32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
SHIP NUMBER		34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	36. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL
S/R ACCOUNT NUMBER		39. S/R VOUCHER NUMBER	40. PAID BY	37. CHECK NUMBER
41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT			42a. RECEIVED BY (Print)	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER		41c. DATE	42b. RECEIVED AT (Location)	
			42c. DATE REC'D (YY/MM/DD)	42d. TOTAL CONTAINERS

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SECTION B - CONTINUATION BLOCK**B.1 PROJECT TITLE**

This project is entitled, "PWR Maintenance Overview Course."

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987)

(a) The contractor shall furnish qualified personnel, materials, and services to develop, present, and maintain the Pressurized Water Reactor Maintenance Training Overview Course.

(b) Orders will be issued for work required by the NRC in accordance with 52.216-18 - Ordering. Only Contracting Officers of the NRC or other individuals specifically authorized under this contract may authorize the initiation of work under this contract. The provisions of this contract shall govern all orders issued hereunder.

B.3 STATEMENT OF WORK

[SEE ATTACHMENT 1 FOR STATEMENT OF WORK]

SECTION C - CONTRACT CLAUSES**C.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	

C.2 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.arnet.gov/far/

**C.3 ADDENDUM TO FAR 52.212-4 CONTRACT TERMS AND CONDITIONS--
COMMERCIAL ITEMS**

Clauses that are incorporated by reference (by Citation Number, Title, and Date), have the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

The following clauses are incorporated into 52.212-4 as an addendum to this contract:

52.244-2	SUBCONTRACTS	AUG 1998
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C.4 CONSIDERATION AND OBLIGATION--DELIVERY ORDERS (JUN 1988)

(a) The total estimated amount of this contract (ceiling) for the

products/services ordered, delivered, and accepted under this contract is \$342,884. The Contracting Officer may unilaterally increase this amount as necessary for orders to be placed with the contractor during the contract period provided such orders are within any maximum ordering limitation prescribed under this contract.

(b) The amount presently obligated with respect to this contract is \$73,401. The Contracting Officer may issue orders for work up to the amount presently obligated. This obligated amount may be unilaterally increased from time to time by the Contracting Officer by written modification to this contract. The obligated amount shall, at no time, exceed the contract ceiling as specified in paragraph a above. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated with respect to this contract. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk.

C.5 2052.209-72 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.

(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, that 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 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 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 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.

52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.245-2	GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS)	MAY 2004

C.6 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (JAN 2005)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.233-3, Protest after Award (AUG 1996) (31 U.S.C. 3553).

(2) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004)
(Pub. L. 108-77, 108-78)

(b) The Contractor shall comply with the FAR clauses in this

paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]

[X] (1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUL 1995), with Alternate I (OCT 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).

[] (2) 52.219-3, Notice of Total HUBZone Set-Aside (JAN 1999) (15 U.S.C. 657a).

[X] (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (JAN 1999) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

[] (4) (i) 52.219-5, Very Small Business Set-Aside (JUNE 2003) (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994).

[] (ii) Alternate I (MAR 1999) of 52.219-5.

[] (iii) Alternate II (JUNE 2003) of 52.219-5.

[] (5) (i) 52.219-6, Notice of Total Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).

[] (ii) Alternate I (OCT 1995) of 52.219-6.

[] (iii) Alternate II (MAR 2004) of 52.219-6.

[] (6) (i) 52.219-7, Notice of Partial Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).

[] (ii) Alternate I (OCT 1995) of 52.219-7.

[] (iii) Alternate II (MAR 2004) of 52.219-7.

[X] (7) 52.219-8, Utilization of Small Business Concerns (MAY 2004) (15 U.S.C. 637 (d) (2) and (3)).

[] (8) (i) 52.219-9, Small Business Subcontracting Plan (JAN 2002) (15 U.S.C. 637(d) (4)).

[] (ii) Alternate I (OCT 2001) of 52.219-9.

[X] (iii) Alternate II (OCT 2001) of 52.219-9.

[] (9) 52.219-14, Limitations on Subcontracting (DEC 1996) (15 U.S.C. 637(a) (14)).

[X] (10) (i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (JUNE 2003) (Pub.

L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).

☐ (ii) Alternate I (JUNE 2003) of 52.219-23.

☐ (iii) Alternate II (OCT 1998) of 52.219-23.

☒ (11) 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (OCT 1999) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

☒ (12) 52.219-26, Small Disadvantaged Business Participation Program--Incentive Subcontracting (OCT 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

☐ (13) 52.219-27, Notice of Total Service-Disabled Veteran-Owned Small Business Set-Aside (May 2004)

☒ (14) 52.222-3, Convict Labor (JUNE 2003) (E.O. 11755).

☐ (15) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (JUN 2004) (E.O. 13126).

☒ (16) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).

☒ (17) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).

☒ (18) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).

☒ (19) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

☒ (20) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).

☐ (21) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).

☐ (22) (i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (AUG 2000) (42 U.S.C. 6962(c)(3)(A)(ii)).

☐ (ii) Alternate I (AUG 2000) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).

☐ (23) 52.225-1, Buy American Act--Supplies (JUNE 2003) (41 U.S.C. 10a-10d).

☐ (24) (i) 52.225-3, Buy American Act--Free Trade Agreements--

Israeli Trade Act (JAN 2005) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L. 108-77, 108-78, 108-286).

☐ (ii) Alternate I (JAN 2004) of 52.225-3.

☐ (iii) Alternate II (JAN 2004) of 52.225-3.

☐ (25) 52.225-5, Trade Agreements (JAN 2005) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).

☒ (26) 52.225-13, Restrictions on Certain Foreign Purchases (Dec 2003) (E.O.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

☐ (27) 52.225-15, Sanctioned European Union Country End Products (FEB 2000) (E.O. 12849).

☐ (28) 52.225-16, Sanctioned European Union Country Services (FEB 2000) (E.O. 12849).

☐ (29) 52.232-29, Terms for Financing of Purchases of Commercial Items (FEB 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).

☐ (30) 52.232-30, Installment Payments for Commercial Items (OCT 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).

☒ (31) 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration (OCT 2003) (31 U.S.C. 3332).

☐ (32) 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration (MAY 1999) (31 U.S.C. 3332).

☐ (33) 52.232-36, Payment by Third Party (MAY 1999) (31 U.S.C. 3332).

☐ (34) 52.239-1, Privacy or Security Safeguards (AUG 1996) (5 U.S.C. 552a).

☐ (35) (i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631).

☐ (ii) Alternate I (APR 2003) of 52.247-64.

(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]

☐ (1) 52.222-41, Service Contract Act of 1965, as

Amended (MAY 1989) (41 U.S.C. 351, et seq.).

[] (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

[] (3) 52.222-43, Fair Labor Standards Act and Service Contract Act--Price Adjustment (Multiple Year and Option Contracts) (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

[] (4) 52.222-44, Fair Labor Standards Act and Service Contract Act--Price Adjustment (February 2002) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

[] (5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreements (CBA) (May 1989) (41 U.S.C. 351, et seq.).

(d) Comptroller General Examination of Record. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records--Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e)(1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vi) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--

(i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (April 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (December 2001) (38 U.S.C. 4212).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).

(vi) 52.222-41, Service Contract Act of 1965, as Amended (May 1989), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).

(vii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (April 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the contractor may include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

C.7 52.216-18 ORDERING (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from the effective date through the end of the effective period.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

C.8 52.216-19 ORDER LIMITATIONS (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than one, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of four (4);

(2) Any order for a combination of items in excess of four (4);

(3) A series of orders from the same ordering office within thirty (30) days that together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within thirty (30) days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

C.9 52.216-21 REQUIREMENTS (OCT 1995)

(a) This is a requirements contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies or services specified in the Schedule are estimates only and are not purchased by this contract. Except as this contract may otherwise provide, if the Government's requirements do not result in orders in the quantities described as "estimated" or "maximum" in the Schedule, that fact shall not constitute the basis for an equitable price adjustment.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. Subject to any limitations in the Order Limitations clause or elsewhere in

this contract, the Contractor shall furnish to the Government all supplies or services specified in the Schedule and called for by orders issued in accordance with the Ordering clause. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(c) Except as this contract otherwise provides, the Government shall order from the Contractor all the supplies or services specified in the Schedule that are required to be purchased by the Government activity or activities specified in the Schedule.

(d) The Government is not required to purchase from the Contractor requirements in excess of any limit on total orders under this contract.

(e) If the Government urgently requires delivery of any quantity of an item before the earliest date that delivery may be specified under this contract, and if the Contractor will not accept an order providing for the accelerated delivery, the Government may acquire the urgently required goods or services from another source.

(f) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after six (6) months after contract expiration.

C.10 2052.211-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)

All technical reports required by the Statement of Work (Attachment 1) 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 List of Attachments).

C.11 52.232-18 AVAILABILITY OF FUNDS (APR 1984)

Funds are not presently available for this contract. The Government's obligation under this contract is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this contract and until the Contractor

receives notice of such availability, to be confirmed in writing by the Contracting Officer.

C.12 DURATION OF CONTRACT PERIOD (MAR 1987) ALTERNATE 1 (JUN 1988)

The ordering period for this contract shall commence on the effective date of the contract and will expire in five (5) years. Any orders issued during this period shall be completed within the time specified in the order, unless otherwise specified herein. (See 52.216-18 - Ordering).

C.13 SEAT BELTS

Contractors, subcontractors, and grantees, are encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles.

C.14 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States Immigration and Naturalization (INS) laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Alien Registration Receipt Card Form 1-151 or must present other evidence from the Immigration and Naturalization Services that employment will not affect his/her immigration status. The INS Office of Business Liaison (OBL) provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on the INS website, <http://www.ins.usdoj.gov/graphics/services/employerinfo/index.htm#obl>.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

(End of Clause)

SECTION D - CONTRACT DOCUMENTS, EXHIBITS, OR ATTACHMENTS

1. Statement of Work
2. Billing Instructions for Fixed Priced Contracts
3. Technical Training Center Policy Document X
Training Course Manual Style Guide
4. NRC Handbook 3.8 - Unclassified Contractor and
Grantee Publications in the NUREG Series

SECTION E - SOLICITATION PROVISIONS

E.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	

E.2 2052.215-70 KEY PERSONNEL (JAN 1993)

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



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 and the project

officer shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision in writing.

(d) If the contracting officer determines that suitable and timely 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.

E.3 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

E.4 PROJECT OFFICER AUTHORITY (ALT 1) (FEB 2004)

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

Name: Bobby R. Eaton

Address: U.S. Nuclear Regulatory Commission
Technical Training Center
Osborne Office Center
5746 Marlin Road, Suite 200
Chattanooga, TN 37411-5677

Telephone Number: (423) 855-6540

Fax Number: (423) 855-6543

(b) The project officer shall:

(1) Place delivery orders for items required under this contract up to the amount obligated on the contract award document.

(2) Monitor contractor performance and recommend changes in requirements to the contracting officer.

(3) Inspect and accept products/services provided under the contract.

(4) Review all contractor invoices/vouchers requesting payment for products/services provided under the contract and make recommendations for

approval, disapproval, or suspension.

(5) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(c) The project officer may not make changes to the express terms and conditions of this contract.

E.5 2052.209-71 CURRENT/FORMER AGENCY EMPLOYEE INVOLVEMENT

(a) The following representation is required by the NRC Acquisition Regulation 2009.105-70(b). It is not NRC policy to encourage offerors and contractors to propose current/former agency employees to perform work under NRC contracts, and as set forth in the above cited provision, the use of such employees may, under certain conditions, adversely affect NRC's consideration of non-competitive proposals and task orders.

(b) The offeror hereby certifies that there [] are [] are no current/former NRC employees (including special Government employees performing services as experts, advisors, consultants, or members of advisory committees) who have been or will be involved, directly or indirectly, in developing the offer, or in negotiating on behalf of the offeror, or in managing, administering, or performing any contract, consultant agreement, or subcontract resulting from this offer. For each individual so identified, the Technical and Management proposal must contain, as a separate attachment, the name of the individual, the individual's title while employed by the NRC, the date individual left NRC, and brief description of the individual's role under this proposal.

E.6 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions 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. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

E.7 52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Definitions. As used in this clause--

Central Contractor Registration (CCR) database means the primary Government repository for Contractor information required for the conduct of business with the Government.

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record ``Active''.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation ``DUNS'' or ``DUNS +4'' followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>

; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g) (1) (i) If a Contractor has legally changed its business name,

``doing business as'' name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the ``Suspension of Payment'' paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the ``Suspension of payment'' paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

PRESSURIZED WATER REACTOR
MAINTENANCE TRAINING OVERVIEW COURSE
STATEMENT OF WORK

1.0 BACKGROUND

The Nuclear Regulatory Commission inspects the facilities of licensees to determine whether the facility operations are conducted in compliance with license provisions and to identify conditions that might adversely affect the health and safety of the public or the environment.

In support of this mission, specialized technical training programs have been designed to give NRC inspectors and others an understanding of regulatory and operational bases for refueling operations and core loading.

2.0 CONTRACT OBJECTIVE

The objective of this contract is to provide a course that will provide NRC inspectors with the technical training necessary to satisfy program requirements in the areas of refueling equipment operation and fuel movement during refueling operations, reactor coolant pump maintenance, inspection of reactor vessel head penetrations, inspection of pressurizer penetrations, and steam generator tube maintenance and surveillance testing that will help facilitate inspection of pressurized water reactor licensees.

3.0 SCOPE OF WORK

The Contractor shall furnish qualified personnel, materials, and services to develop, present, and maintain the Pressurized Water Reactor Maintenance Training Overview Course.

3.1 Course Description

The contractor shall furnish the necessary qualified personnel, materials and services to conduct a four and one-half (4½) day training course entitled "Pressurized Water Reactor Maintenance Training Overview Course (R-802P)" outlined below. Changes in, additions to, or deletions from the subjects listed below are permitted, however, the content of the final outline shall be approved by the NRC Project Officer. Course goals should be accomplished through a combination of classroom presentations, demonstrations, films, hands-on operation of actual equipment, and other training aids as appropriate. In particular, the course shall include the following:

- a. Fuel receipt and inspection, including expected radiation levels of new fuel versus spent fuel.

- b. Preparations for refueling, including vessel head stud detensioning, vessel head removal, reactor vessel cavity seal installation, flooding of refueling cavity and transfer canal, control rod drive shaft unlatching, upper internals removal, testing of equipment, and other Technical Specification requirements.
- c. Fuel movement, including hands-on training with equipment involved in fuel movement, such as upender, bridge and trolley operations, use of long and short fuel handling tools, use of other refueling tools (burnable poison rod assembly handling tool, thimble plug handling tool, etc.), use of procedures, 1/m plots, and status tracking methods.
- d. Reactor vessel reassembly, including replacement of reactor vessel O-rings.
- e. Inspection of U-tube steam generators, including hands-on use and/or demonstrations of eddy current testing equipment, plugging of defective steam generator tubes, steam generator cleaning procedures, hideout testing, and nozzle dam design, installation, and use.
- f. Reactor coolant pump maintenance, including hands-on and/or demonstrations of an actual or model seal package.
- g. Classroom discussion of methods of steam generator replacement.
- h. Inspection of reactor vessel top and bottom head penetrations and pressurizer penetrations, including methods of repairing any leaking penetrations.

3.2 Course Development, Presentation, and Other Requirements

The Contractor will be required to:

- a. Provide a detailed course schedule, including a breakdown of course topics and times to be spent on each topic.
- b. Provide appropriately bound training materials for student use during the course (course materials, handouts, examinations, etc.) unless specified otherwise in this contract. These materials shall be prepared using the Contractor's facilities and resources prior to course presentation and will be corrected for errors identified in previous courses. For courses conducted at TTC, Contractor use of TTC equipment (copying machine, FAX machine, etc.) is prohibited without the express permission of the TTC Site Director.

- c. Use an instructor guide to support presentation of the course. As a minimum, the guide shall consist of a detailed course outline, clearly defined learning objectives for each topic, a description of each visual aid and a formal lesson plan for presenting the lecture, exercises, and demonstrations.
- d. Provide a satisfactory facility for the conduct of classes.
- e. Develop/furnish and utilize visual aids (viewgraphs, slides, actual components, etc.) as much as possible to assist student understanding.
- f. Provide the NRC Project Officer, sixty (60) days prior to the start of the first course (and prior to the start of subsequent courses if revised), a copy of the following material: course schedule, texts and handouts to be provided to the students. The NRC Project Officer will approve/disapprove the material within twenty-one (21) days after receipt from the contractor. The contractor shall correct any deficiencies and resubmit the material. NRC approval of the material shall be required at least twenty-one (21) days prior to the start of each course.
- g. Provide the NRC Project Officer a map of the course locality clearly showing the training facility and nearby lodging available to the students.
- h. Within thirty (30) days after completion of the course, the contractor shall correct all errors noted during the course and/or identified on the course evaluation sheets and update the course materials. The correction of errors that do not change the content of the course (spelling, grammar, etc.) do not require approval by the NRC Project Officer.
- i. Notify the NRC Project Officer within forty-five (45) days of the start of a course of any changes that need to be made to the course material due to changes in the technology or due to recent events. The new material that will be added to the course shall be reviewed by the NRC Project Officer within fourteen (14) days after receipt from the Contractor. The Contractor shall correct any deficiencies and resubmit the material. NRC approval of the material shall be required at least fourteen (14) days prior to the start of each course.

3.3 Instructor Qualification Requirements

The contractor shall have broad technical experience with the refueling of pressurized water reactors, and performance of maintenance and surveillance on steam generators, reactor coolant pumps, reactor vessels, and pressurizers.

The course shall be conducted by a minimum of two assigned course instructors with expertise in the areas of refueling and maintenance outage activities. They shall be experienced in providing instruction to individuals who have little experience in refueling operations, steam generator surveillance and maintenance activities, reactor vessel and pressurizer inspections, and reactor coolant pump maintenance

activities. As a minimum, these instructors shall have the following areas of combined experience/expertise:

- a. Extensive knowledge of outage activities, including surveillance and maintenance activities on steam generators and reactor coolant pumps.
- b. Practical experience as maintenance supervisor.
- c. Practical experience as a supervisor of refueling operations.
- d. Extensive knowledge of the use and basis of pressurized water reactor Technical Specifications.

3.4 General Information

- a. Typical class size shall be established based upon the contractor's facility.
- b. Classes shall start at 8:00 AM and end at 4:00 PM on Monday through Thursday. On Friday, the classes shall start at 8:00 AM and end at 12:00 noon to allow for students travel. During instruction, the instructors should allow for 10 minute breaks about every hour and one hour for lunch. Approximately 6 hours of instruction time shall be available per day on Monday through Thursday, and 3.5 hours of instruction time available on Friday.
- c. The Contractor shall arrive in sufficient time prior to the start of each class to check/setup the training room, layout course materials, prepare equipment, etc. as necessary.
- d. On the first day of each class, the Contractor shall ensure required student registration forms are completed and shall inform participants of the requirements for satisfactorily completing the objectives of the course.
- e. Projection graphics for classroom use shall be produced in either thirty-five (35) mm color slide format, computer presentation format (PowerPoint for example), or in overhead viewgraph format with black and white hard copies provided in the student manual.
- f. The NRC Project Officer shall be responsible for the review and approval of contractor developed course materials.
- g. Student background and experience will vary. The Contractor should not assume experience with refueling and maintenance activities.

3.5 Number of Courses, Course Scheduling, and Location

- a. The NRC estimates it will require two courses per year during the period of this contract. Additional courses may be ordered, up to a maximum of four (4), if warranted by student demand.
- b. Exact course dates will be arranged with the Contractor at least sixty (60) days before each course. Courses will be formally scheduled via a delivery order form signed by both parties.
- c. Should the NRC determine no later than 30 days prior to the time a course session is to begin that the need is insufficient to conduct the training, the NRC may reschedule the session without additional obligation to the government. A revised delivery order form will be completed by the parties with the new dates.
- d. The NRC may also have a requirement to have the Contractor conduct this course at the Technical Training Center in Chattanooga, TN. In the event such a requirement occurs, the Contracting Officer will notify the Contractor pursuant to the Changes Clause and an equitable adjustment to the contract amount will be negotiated and the contract will be modified accordingly.

3.6 Future Course Revisions

The NRC reserves the right to negotiate the below identified work in the event such requirements become necessary. The NRC will notify the Contractor of its intent to exercise this option in writing and will exercise the option by means of a modification to the contract. Any such additional work shall be within the scope of the contract and shall be completed during the term of this contract.

- a. The Contractor may be required to modify all or part of the training materials developed for the course at the direction of the NRC Project Officer. A specific contract modification will be issued for any required course modifications.
- b. The NRC may request the Contractor to develop additional specialized seminars or training courses on topics related to those in this statement of work during the period of contract performance. A specific contract modification would be issued for any additional work requested.

4.0 LEVEL OF EFFORT

The level of effort required will be the hours necessary to develop, present, and maintain the Pressurized Water Reactor Maintenance Training Overview Course. This course will be a four and one-half (4.5) day course taught by a minimum of two (2) instructors. The information for the course should be taken as much as possible from existing similar courses. The development of new material should only be as necessary. For the conversion of existing material, it is anticipated that it will take

three (3) hours of effort for each hour of classroom presentation. For the development of new material, it is anticipated that it will take ten (10) hours of effort for each hour of classroom presentation.

5.0 MEETINGS AND TRAVEL

Within 30 days of contract award, a meeting will be held at the Contractor's facility with the NRC Project Officer and technical representatives to discuss the course outline, lesson objectives, material preparation, facility for presentation and any other information required for course presentation.

6.0 NRC FURNISHED MATERIAL

- a. If the option of holding the course at other than the Contractor's location is invoked, the NRC will provide facilities for conducting the course and provide necessary audio-visual equipment.
- b. The NRC will furnish, at the time of each course presentation, student registration forms and course evaluation sheets for each student.
- c. The NRC shall be responsible for preparing course announcements, student registration, and preparing course completion certificates.

7.0 SUBCONTRACTS

No subcontracts are anticipated for this contract. However, any subcontract would require prior written permission of the NRC Contracting Officer.

8.0 REPORTING REQUIREMENTS AND DELIVERABLES

8.1 Milestones

- a. Within thirty (30) days of contract award - a meeting at the Contractor's facility per part 5.0.
- b. Within forty-five (45) days of contract award - draft detailed course outline submitted to the NRC Project Officer for review.
- c. Within ninety (90) days of contract award - draft course materials (student manuals, etc.) submitted to the NRC Project Officer for review.
- d. Within one hundred twenty (120) days of contract award - ready for presentation of the first course.

8.2 Course Presentation Reports

Within thirty (30) days of the completion of a course presentation, the Contractor shall submit a Course Presentation Report to the NRC Project Officer. The report

shall contain:

- a. A cover letter report discussing accomplishments, problems, recommendations for improvement, and status of correcting errors found during the course presentation.
- b. Original student evaluations and a summary of student comments.
- c. Student registration forms.

8.3 Final Report

The Contractor shall furnish a final report in accordance with NRC Manual Chapter 3202 by the end date of the contract. Five copies shall be sent to the Project Officer and one copy to the Contract Administrator. The report shall contain as a minimum:

- a. A technical report of the work completed.
- b. Any problems or delays encountered and their solutions.
- c. Recommendations for improvement.

The final report and transfer of all government furnished materials and all contractor developed materials shall be done prior to the contract expiration date.

9.0 PERIOD OF PERFORMANCE

This contract shall become effective on the effective date as specified in block 3 of the SF-1449, and shall continue for five (5) years.

10.0 TECHNICAL DIRECTION

The Project Officer for this contract shall be Bobby R. Eaton.

**BILLING INSTRUCTIONS FOR
FIXED PRICE CONTRACTS (October 2003)**

General: The contractor is responsible during performance and through final payment of this contract for the accuracy and completeness of the data within the Central Contractor Registration (CCR) database, and for any liability resulting from the Government's reliance on inaccurate or incomplete CCR data. The contractor shall prepare vouchers or invoices as prescribed herein. **FAILURE TO SUBMIT VOUCHERS/INVOICES IN ACCORDANCE WITH THESE INSTRUCTIONS WILL RESULT IN REJECTION OF THE VOUCHER/INVOICES AS IMPROPER.**

Form: Claims shall be submitted on the payee's letterhead, voucher/invoices, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal--Continuation Sheet." These forms are available from the U.S. Government Printing Office, 710 North Capitol Street, Washington, DC 20401.

Number of Copies: An original and three copies shall be submitted. 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 - T-7-I-2
Washington, DC 20555-0001

A copy of any invoice which includes a purchase of property valued at the time of purchase at \$5000 or more, shall additionally be sent to:

NRC Property Management Officer
Administrative Services Center
Mail Stop -O-2G-112
Washington, DC 20555-0001

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

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

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

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

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

Frequency: The contractor shall submit a voucher or invoice only after the NRC's final acceptance of services rendered or products delivered in performance of the contract unless otherwise specified in the contract.

Preparation and Itemization of the Voucher/Invoice: The voucher/invoice shall be prepared in ink or by typewriter (without strike-overs). Corrections or erasures must be initialed. To be considered a proper voucher/invoice, all of the following elements must be included:

1. Contractor's Data Universal Number (DUNS) or DUNS+4 number that identifies the contractor's name and address. The DUNS+4 number is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the contractor to identify alternative Electronic Funds Transfer (EFT) accounts for the same parent concern.
2. Contract number.
3. Sequential voucher/invoice number.
4. Date of voucher/invoice.
5. Payee's name and address. Show the name of the Payee as it appears in the contract and its correct address. If the Payee assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Payee shall require as a condition of any such assignment, that the assignee shall register separately in the Central Contractor Registration (CCR) database at <http://www.ccr.gov> and shall be paid by EFT in accordance with the terms of this contract. See Federal Acquisition Regulation 52.232-33(g) Payment by Electronic Funds Transfer - Central Contractor Registration (October 2003).
6. Description of articles or services, quantity, unit price, and total amount.
7. For contractor acquired property list each item purchased costing \$50,000 or more and having a life expectancy of more than 1 year and provide: (1) an item description, (2) manufacturer, (3) model number, (4) serial number, (5) acquisition cost, (6) date of purchase, and (7) a copy of the purchasing document.
8. Weight and zone of shipment, if shipped by parcel post.
9. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.
10. Instructions to consignee to notify the Contracting Officer of receipt of shipment.
11. For Indefinite Delivery contracts or contracts under which progress payments are authorized, the final voucher/invoice 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 and payments will be made in that currency. However, the U.S. dollar equivalent for all vouchers/invoices paid under the contract may not exceed the total U.S. dollars authorized in the contract.

Supersession: These instructions supersede any previous billing instructions.

S:\DC Instructions\Billing Instruct FP 2003.wpd

Attachment 3

Technical Training Center Policy Document X Training Course Manual Style Guide

Technical Training Center

Policy Document X

Training Course Manual Style Guide

Contents

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DOCUMENT PREPARATION	1
FORMAT, LAYOUT, AND TYPING INSTRUCTIONS	4
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A. PURPOSE

The United States Nuclear Regulatory Commission (USNRC) Technical Training Center (TTC) Training Course Manual Style Guide describes and illustrates the required format for training course manuals developed by the TTC staff. Guidelines and standards for preparation are given in Section C. Section D contains instructions for format and layout of the manuals. Section E contains editorial style requirements and Section F includes the style requirements for abbreviations and terms. This style guide and the manuals that adhere to the requirements herein are developed in WordPerfect 3.1 for Macintosh.

B. OBJECTIVE

To provide for a standard and consistent format for TTC training course manuals.

C. DOCUMENT PREPARATION

1. Content

USNRC TTC training manuals include, in order, the following:

Cover	List of Effective Revisions
Preface	Manual Table of Contents
Course Outline	Manual Chapters
Course Critique Sheet	Appendixes
Metric Conversion Table	

Each chapter within the manual includes, in order, the following:

Chapter Breaker
Table of Contents
Chapter Text
Tables
Graphics
Appendixes

2. General Guidelines

a. Paper

The standard paper size is 8-1/2 inches wide by 11 inches long. Foldouts may be used if necessary. Paper shall be white and of good quality.

b. Page Setup

Pages can be set up using the attachments as templates. Preface and Table of Contents shall be in single column format. The column shall be 7.75 inches wide. Chapter text shall be in double column format. The columns shall be 3.25 inches wide with 0.25 inch spacing between columns. Tabs and indents shall be set every 0.25 inch.

(1) Text Margins

The text margins shall be 0.75 inch. Text margins are set under Layout and Margins. For double sided documents, to allow room for binding and holed paper, the binding width shall be set at 0.25 inches. The binding width is set under the File pull down menu and the Page Setup function.

(2) Hyphenation

Automatic hyphenation shall be selected and the left hyphenation zone set at 0.5. The hyphenation selection is made under the Layout pull down menu. Note that the cursor must be at the beginning of the document when this selection is made.

(3) Headers

A 2-point line shall be placed across the top of the page 1/8 inches above the margin (3/4-inch). A 1-point line shall be placed approximately 1/16 inches below the 2-point line.

The title of the manual shall be placed above the 2-point line at the inside margin, flush left. The title of the chapter shall be aligned with the manual title and aligned with the right margin. Text font for headers shall be 10-point Times, bold, initial caps.

(4) Footers

A 1-point line shall be placed 1/8 inches below the margin. "USNRC Technical Training Center" shall be placed 1/16 inches below the line at the bottom of the page, aligned with the left margin. The revision date (Rev MMY) shall be placed on the same line, aligned with the right margin. (There is no period II.] after the Rev abbreviation.) Text for footers shall be 10-point Times, bold, initial caps.

c. Line Spacing

Line spacing shall be set at 1.25. Line spacing is set under the Layout line spacing button bar. The line adjustment for subscripts and superscripts shall be not selected. This option is under the Style pull down menu and the Other function. The Super/Subscript box is selected, then the Affect Line Adjust box is deselected (no X in box).

d. Page Numbering

All pages shall be numbered sequentially within chapters or appendixes in Arabic numerals (for example, 3.0-1, 6.2-2, A-4). Page numbers for the table of contents shall be the chapter or section number followed by a dash and then the lower case Roman numerals (3.0-i, 5.1-u, etc.). Page numbers shall be centered on the bottom of each page. Page numbers shall be in 10-point Times bold.

e. Figures and Tables

All figures and tables shall be placed at the end of each chapter. Figures and tables shall be on odd-numbered pages. Small illustrations and tables may be

included within the text.

3. Printing Requirements

Text shall be printed double sided; tables and figures shall be single sided.

4. Binding

Notebook-type binders (three-ring style with cover inserts) or plastic spiral binding shall be used for all manuals. Tab dividers shall be used to separate chapters.

D. FORMAT, LAYOUT, AND TYPING INSTRUCTIONS

1. Front Matter

a. Cover

The cover shall include the manual title beginning on line 25 and centered in all caps.

Font shall be Helvetica bold, 36-point. The cover shall include the USNRC emblem. The USNRC TTC title shall be placed beginning on line 15, in all caps, Helvetica bold, 14 point font. Refer to Attachment 1 for layout and type style.

b. Preface

The preface shall be the first page of the manual and shall conform in content and format to Attachment 2. The preface shall be in single column format. The words UNITED STATES NUCLEAR REGULATORY COMMISSION TECHNICAL TRAINING CENTER shall be centered beginning on line 8, in all caps, and in 18 pt. Times font. The title of the manual shall be centered beginning on line 15, in all caps, and in 18 pt. Times font. Beginning on line 20, a brief statement of manual use, contents, and compilers of the manual shall be included.

c. List of Effective Revisions

The list of effective revisions shall be prepared in accordance with Attachment 3. The heading shall be centered on line 1, in all caps, bold 14 pt Times font. The list shall be in two column format, the columns are 2 1/4 wide with 1/4" gutter. The left column is from 2" to 4 1/2", the right column is from 4 3/4" to 7". The column titles are on line 4, in caps, 12 pt. Times font, underlined and aligned left. There shall be a single space between section entries and a double space between chapters. The data begins on line 6. The revision date for each chapter and section is in the MMY format.

d. Table of Contents

The table of contents shall be prepared in accordance with Attachment 4. Headings are listed through the third order (1.1.1.2). List of Tables and List of Figures follow the Table of Contents as appropriate. The WordPerfect List tool shall be used for generating the Table of Contents. The words TABLE OF CONTENTS shall be placed on line 1, in all caps and in 14 pt. Times bold. The chapter title shall begin on line 4. Chapter titles shall be all caps and placed flush left. All subsection titles shall be indented (do not use tabs) 1/4 inch and typed with initial caps. Runover lines are aligned left with text. Page numbers shall be flush right at the margin.

Spacing shall be double space between first order and second order headings and between second-order headings. Single space between second-order and third order headings of the same section. Triple spacing shall be placed between the table of contents, list of tables and list of figures.

e. List of Tables

The words LIST OF TABLES shall be three spaces after the last line of the table of contents. The words shall be centered, in all caps, and in 14 pt. Times font. All numbered tables shall be listed. Page numbers shall be flush right at the margin. Titles shall be initial caps.

f. List of Figures

The words LIST OF FIGURES shall be three spaces after the last line of the list of tables. The words shall be centered, in all caps, and in 14 pt. Times font. If there are no tables, the list of figures will follow three spaces after the last line of the table of contents. All numbered figures shall be listed. Page numbers shall be flush right at the margin. Titles shall be initial caps.

2. Chapters

Chapters are sequentially numbered throughout the publication in Arabic numerals. Each chapter begins on a right-hand page.

a. Text

Text shall be double-column and right-left justified. Typing shall be single spaced. Spacing in between lines shall be set at 1.25 pts. Interparagraph spacing and spacing into all headings shall be two times the basic spacing. The first line of each paragraph shall be tabbed 1/4 inch. The font used for text is 12-point Times. Refer to Attachment 5.

b. Chapter and Section Headings

(1) Chapter headings stand alone and are all caps, boldface type, and left justified.

(2) Section headings stand alone, are initial caps, boldface type, and left justified.

(3) Subheadings stand alone, are initial caps, boldface type, and left justified.

(4) For all headings, an indent is placed between the heading number and the heading text.

c. Listings and Procedural Steps

Where necessary, various short items that are not complete sentences shall be listed and displayed within a paragraph as indented listings (see Attachment

5). These listings shall be considered as a part of the lead in sentence, unnumbered, and punctuated accordingly. Listings that are complete sentences shall also be indented but shall be preceded by a bullet or Arabic numeral. Procedural steps shall always be preceded by Arabic numerals. All runover lines shall be indented and aligned left under text.

d. Equations

The WordPerfect Equation tool shall be used for creation of equations. Equations shall be aligned left. Equations shall be numbered sequentially by chapter and the equation number placed flush right in parentheses. Runover lines are aligned on the first character to the right of the equal sign. Sequential equations are aligned on the equal sign. Equations are considered to be text and are punctuated accordingly. Connecting text shall be placed flush left on a new line. The following are examples of equations:

$$x = \int_{-\infty}^{\infty} \left(\frac{y^2 + z^2}{y(\pi\tau)} \right) \quad (2.0-1)$$

and

$$x = \frac{\sum_{i=1}^{n-1} y_i z_i}{\theta} \quad (2.0-2)$$

e. Tables

WordPerfect Table tool shall be used for creation of tables. Refer to Attachment 6.

Tables shall be numbered consecutively within chapters. All tables shall be at the end of the chapter or appendix to which they apply and shall precede the figures. Whenever possible, tables shall be vertical on a page.

Table titles shall be at the top of the table, typed in initial caps and bold, 12 pt. Times font. Tables are lined as necessary to be readable.

f. Figures

Figures shall be at the end of each chapter, immediately following tables. Figures shall be full page. Figure titles shall be placed at the bottom of the figure, initial caps, 12 pt. Helvetica font.

g. Chapter Breakers

Chapter breaker pages shall be placed between chapters as shown in Attachment 7. The chapter breaker pages do not have headers and footers. The course manual title begins on line 8. The text is initial caps, centered, 14 pt. Times font. There is a double space between the manual title and chapter number, and the chapter number and chapter name.

3. Appendixes

Appendixes, if required shall follow the last chapter of text. Appendixes are given letter designations (A, B, etc.) in alphabetical order. Each appendix begins on a odd numbered page. Text format and style is usually the same as for chapters.

E. EDITORIAL STYLE REQUIREMENTS

The following requirements are generally consistent with the guidance in NUREG 0544, Rev. 3, NRC Collection of Abbreviations, and NUREG 1379, NRC Editorial Style Guide. Some deviations from these documents are necessary for consistency and clarity in training manuals. The requirements in this section are not all inclusive, the NUREGs mentioned above should be consulted for cases not covered by this style guide.

n. Abbreviations

- a. The term abbreviation in this policy document shall include abbreviations (e.g. Keff), acronyms (e.g. LOCA), and initialisms (SGTR).
- b. A list of common abbreviations used in reactor technology training course manuals and their correct format is in Section F.

- c. When a term is used several times throughout a manual chapter, the first time its abbreviation is used in the manual chapter, the term shall be spelled out with the abbreviation following in parentheses: effective multiplication factor (K_{eff}). When the abbreviation is an acronym or initialisms, the term shall be spelled out in initial caps with the acronym or initialisms following in parentheses: Loss of Coolant Accident (LOCA), Steam Generator Tube Rupture (SGTR).
- d. Subsequent uses of the term within a chapter shall be the abbreviation or the term spelled out in lower case letters.

1. Capitalization

- a. Terms shall be lowercase except as noted below. Abbreviations are uppercase, unless otherwise noted in Section F.
- b. Specific parts of a nuclear system or facility are only capitalized whenever they appear at the beginning of a chapter or section and include the acronym or initialisms following in parentheses: Closed Cooling Water System (CCW). Throughout the rest of the chapter or section, either the acronym or the term spelled out in lower case letters shall be used.
- c. Generic terms designating equipment, systems, or programs are not capitalized: centrifugal charging pump (CCP); preventive maintenance program (PM).
- d. The names of specific documents, facilities, organizations, companies, and committees are capitalized: Nuclear Regulatory Commission (NRC); Code of Federal Regulations (CFR). Use the following format when referring to a portion of the Code of Federal Regulations:
 - Title Title 10 of the Code of Federal Regulations
 - Chapter 10 CFR Chapter 1
 - Part 10 CFR Part 50
 - Section 10 CFR 50.46
 - Appendix 10 CFR 50, Appendix R, or Appendix R to 10 CFR Part 50.
- e. Capitalize a common noun followed by a letter or number that refers to a specific publication, class figure, or table, except for page or paragraph:

Category I, Appendix K, Chapter 3, Class 1E, Table 4, Figure 5.1-6, Section 4.1, but note *paragraph 3 on page 56*.

- f. Do not capitalize a common noun followed by a number or letter identifying a component of a nuclear power plant: train A, valve MS-10, pump B.

2. Hyphenation

Terms will generally not be hyphenated: loss of coolant accident (LOCA); loss of offsite power (LOOP); electrohydraulic control (EHC). This is a deviation from the NUREGs cited above.

3. Plurals

Plurals of terms are formed by adding a lowercase s without an apostrophe: design basis accidents (DBAs); pressurized water reactors (PWRs).

4. Units of Measure

- a. Refer to Section F for the specific format required for commonly used units of measure. Note that units of measure are usually lowercase.
- b. Use the same form of an abbreviation for both the singular and plural:
1 ft 5ft 1 lb 5lb
- c. Omit internal and terminal punctuation unless its omission would cause confusion:
1 in. (not to be confused with the word *in*).
- d. Use abbreviations for units of measure only if they are used with numbers:
200 rpm. In text, spell units of measure out: The test will determine the number of revolutions per minute.
- e. The first time a unit of measure is used in a chapter, the term shall be spelled out with the abbreviation following in parentheses: 200 revolution per minute (rpm). Subsequent uses of the term *with a number* and within the same chapter shall be the abbreviation.

5. Numbers

- a. Spell out numbers one through nine. Use figures for a single number or 10 or more. When two or more related numbers appear in a sentence and one of them is 10 or more, use a figure for each number: The NRC received comments from 13 utilities, 3 unions, and 6 intervenors.
- b. Use numbers to express a unit of measure: 2 feet, 6 inch diameter pipe. Use numbers for fractions, whole numbers combined with a fraction, and for fractions with units: 3/5, 1/2 inch width, 2 1/2 times as large.
- c. Use numbers for all decimals: 0.5 inch, 1.8 meters. For quantities less than one, use a zero before the decimal point: 0.6.
- d. Use commas every third place for numbers over 1,000:
3,443
1,093,934
- e. The degree symbol shall be made which looks like: °F, °C. There is no space between the degree symbol and the temperature scale abbreviation.

6. Subscripts and Superscripts

Subscripts and superscripts will be used as indicated in the list of abbreviations and terms in Section F. Terms such as T_{avg} , T_{ref} , K_{eff} , T_{hot} , T_{cold} , T_h , and T_c shall include the lowercase subscripts as shown.

7. Exponents

Exponents shall be superscript, expressed in the form: 5.5×10^6 , 3.9×10^{-9} .

8. Punctuation

- a. Use a comma after each member of a series of three or more words, letters, figures, phrases, or clauses. Use semicolons if commas are prevalent within the elements of the series.

- b. Use a colon after a clause to introduce a list. Use a comma after each item in a list. Use a period after the last item in a list.
The safety limits are:
 1. Reactor coolant system pressure,
 2. Power density, and
 3. Departure from nucleate boiling ratio.
- c. Punctuate a sentence with parentheses the same as a sentence without parentheses. Do not precede an opening parentheses with a comma.

F. ABBREVIATIONS AND TERMS (LATER)

Refer to NUREG 0544, Rev. 3, "NRC Collection of Abbreviations" for guidance until this section is developed.

1. Abbreviations shall adhere to the following format including spelling, capitalization, punctuation, and style:

<u>Term</u>	<u>Abbreviation</u>
alternating current	ac
air conditioning	A/C
analog-to digital	A/D
Asea Brown Boveri /Combustion Engineering	ABB/CE
bistable	B/S
Babcock and Wilcox	B & W
cooldown	C/D
direct current	dc

2. Terms and acronyms shall adhere to the following format including spelling, capitalization, punctuation, and style:

<u>Term</u>	<u>Acronym</u>
auxiliary feedwater pump	AFP
auxiliary feedwater (system)	AFW
anticipated transient without (a) scram	ATWS
bottom of active fuel	BAF
beginning of life	BOL

· balance of plant

BOP

In general, abbreviations and acronyms that are formed simply as the first letter of each word of the term are not included in the tables.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
TECHNICAL TRAINING CENTER

TRAINING COURSE
MANUAL
STYLE GUIDE

**UNITED STATES
NUCLEAR REGULATORY COMMISSION
TECHNICAL TRAINING CENTER**

COURSE MANUAL TITLE (R-NNNX)

This manual is a text and reference document for the [Name of Course]. It should be used by students as a study guide during attendance at this course. This manual was compiled by staff members or contractors of the Technical Training Center in the Office of Human Resources.

The information in this manual was developed or compiled for NRC personnel in support of internal training and qualification programs. No assumptions should be made as to its applicability for any other purpose. Information or statements contained in this manual should not be interpreted as setting official NRC policy. The data provided are not necessarily specific to any particular nuclear power plant, but can be considered to be representative of the vendor design.

LIST OF EFFECTIVE REVISIONS

<u>CHAPTER</u>	<u>REVISION</u>
1.0	1294
1.1	1294
1.2	1294
1.3	1194
1.4	1194
2.0	0195
2.1	0195
2.2	0195
3.0	1294
3.1	1294
3.2	1294
3.3	1294

1.1 CHAPTER TITLE	1
1.1.1 Section Title	1
1.1.2 Section Title	1
1.1.2.1 Subtitle	3
1.1.2.2 Subtitle	3
1.1.2.3 Subtitle	4
1.1.2.4 Subtitle	4
1.1.2.5 Subtitle	4
1.1.3 Section Title	4
1.1.3.1 Subtitle	5
1.1.3.2 Subtitle	7

LIST OF TABLES

1.1-1 Table Title	9
1.1-2 Table Title	11

LIST OF FIGURES

1.1-1 Figure Title	13
1.1-2 Figure Title	14

- 1.[INDENT] First learning objective.
 - 2.[INDENT] Second learning objective with runover line which indent will align left with text.
- [INDENT] a. [INDENT] First item in list.
[INDENT] b.[INDENT] Second item in list with runover aligned left by indent.

6.1.1[INDENT] Section Heading

[TAB] Headings are left justified. Chapter headings are in all caps and in bold. Section headings are in initial caps and bold.

[TAB] Body text paragraphs are tabbed and right-left justified.

[TAB] Double spacing is used between paragraphs. Double spacing shall lead into the next heading.

6.1.2[INDENT] Lists

[TAB] Text may include lists, either with bullets or numbered, which shall be punctuated as part of the lead sentence as follows:

- [INDENT] First item,
- [INDENT] Second item with a runover line which will aligned left under the text, and
- [INDENT] Third item.

[TAB] Double spacing should always precede

and follow a list. Lists may also be numbered, as follows:

- [INDENT] 1. [INDENT] First item,
- [INDENT] 2. [INDENT] Second item with runover aligned left by indent, and
- [INDENT] 3. [INDENT] Third item.

6.1.2.1[INDENT] Subheading

[TAB] Subheadings are left justified, in initial caps and in bold. Subheadings are *not* underlined. Any headings required within a subheaded section are not numbered, but are left justified and in bold. Non-numbered headings are not included in the table of contents.

Non-Numbered Subheading

[TAB] Tabs are made using the tab key. Indents are made using the F5 key. Bullets are made using the option and 8 (*) keys. Degree symbol is made using the option and shift-8 (*) keys.

[TAB] Margins (under Layout) are set at 0.75". for top, bottom and right margins. The binding offset is set at 0.25" to allow room for holes in paper and binding.

[TAB] Tabs (under Layout) are set at 0.25" relative position and to repeat every 0.25". Spacing between lines is set at 1.25.

Table 6.1-1[TAB]Table Title

Column 1	Column 2	Column 3
1. Tables are created using the Table tool. The "no column" selection under Layout must be selected before the Table function will work.	5. Column headings shall be initial caps and in bold. Column headings can be centered or left justified, whichever looks better.	8. Column width and row height can be varied using the appropriate selections under the Table function.
2. Select number of columns and rows.	6. Lines between columns can be changed or eliminated using Table Border selection under the Table function.	9. [INDENT] Use an indent between item number and text, so that text will automatically align left.
3. Under Table function, Cell Margins shall all be set at 0.2".		
4. Column entries shall be aligned left with double spaces between entries. Text shall be Times and no smaller than 10 pt.	7. The basic format of this table shall be used in the majority of cases, however small adjustments may be made for readability.	

[Pressurized/Boiling] Water Reactor
[Westinghouse, CE, B&W, GE BWRI4, GE/B WR6] Technology
[Technology, Systems, Advanced, EOP Simulator, Technical Managers] Manual

Chapter 1.0

Introduction

Unclassified Contractor and Grantee Publications in the NUREG Series

***Directive
3.8***

Contents

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U. S. Nuclear Regulatory Commission

Volume: 3 Information Management

Part: 1 Publications, Mail, and Information
Disclosure

ADM

Unclassified Contractor and Grantee Publications in the NUREG Series Directive 3.8

Policy
(3.8-01)

U.S. Nuclear Regulatory Commission policy requires that the following publications published by NRC adhere to the documentation and production requirements, standards, and practices specified in this directive and handbook: (1) unclassified NRC contractor, consultant, or grantee formal reports, books, and international agreement reports in the NUREG/CR (contractor reports), NUREG/GR (grant reports), and NUREG/IA (international agreement reports) 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 technical staff and management reviews of formal reports and books before 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)

Volume 3, Part 1 – Publications, Mail, and Information Disclosure
Unclassified Contractor and Grantee Publications in the NUREG Series
Directive 3.8

Objectives

(3.8-02) (continued)

- 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 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 (DEDR) (032)

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

- When an office director refuses to publish an NRC-sponsored document because of irreconcilable differences between himself or herself and the author about the contents of the document. (a)

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

(032) (continued)

- 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)

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

(033)

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

- When an office director refuses to publish an NRC-sponsored document because of irreconcilable differences between himself or herself and the author 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)

Office Directors

(034)

- Ensure that publications will be reviewed in draft for acceptability before final printing and distribution 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 on contracts* include a requirement that contractors comply with this directive and handbook and with 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.

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Directive 3.8

Office Directors
(034) (continued)

- Sign, or delegate signature authority for, the NRC Form 426A, "Release to Publish Unclassified NRC Contractor, Consultant, or Conference Proceedings Reports" (Exhibit 1 of Handbook 3.8), and for memoranda requesting reprints of contractor publications. (c)

Director, Office of Administration (ADM)
(035)

As delegated from the DEDES, 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, (DFIPS), 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/LA 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 (DC), ADM
(037)

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

Director, Division of Contracts (DC), ADM
(037) (continued)

publications as deliverables include provisions requiring that contractors comply with this directive and handbook and with Government Printing and Binding Regulations.

Applicability
(3.8-04)

Employees
(041)

All NRC employees shall follow the policy and guidance specified in this directive and handbook.

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, or offices that report to the Commission.

Handbook
(3.8-05)

Handbook 3.8 gives detailed guidelines for preparing unclassified contractor and grantee publications in the NUREG series.

References
(3.8-06)

A Manual of Style, University of Chicago Press.

Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.).

"Copyrights," Title 17, *United States Code*.

"Cost Principles for State and Local Governments," OMB Circular A-87, Office of Management and Budget, January 1981.

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

Volume 3, Part 1 – Publications, Mail, and Information Disclosure
Unclassified Contractor and Grantee Publications in the NUREG Series
Directive 3.8

References

(3.8-06) (continued)

“Federal Grant and Cooperative Agreement Act,” Pub. L. 95-224, February 3, 1978.

“Federal Regulation Requirements,” Executive Order 12291, February 17, 1981 (5 U.S.C. 5601 Note).

Freedom of Information Act (5 U.S.C. 552).

Government Printing and Binding Regulations, Pub. L. 101-9, February 1990.

“Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations,” OMB Circular A-110, Office of Management and Budget, July 1976.

Memorandum of Understanding Between the Department of Energy and the U.S. Nuclear Regulatory Commission, February 24, 1978.

Memorandum of Agreement Between the Institute of Nuclear Power Operations and the U.S. Nuclear Regulatory Commission, dated September 17, 1993.

NRC Management Directive 3.9, “NRC Staff and Contractor Speeches, Papers, and Journal Articles on Regulatory and Technical Subjects.”

— 3.11, “Conferences and Conference Proceedings.”

— 12.2, “NRC Classified Information Security Program.”

— 12.6, “NRC Sensitive Unclassified Information Security Program.”

NUREG-0650, Revision 1, “Publishing Documents in the NUREG Series,” November 1990.

NUREG/BR-0075, Revision 2, “NRC Field Policy Manual,” Field Policy Manual No. 9, dated March 22, 1993.

“Public Printing and Documents,” Title 44, Chapter 3, Government Printing Office, *United States Code*.

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

Unclassified Contractor and Grantee Publications in the NUREG Series

***Handbook
3.8***

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2. NRC Form 335, "Bibliographic Data Sheet" 33
3. Microfiche Sheet Sample 35

Part I

Introduction

This handbook specifies the procedures that the Nuclear Regulatory Commission (NRC) contractors and grantees need to follow when preparing the following publications for the NRC: (A)

- Final NUREG reports (1)
- International agreement reports (2)
- Books (3)
- Grant publications (4)

The handbook is divided into six major parts and includes a glossary and exhibits. Part II provides general information for staff consideration in preparing statements of work. Parts III, IV, V, and VI provide publishing guidelines specific to, respectively, contractor reports, international agreement reports, books, and grantee publications. (B)

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

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 previously listed 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 II. (D)

Part II

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 the reports 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 Management Directive (MD) 12.2, "NRC Classified Information Security Program," and MD 12.6, "NRC Sensitive Unclassified Information Security Program." (1)

This directive and handbook pertain to publications that will be issued in the NUREG/CR, NUREG/IA, and NUREG/GR series. (2)

Publishing Formal Reports (B)

NUREG series reports will be printed and distributed by NRC from camera-ready copy submitted by the contractor to the Publications Branch, Mailstop T-6 E7, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. 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). (1)

When the report contains sensitive unclassified or classified information, the contractor must comply with MD 12.2. (2)

Publishing Formal Reports (B) (continued)

If a draft is desired before completing a final report, specify in the statement of work (SOW) the due date for delivering the final camera-ready copy after receiving comments from NRC staff or participants (if applicable) on the draft. State that all draft material be submitted to the cognizant NRC contact. (3)

When the contractor is to submit draft material for comment before preparing the final report, state that the contractor will be asked to make changes if there are comments from NRC staff or participants. 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 procedure will ensure proper publication, handling, distribution and, among other things, preclude further changes that might nullify the agreement. (4)

If special caveats were agreed to between the contractor and the NRC contact, the caveats should accompany the NRC 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. (5)

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 (F), Part III of this handbook), any caveats deemed necessary to cover NRC objections. These 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. (6)

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 the laboratory should be informed by the NRC office director or regional administrator of the decision and the reasons therefor. A copy of the decision should be sent 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

Publishing Formal Reports (B) (continued)

NRC contracting officer. The contractor is then free to publish the report without identifying NRC as the funding sponsor of the report and without the NRC disclaimer. Decisions by the office director or designee may be appealed to the appropriate Deputy Executive Director for Operations. (7)

Publishing Unclassified Information in the 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 this arrangement is authorized, add the following statement to the SOW: (1)

The principal investigator may publish the results of this work in the open literature instead of submitting a final report or may 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 before presentation or submission for publication, so state in the SOW, as follows: (2)

The principal investigator may publish the results of this work in the open literature instead of submitting a final report or may 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 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. (3)

In the latter case, NRC will inform the contractor of the decision, as previously stated. The contractor is then free to publish without identifying NRC as the funding sponsor of the information. Decisions by office directors or designees may be appealed to the appropriate NRC Deputy Executive Director for Operations. (4)

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

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 NRC. NRC shall approve the material as submitted, approve it subject to NRC-suggested revisions, or disapprove it. In any event, NRC may disapprove or delay presentation of papers on information that is subject to the Commission's approval that has not been ruled upon or that has been disapproved. (5)

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. (6)

When the contractor submits journal articles for publication, each must be accompanied by the following statement: (7)

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: (8)

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, nor 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 job code number is applicable.

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

If the contractor is 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: (9)

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 MD 3.9, "NRC Staff and Contractor Speeches, Papers, and Journal Articles on Regulatory and Technical Subjects." (10)

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 Information, and classified (CONFIDENTIAL, SECRET, and TOP SECRET) are specified in MD 12.2.

Conference and Workshop Proceedings (E)

If NRC approves publication of compilations of papers presented at NRC-sponsored or cosponsored meetings, conferences, and symposia, see MD 3.11, "Conferences and Conference Proceedings."

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. (The Joint Committee on Printing's *Government Printing and Binding Regulations* permit contractors to receive free of charge up to 50 copies of reports they have produced for NRC.) 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 a request, 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 Publications Branch, DFIPS, USNRC, Washington, DC 20555-0001, 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 staff of the Office of Public Affairs. 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 III

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 Publications Branch, DFIPS, at (301) 415-7008. (a)

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

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

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. (c)

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. (d)

Authors' Names (2)

Authors' names must appear on the report cover and title page, unless placing them there 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. The authors'

Identification Information (A) (continued)

Authors' Names (2) (continued)

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

Organizational Identification (3)

The 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. If this list cannot be placed on a single page, place the pages at the end of the front matter rather than 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, depending on their purpose and scope. Recommended format and organizational guidelines appear in "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1). (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 also must appear on the "Bibliographic Data Sheet," NRC Form 335 (Exhibit 2). Instructions for completing NRC Form 335 appear on the back of the form. Guidelines on the special writing requirements for preparing abstracts appear in Section 5.5 of NUREG-0650, Revision 1. (2)

Pre-Publication Reviews (C)

Patent Review (1)

Patent implications must be considered before approval of reports for public release so that disclosure will not adversely affect the patent

Pre-Publication Reviews (C) (continued)

Patent Review (1) (continued)

rights of NRC or the contractor. If the work being reported is contractually managed through another Government agency (e.g., DOE national laboratories), the contractor should request that Government agency to perform the patent review. The result of the review must be reported on NRC Form 426A under item 8 (see Exhibit 1). (a)

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 the report does not require a patent review because the report does not contain any 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 a possibility exists that developments of an inventive nature are disclosed, the contracting officer shall request assistance from the NRC Assistant General Counsel for Administration, Office of the General Counsel, on (301) 415-1553. (b)

Security Review (2)

If a report of sensitive unclassified or classified work is 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 (MD) 12.2, "NRC Classified Information Security Program."

Copyright Review (3)

Copyrighted material must not appear in NRC-sponsored publications without written permission from the copyright holder. See Section 3.4 of NUREG-0650, Revision 1, 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: (1)

Color Printing (D) (continued)

- Maps and technical diagrams for which 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 for which 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, and consumer benefits, or to encourage utilization of Government facilities, such as programs for Social Security, Medicare, and certain areas of need for veterans. (f)

The regulations indicate that the following categories do not meet the "demonstrable value" criteria: (2)

- Printed items wherein additional color is used primarily for decorative effect. (a)
- Printed items for which additional color is used primarily in lieu of effective layout and design. (b)
- Printed items for which additional color is used excessively, that is, 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 advance planning that 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 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. (3)

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.*

- Microfiche must conform to either the 24/98 format for source documents with 14 columns and 7 rows (reduction ratio of 1 to 24) or the 48/270 format for computer output microfilm with 18 columns and 15 rows (reduction ratio of 1 to 48). (1)
- The microfiche sheet must be standard 105 mm by 148 mm. (2)
- The microfiche must be either a silver-halide master or a black or blue-black diazo placed in acid-free envelopes. (3)
- 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's name. The third block must contain the publication date and the sheet identification. (4)
- The header information must be eye readable on a clear background. (5)
- 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. (6)

*With the exception of items (3), (4), and (8), these specifications are consistent with the American National Standards Institute "Standard for Micrographics-Microfiche, ANSI/AIIM MSS-1985." Copies of this standard are available from the American National Standards Institute, ATTN: Sales Department, 11 West 42nd Street, 13th floor, New York, NY 10036 (212) 642-4900, or from the Association for Information and Image Management, ATTN: Publications Section, 1100 Wayne Avenue, Silver Spring, MD 20910 (301) 587-8202.

Microfiche (E) (continued)

- 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 (NIST's) Reference Material resolution target in Microcopy Test Charts (NBS SRM 1010A). (7)
- Jacketed microfiche is unacceptable. (8)

Disclaimers (F)

The following notice will be added by the Publications Branch, DFIPS, before the printing process on the inside front cover: (1)

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, nor 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 branch will print the additional statement, "The views expressed in this report are not necessarily those of the U.S. Nuclear Regulatory Commission," below the standard disclaimer, if appropriate. Other qualifying statements may be added, if needed. (2)

Availability Information (G)

Reference Material (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., proprietary, National Security, and Official Use Only). If the unretrievable information is important and unrestricted, quote it in

Availability Information (G) (continued)

Reference Material (1) (continued)

the text or in footnotes. Provide any credit due to individuals in the text or in an acknowledgment section. Availability may be stated collectively for all entries. (a)

Although proprietary reports may not be included in a list of references, listing or identification of proprietary reports may be included in an appendix or in a separate listing following the reference section titled "Proprietary Sources of Information." (b)

In addition, reference to Institute of Nuclear Power Operations (INPO) documents may not be made without prior approval from INPO. Approval to reference INPO documents must be stated on the NRC Form 426A. (c)

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

Reports (2)

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

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. (b)

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 NRC Form 335 appear on the back of the form. A completed NRC Form 335 must be submitted to the Technical Publications Section, DFIPS, with the camera-ready copy of the report. Exhibit 2 shows a completed NRC 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 (see Exhibit 1) with the camera-ready copy of the report to the Technical Publications Section, DFIPS. NRC Form 426A must be signed by the staff member designated by the appropriate office director.

Printing and Reprinting (I)

The 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. (1)

Submit a memorandum requesting a reprint to the Director, DFIPS, or designee, for approval. Include with the request a written justification and the approval of the office director or designee for reprinting. Also provide address labels for recipients not on NRC standard distribution lists. (2)

Distribution (J)

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

Sensitive unclassified and classified reports will be distributed by the NRC sponsoring office on a case-by-case basis. (2)

Part IV

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 the Energy Reorganization Act of 1974. 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. (1)

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. (2)

Identification Information (B)

Cover and Title Page (1)

The cover and title page will contain a title, a subtitle (if appropriate), the names of the authors, the performing organization, and the NRC office sponsoring the project. The cover and title page will be prepared by the Publications Branch, Division of Freedom of Information and Publications Services (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 the Publications Branch at (301) 415-7008. (a)

Identification Information (B) (continued)

NRC Report Number (2) (continued)

The NRC identification number will have the form "NUREG/IA-000," 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. (b)

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

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. If this list cannot be placed on a single page, place the pages at the end of the front matter rather than 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," NRC Form 335 (Exhibit 2). Instructions for completing NRC Form 335 appear on the back of the form (Exhibit 2). 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 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. 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

Availability Information (D) (continued)

References and Bibliographies (1) (continued)

unrestricted, it 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 or in a footnote. If credit is due to individuals, they can be mentioned in the text or in an acknowledgment section. Availability may be stated collectively for all entries. (a)

Although proprietary reports may not be included in a list of references, listing or identification of proprietary reports may be included in an appendix or in a separate listing following the reference section titled "Proprietary Sources of Information." (b)

In addition, reference to Institute of Nuclear Power Operations (INPO) documents may not be made without prior approval from INPO. Approval to reference INPO documents must be stated on the NRC Form 426A. (c)

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

Reports (2)

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

Disclaimer (E)

The following notice will be added by the Publications Branch, DFIPS, on the inside front cover before 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, nor 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)

Submit a typed NRC Form 335 (Exhibit 2) with the camera-ready copy to the Technical Publications Section, DFIPS, as the final right-hand page.

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 Technical Publications Section, DFIPS.

Classified or Sensitive Unclassified Information (G)

The NRC contact should refer to Management Directive 12.2 or call the Division of Security for answers to questions about the status of classified or sensitive unclassified information in NUREG/IA reports.

Part V

Books

General (A)

These guidelines apply to books written by contractors and grantees that are printed by NRC. See Part VI of this handbook for guidance on publications, including books, by grantees.

Definition (B)

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 (C)

Books are usually 6 by 9 inches in trim size, but size will be based on requirements such 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 the Chicago University's *A Manual of Style*. Refer also to NRC's "Publishing Documents in the NUREG Series" (NUREG-0650, Revision 1). (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, Publications Branch, Division of Freedom of Information and Publications Services, (DFIPS), where it will be reviewed for adherence to the standards set forth and referenced in this directive and handbook. The manuscript will also be reviewed for printing acceptability by the Printing 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. (2)

Format (C) (continued)

DFIPS will approve the design of the cover and title page containing appropriate information concerning—(3)

- Authors' names (a)
- Organizational identification (b)
- Public availability and sales (c)

All books must include a comprehensive subject index of the book's contents, unless the book is made up almost exclusively of graphical or tabular matter. See NUREG-0650, or *The Chicago Manual Style* (13th ed.) for guidelines on creating an index. (4)

NRC Document Number (D)

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 books prepared by contractors and NUREG/GR for books prepared by grantees. (1)

When a book consists of more than one volume or binding, or is issued in more than one edition, include an appropriate volume, number, supplement, part, addendum, or revision designation directly below the document number. (2)

Numbers are assigned by the Publications Branch, DFIPS. The number may be obtained before the manuscript is submitted to DFIPS for printing by calling the Publications Branch at (301) 415-7166. 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 the schedule for the book. (3)

Availability of Reference Materials (E)

The guidelines for availability of reference material given in Section G of Part III of this handbook also apply to books prepared by contractors and grantees that are published by NRC.

Reviews (F)

Peer (1)

Books published by NRC must undergo peer review by 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. (a)

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, American National Standards Institute (ANSI) subcommittees, and the like. Do not choose more than one reviewer from the same organization. (b)

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 judgment, 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. (c)

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, such as the American Physics

Reviews (F) (continued)

Peer (1) (continued)

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

Copyright (2)

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

Security (3)

On the basis of the 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 uncertainty exists 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 Classified Information Security Program."

Patent (4)

The patent review guidelines for draft and final formal reports specified in Section (C)(1) of Part III of this handbook also apply to books prepared by contractors and grantees.

Publishing Authorization Form (G)

A completed NRC Form 426A (Exhibit 1), signed by the office director or designee or by a DOE national laboratory authorized official if the publication is prepared for the Office of Nuclear Regulatory Research, must be submitted to DFIPS with the book manuscript.

Disclaimers (H)

The following standard U.S. Government notice will be added before printing: (1)

Disclaimers (H) (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, nor 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: (2)

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. (3)

Printing (I)

DFIPS will submit book manuscripts to GPO for printing. The printing cycle requires from 6 to 8 weeks.

Distribution and Sales (J)

The DFIPS staff will arrange distribution in accordance with distribution guidance provided by the NRC project manager on NRC Form 426A (Exhibit 1). (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. (2)

DFIPS will arrange to make the book available for sale through GPO. DFIPS also will arrange to have it made available at the NRC PDR and for the GPO Federal Depository Library Program. (3)

Part VI

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 III of this handbook for reports or in Part V of this handbook for books, as appropriate. See "Identification Information," Section (C) of this part.

Publication by a Grantee (2)

When the grant specifies that the grantee is to publish the results of his or her work, 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.

Publication by a Grantee in the Open Literature (3)

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

Publication of Results (B) (continued)

Publication by a Grantee in the Open Literature (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: (b)

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.

If the grantee is 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: (c)

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 Information (C)

Each report or book published by NRC that results from a grant must be identified by an alphanumeric number, "NUREG/GR-000," where "GR" indicates "grant report." (1)

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. (2)

Numbers may be obtained from the Publications Branch at (301) 415-7008. (3)

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-ready copy*, negatives, a plate, or an 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. Generally, copyrighted material may not be reproduced without the permission of the author or the 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)

Distribution. Reports dispensed 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 lists established and maintained by the Division of Freedom of Information and Publications Services 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 job code 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 the *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 is 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 for which a *copyright* never existed, such as U.S. Government publications, or for which a 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.

Unique Identification. NRC identification (NUREG number) used on a report and its attachments, revisions, and supplements that is not used on any other publication.

Volume 3, Part 1 – Publications, Mail, and Information Disclosure
Unclassified Contractor and Grantee Publications in the NUREG Series
Handbook 3.8 Exhibits

Exhibit 1
NRC Form 426A, "Release to Publish Unclassified NRC
Contractor, Consultant, or Conference Proceedings
Reports"

NRC FORM 426A (2-89) NRCM 1102, 3002		U.S. NUCLEAR REGULATORY COMMISSION		1. REPORT NUMBER (if any) NUREG/CR-5627 BNL-NUREG-52257	
RELEASE TO PUBLISH UNCLASSIFIED NRC CONTRACTOR, CONSULTANT, OR CONFERENCE PROCEEDINGS REPORTS (Please Type or Print)					
2. TITLE AND SUBTITLE (State in full as shown on document) Alternate Modal Combination Methods in Response Spectrum Analysis				3. FUNDING NUMBER (DOE and/or 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		MAILING ADDRESS (Number and Street, City, State and ZIP Code) Building 129 Upton, NY 11973		TELEPHONE NUMBER 666-2447	
6. TYPE OF DOCUMENT (Check appropriate box)					
<input checked="" type="checkbox"/> A. TECHNICAL REPORT <input checked="" type="checkbox"/> FORMAL <input type="checkbox"/> LETTER REPORT					
<input type="checkbox"/> B. CONFERENCE PAPER (If so, complete items 11, 12, and 13 below)					
(1) TITLE OF CONFERENCE PAPER: (2) DATE(S) OF CONFERENCE: (3) LOCATION OF CONFERENCE:					
<input type="checkbox"/> C. OTHER (Indicate type of item)					
7. DISTRIBUTION (List NRC distribution copies. Provide mailing labels for special distribution not ordered by NRC. If NRC staff, provide name and mail stop only. If on serial, provide complete mailing address.) RA 50 copies: Judy Liu, Technical Information Division, Bldg. 477B, Brookhaven National Laboratory, Upton, NY 11973 10 copies: Nilesh Chokshi, RES, NLS-217					
8. CERTIFICATION (ANSWER ALL QUESTIONS) Is all material returned to the report owner to the public owner through a public library, the Government Printing Office, the National Technical Information Service, or the NRC Public Document Room? If no, list the specific availability of a referenced document with the reference listing below.					
YES	NO	<input checked="" type="checkbox"/> A. REFERENCE AVAILABILITY SPECIFIC AVAILABILITY			
		<input checked="" type="checkbox"/> B. COPYRIGHTED MATERIAL Does this report contain copyrighted material? If yes, attach a letter of release from the source that owns the copyright.			
		<input checked="" type="checkbox"/> C. COMPUTER CODES Does this report contain a computer code? If yes, check it against the standards in NRC Manual Chapter 0804, "Planning and Control of Automatic Data Processing (ADP) Systems."			
		<input checked="" type="checkbox"/> D. PATENT CLEARANCE Does this report contain patent clearance? If yes, the NRC Patent Counsel must signify clearance by signing below.			
		NRC PATENT COUNSEL (Type or print name)		SIGNATURE DATE	
		<input checked="" type="checkbox"/> E. INFORMATION REQUESTS Does this report contain any dissemination, survey, or data collection requests?			
		<input checked="" type="checkbox"/> F. LICENSING REQUIREMENTS Does this report impose requirements on licensees?			
9. AUTHORIZATION					
A. DOE LAB AUTHORIZING OFFICIAL (If applicable) (Type or print name) R.A. Bari		SIGNATURE <i>R.A. Bari</i>		DATE 9/25/90	
B. NRC RESPONSIBLE STAFF MEMBER (Type or print name) A. Murphy		SIGNATURE <i>A. Murphy</i>		OFF/DIV TELEPHONE MAIL STOP DATE 442-3360 NLS217A 10/10/90	

Volume 3, Part 1 - Publications, Mail, and Information Disclosure
Unclassified Contractor and Grantee Publications in the NUREG Series
Handbook 3.8 Exhibits

Exhibit 2

NRC Form 335, "Bibliographic Data Sheet"

NRC Form 335 <small>(2-89)</small>		U.S. NUCLEAR REGULATORY COMMISSION		1. REPORT NUMBER <small>Classified by NRC, Add Vol., Supp., Rev., and Addendum Numbers, if any.</small> NUREG/CR-5603 EGG-2607					
BIBLIOGRAPHIC DATA SHEET <small>(See instructions on the reverse)</small>				3. DATE REPORT PUBLISHED <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">MONTH</td> <td style="text-align: center;">YEAR</td> </tr> <tr> <td style="text-align: center;">October</td> <td style="text-align: center;">1990</td> </tr> </table>		MONTH	YEAR	October	1990
MONTH	YEAR								
October	1990								
2. TITLE AND SUBTITLE Pressure-Dependent Fragilities for Piping Components: Pilot Study on Davis-Besse Nuclear Power Station				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 Technical					
8. PERFORMING ORGANIZATION - NAME AND ADDRESS IN NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address, if different, provide ABB Impell Corporation 27401 Los Altos, Suite 480 Mission Viejo, CA 92691				Under contract to: Idaho National Engineering Laboratory EG&G Idaho, Inc. Idaho Falls, ID 83415					
9. SPONSORING ORGANIZATION - NAME AND ADDRESS IN NRC, give "Same as above", if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address, if different Division of Safety Issue Resolution Office of Nuclear Regulatory Research U.S. Regulatory Commission Washington, D.C. 20555									
10. SUPPLEMENTARY NOTES									
11. ABSTRACT (200 words or less) <p>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.</p>									
12. KEY WORDS/DESCRIPTORS <small>Use key words or descriptors that will assist researchers in locating the report.</small> pressure-dependent fragilities piping components Interfacing System Loss of Coolant Accidents (ISLOCA) probabilistic risk assessment Davis-Besse Nuclear Power Station				13. AVAILABILITY STATEMENT Unlimited					
				14. SECURITY CLASSIFICATION <small>(If not Page)</small> Unclassified <small>(If not Report)</small> Unclassified					
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