

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS

OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30
NRC-DR-04-08-134

1. REQUISITION NO.
CFO-08-134

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Page 1 of 14

2. Delivery Order NO. NRC-DR-04-08-134	3. AWARD/EFFECTIVE DATE May 12, 2008	4. ORDER NO.	MODIFICATION NO.	5. SOLICITATION NUMBER RS-04-08-134	6. SOLICITATION ISSUE DATE 04/07/2008
7. FOR SOLICITATION INFORMATION CALL:	a. NAME Danielle Emche	b. TELEPHONE NO. (No Collect Calls) 301-415-0676 Danielle.Emche@nrc.gov		8. OFFER DUE DATE/LOCAL TIME 04/10/2008 1PM	

9. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop T-7-I-2 Washington, DC 20555	CODE 3100	10. THIS ACQUISITION IS <input type="checkbox"/> UNRESTRICTED OR <input checked="" type="checkbox"/> SET ASIDE: % FOR: <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> EMERGING SMALL BUSINESS <input type="checkbox"/> HUBZONE SMALL BUSINESS <input type="checkbox"/> SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS <input checked="" type="checkbox"/> 8(A) NAICS: SIZE STANDARD: Small
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11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input checked="" type="checkbox"/> SEE SCHEDULE	12. DISCOUNT TERMS	13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) <input type="checkbox"/>	13b. RATING N/A	14. METHOD OF SOLICITATION <input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input type="checkbox"/> RFP
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15. DELIVER TO U.S. Nuclear Regulatory Commission Mail Stop T-7-I-2 Washington DC 20555	CODE	16. ADMINISTERED BY U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop T-7-I-2 Washington, DC 20555	CODE 3100
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17a. CONTRACTOR/OFFEROR Frankie Friend & Associates, Inc. 7936 E ARAPAHOE CT STE 2000 ENGLEWOOD, CO 80112-0372	CODE	FACILITY CODE	18a. PAYMENT WILL BE MADE BY Department of Interior National Business Center Attn: Fiscal Services Brance -D 2770 7301 W. Mansfield Avenue Washington DC 20555	CODE 3100
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TELEPHONE NO. <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
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19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
1	The U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research (RES), hereby orders line item 1 for one, "Fundamentals of Engineering," training course. The course date and technical detail shall be in accordance with the Statement of Work and other Terms and Conditions of this purchase order and guidance received from RES. Orca.gov provided the reps. and certs. hereby incorporated by Reference. Initial Fundamentals of Engineering Course *Includes development process, travel and presentation*	1	Session	\$54,209.00	\$54,209.00
2	Optional Task: Additional Fundamentals of Engineering Course *Includes travel and presentation*	1	Session	\$9,687.00	\$9,687.00
PERIOD OF PERFORMANCE: 10 MONTHS FROM AWARD DATE PROJECT OFFICER: DEBBIE CHAN TECHNICAL MONITOR: WILLIUM KROTIUK (Use Reverse and/or Attach Additional Sheets as Necessary)					

25. ACCOUNTING AND APPROPRIATION DATA: DUNS: 867441669 Appropriations No.: 31X0200.860 Obligate: \$54,209.00 B&R: 86012111114 Job Code: N6629 BOC: 252A	26. TOTAL AWARD AMOUNT (For Govt. Use Only) \$54,209.00
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<input type="checkbox"/> 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.
<input checked="" type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA	<input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED

<input checked="" type="checkbox"/> 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>2</u> 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	<input type="checkbox"/> 29. AWARD OF CONTRACT: REF. _____ OFFER DATED _____ YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN IS ACCEPTED AS TO ITEMS:
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30a. SIGNATURE OF OFFEROR/CONTRACTOR 	31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)
30b. NAME AND TITLE OF SIGNER (TYPE OR PRINT) MICHAEL ALLEN / PROGRAM MGR	31b. NAME OF CONTRACTING OFFICER (TYPE OR PRINT) Stephen Pool, contracting officer
30c. DATE SIGNED 5/20/08	31c. DATE SIGNED 5/14/08

B. STATEMENT OF WORK**B.1 INTRODUCTION****B.1.2 BACKGROUND**

New hires of any technical discipline need to be adept at the fundamentals of nuclear engineering. For the Office of Nuclear Regulatory Research, those fundamentals need to be more mathematically based than the content of courses currently offered internally. A recent survey of RES technical staff revealed that there is a need and an interest in a "Fundamentals of Nuclear Engineering" course. The purpose of this course is to provide a common understanding of nuclear engineering to all technical staff so that they can communicate more clearly between their disciplines and understand how their disciplines interact with nuclear engineering.

B.1.2 SCOPE

The NRC intends to develop uniform standards for all major work processes within the Divisions. These processes are specified in Attachment 1. The NRC requires contractor support for phase 2 of this project, which is to complete documentation for up to eight additional processes for DPBA using the Budget Execution Report template developed by Focal Point Consulting Group as a model.

B.1.3 OBJECTIVE

The primary objective of this course is for the attendees to have a basic knowledge of nuclear engineering in order to aid their work in the Office of Nuclear Regulatory Research and facilitate communication between their disciplines. The instructor shall provide a training course that will provide the fundamentals of nuclear reactor physics and an understanding of thermal-hydraulic behavior in a reactor core and system, including a basic understanding of two-phase flow and heat transfer phenomena.

Specifically, the instructor shall:

- develop those aspects of neutron interactions with matter that are pertinent to understanding the establishment of a chain-reaction and of the neutron space- and energy-distribution in the nuclear reactor core,
- show how the complex neutron transport and slowing-down processes can be described by simple, though approximate, analytical models,
- develop the students' insight and understanding of neutron-related phenomena in nuclear reactors,
- describe the heat transfer and fluid flow phenomena occurring in a nuclear reactor core during normal operation, and
- introduce the two-phase heat transfer and fluid flow behavior present in a reactor core especially for transient conditions such as a LOCA.

B.2. STATEMENT OF WORK

The contractor shall conduct one three full-day course in the fall of 2008 on the Fundamentals of Nuclear Engineering with a focus on mathematical derivations and relationships. The goal of the course shall be to provide engineers (or other technical staff) of non-nuclear backgrounds with the fundamentals of nuclear reactor engineering that are necessary to working in research.

B.2.1 Course Date Confirmations

The specific start date of the initial course shall be decided by the project manager and will be negotiated between the contractor and NRC, depending on the contractor's availability and time needed to prepare for the course and NRC headquarters' room availability. NRC shall notify the contractor of the specific start date via phone or email and the contractor shall notify NRC of their availability within one week of

NRC's notification. The contractor shall be given notification of course date as soon as practicable but no later than three months prior to the course date.

B.2.2 Course Materials

Course materials shall be considered all handouts, homework, reviews and activities. Topics shall include the Boltzman equation and its relationship to diffusion, temperature distributions, 6 factors, neutronics, prompt critical vs. critical, and other relevant concepts. Course materials shall be developed with these topics in mind and shall be based on the literature in the following sources:

EI-Wakil, M. M., **Nuclear Heat Transport**, International Textbook Company
Lamarsh, J. R., **Introduction to Nuclear Reactor Theory**, Addison-Wesley Publishing Company

Specifically, the chapters of **Nuclear Heat Transport** can be considered a general guide for course development. Information contained in **Introduction to Nuclear Reactor Theory** would provide additional information which could be incorporated into the course material.

The course instructors shall consult and utilize any additional textbooks or other reference material that will assist in finalizing the course materials that would facilitate the lesson plan. Ronald A. Knief, **Nuclear Engineering: Theory and Technology of Commercial Nuclear Power (SCPP)**, Hemisphere Publishing Corporation, is recommended as an additional textbook.

Deliverables: Course Materials

This shall include any handouts or materials, homework assignments, activities and final exam, to be given to the participants.

- **Due Date:** Six weeks before the course. (Required number of copies: one of each document)

B.2.3 Lesson Plan

The lesson plan shall consist of a detailed framework for the course. This shall include instructor's topics and the associated schedule of days/times for each lecture subject (or group of topics). Within each topic and timeframe there shall be included the corresponding examples, several multiple-choice review questions, list of references, and any planned handouts. Below is a general topic outline, to which the contractor may refer as a guide for developing the lesson plan structure. The course instructors shall feel free to modify the outline while designing the lesson plan as long as the basic topics are addressed.

1. Nuclear Physics Basics
 - a. Atomic structure
2. Neutron Interactions
 - a. Elastic, inelastic, absorption, etc.
 - b. Cross sections
3. Nuclear Fission
 - a. Practical fuels
 - b. Energy from reactions
 - i. Power, burnup, consumption
 - c. Decay
 - d. Prompt/delayed neutrons
4. Chain Reactions

- a. Reactor Types – Thermal, Fast
 - b. Neutron Diffusion – Fick's Law
 - c. Flux Distribution
 - d. Reflections
 - e. Moderation
5. Neutron Flux Database
 - a. Coefficients of Reactivity
 6. Neutron Absorption
 - a. Control Rods
 7. Heat Generation
 - a. Fission Energy
 - i. Homogeneous Core
 - ii. Heterogeneous Core
 - b. Shutdown
 8. Criticality – Fermi Theory
 - a. k_{∞}
 - b. k_{eff}
 9. Steady-State Heat Conduction in Reactor Elements
 - a. One-Dimensional
 - b. Thermal Radiation
 - c. Absorbed Radiation
 - d. Thermal Shields
 - e. Two-Dimensional
 10. Transient Heat Conduction in Reactor Elements
 - a. Lumped Parameter Method
 11. Single Phase Heat Transfer and Fluid Flow
 - a. Heat Transfer
 - i. Geometry and Nondimensional Numbers
 1. Circular Geometry
 2. Noncircular Geometry
 - b. Pressure Drop
 - i. Geometry and Nondimensional Numbers
 12. Two-Phase Heat Transfer and Fluid Flow
 - a. Flow Definitions
 - i. Void Fraction, Quality, Slip, etc
 - b. Heat Transfer
 - i. Boiling
 - ii. Condensation
 - c. Critical Heat Flux and Burnout
 - d. Pressure Drop
 - i. Homogeneous Model
 - ii. Separated Flow Model
 - iii. Area Changes
 - iv. Acceleration
 - e. Critical Flow

13. Core Thermal Design

- a. Axial Temperature Distribution
- b. Maximum Temperature Concerns
- c. Boiling

Deliverables: Lesson plan

This shall include complete times, organization, data and direction regarding the instructor's topics to be presented and delivered to the participants.

- **Due Date:** Six weeks before the course. (Required number of copies: one of each document)

B.2.4 Final Lesson Plan and Course Materials

The NRC project manager and/or technical monitor shall review the lesson plan and course materials and return it with a statement that no changes are necessary or include suggestions and changes that must be incorporated. NRC's approval of the lesson plan and course material with or without changes shall occur three weeks before the start of the course.

If no changes are necessary, these items shall be considered final. If there are necessary changes, the contractor shall have one week to deliver the finalized versions of the lesson plan and course materials to NRC, incorporating any suggestions and/or changes.

Deliverables: Finalized Versions When NRC Changes/Suggestions Occur

This shall only occur if NRC responds three weeks prior to the start of the course that there are necessary changes the contractor shall make. The contractor shall incorporate and address all of NRC's suggestions.

- **Due Date:** Two weeks before the start of the course

B.2.5 Final Copies

This shall include an estimated 30 copies of the total course materials shall be provided on the day of the course to the course participants. This number is dependent on the final number of participants for each course. NRC will inform the contractor of the number of participants three weeks prior to the course. The contractor will provide an additional 2 copies to that number, as a margin of error for participants that may sign up closer to the date.

Deliverables: Course materials provided to the students .

- **Due Date:** Day of the course.

B.2.6 Evaluations

Subsequent of the course, the contractor will be notified within thirty days of any course evaluations and changes that are suggested by NRC. Any future ordering shall acknowledge these changes and be inclusive of these recommendations or changes.

B.3 OPTIONS

After exercise of the optional course by the contracting officer, the specific date of the optional course shall be decided by the project manager and will be negotiated between the contractor and NRC, depending on the contractor's availability and time needed to prepare for the course and NRC headquarters' room availability. NRC shall notify the contractor of the specific optional course start date via phone or email and the contractor

shall notify NRC of their availability within one week of NRC's notification. The contractor shall be given notification of the course date as soon as practicable but no later than two months prior to the course date.

Deliverables: Final Lesson Plan and Course Materials Pursuant to Changes

Contractor shall supply NRC with the final documents, where there were changes recommended from the initial course.

Due Date: Three weeks prior to the course date

B.4 COMPLETION REQUIREMENTS OF GRAPHICS AND COURSE MATERIAL

The Contractor shall finalize all deliverables resulting from each task described in section 2 above. Any additional revisions shall be incorporated, as appropriate. All specified deliverables shall be provided in final and shall be thorough and complete. See Section 8, Schedule of Deliverables.

Tasks are not considered complete until all applicable open issues have been resolved and all specified deliverables approved.

All deliverable products shall be grammatically correct according to industry standard rules and contain correct spelling. All technical and financial terms shall be clearly defined to be understood by all readers. Final deliverables should be transmitted to the NRC Project Manager in hard copy and electronic form. All major work deliverables are considered complete upon receipt and final review and approval by the NRC Project Manager.

Projection graphics for classroom use shall be produced in color computer presentation format using Microsoft PowerPoint, and black and white hard copies provided in the student manual. The course Instructor(s) will have access to a Microsoft Windows-based PC with LCD projector, Windows XP operating system and Microsoft Office 2003 software. A copy of all training material shall also be delivered in MS Office format as well as PDF format on a CD or DVD. The files in PDF format may be loaded on NRC's internal website as reference material. All materials developed are considered works-for-hire and become NRC property.

B.5 SCHEDULE OF DELIVERABLES

Deliverables are scheduled for completion as follows, or as otherwise agreed to by the Project Manager:

Id	Name	Type	Due Date
2.1	Date Confirmation	Email/Phone	Within one week of NRC date notification
2.2	Course Materials	Draft	6 weeks prior to course date
2.3	Lesson Plan	Draft	6 weeks prior to course date
2.4	Final Materials and Plan (Only applies when NRC has changes to the draft)	Final	2 weeks prior to course date
2.5	Final Copies	Final	Day of the course

B.6 PERSONNEL

The use of qualified personnel for the key positions on this project is considered essential to its success. At a minimum, key personnel shall include the Contractor's Project Manager, who is responsible for overseeing or performing the actual work and/ or Course Instructor.

Key personnel must possess the instructor shall have an advanced degree in nuclear engineering and the ability to conduct a lecture for approximately 25 participants. When on NRC property, the instructor will be escorted as a visitor.

B.7 MEETINGS AND TRAVEL

One trip for two people for 3 full days of work, and 1 additional travel day, for each session is anticipated. The contractor will not be reimbursed for local travel to the NRC headquarters or Professional Development Center.

B.8 PLACE OF PERFORMANCE

The work for this contract shall be performed at the Contractor's premises. The Contractor shall schedule work hours of all on-site personnel in a manner that will provide maximum responsiveness to the Government's requirements. The contractor will be required to schedule meetings/interviews at the NRC Headquarters at 11545 Rockville Pike, Rockville, MD or at the Professional Development Center at 7201 Wisconsin Ave Bethesda, MD 20814. The Contractor shall schedule work hours of all on-site personnel in a manner that will provide maximum responsiveness to the Government's requirements.

B.9 GOVERNMENT FURNISHED PROPERTY

NRC will provide use of the meeting room in which the lecture will be held as well as any standard classroom materials deemed appropriate such as whiteboards, easels, etc. This material will be for use during the lecture only.

APPROPRIATE USE OF GOVERNMENT FURNISHED INFORMATION TECHNOLOGY (IT) EQUIPMENT AND/ OR SERVICES/ ACCESS (APRIL 2003)

As part of contract performance the NRC may provide the contractor with information technology (IT) equipment and IT services or IT access as identified in the statement of work or subsequently as identified in the project. Government furnished IT equipment, or IT services, or IT access may include but is not limited to computers, copiers, facsimile machines, printers, pagers, software, phones, Internet access and use, and email access and use. The contractor (including the contractor's employees, consultants, and subcontractors) are prohibited from engaging or using the NRC IT equipment and government provided IT services or IT access for any personal use, misuse, abuses or any other unauthorized usage.

The contractor is responsible for monitoring its employees to ensure that NRC furnished IT equipment and/or IT services, and/or IT access are not being used for personal use, misused or abused. The NRC reserves the right to withdraw or suspend the use of its government furnished IT equipment, IT services and/or IT access arising from contractor personal usage, or misuse or abuse; and/or to disallow any payments associated with contractor (including the contractor's employees and consultants) personal usage, misuses or abuses of IT equipment, IT services and/or IT access; and/or terminate the project arising from violation of this provision.

ADDITIONAL PROVISIONS/TERMS AND CONDITIONS

C.1 NOTICE LISTING CLAUSES INCORPORATED BY REFERENCE

The following clauses 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" contained in this document. FAR 52.252-2 contains the internet address for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
52.204-7	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.223-6	CENTRAL CONTRACTOR REGISTRATION	JUL 2006
52.225-13	DRUG-FREE WORKPLACE	MAY 2001
52.233-4	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	FEB 2006
52.237-1	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT 2004
52.237-2	SITE VISIT	APR 1984
	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION	APR 1984

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):

<http://www.arnet.gov/far>

C.3 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (NOV 2006)

(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.]

(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (SEP 2006), 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).

(3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (JUL 2005) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

(4) [Reserved]

(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.

(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 (SEP 2006) (15 U.S.C. 637(d)(4)).

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

(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)).

(10)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (SEP 2005) (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 (JAN 2006) (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 (SEP 2006) (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 (SEP 2006) (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 (NOV 2006) (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, 109-53 and 103-169).
 - (ii) Alternate I (JAN 2006) of 52.225-3.
 - (iii) Alternate II (JAN 2006) of 52.225-3.
- (25) 52.225-5, Trade Agreements (NOV 2006) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).
- (26) 52.225-13, Restrictions on Certain Foreign Purchases (FEB 2006) (E.O.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).
- (27) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (42 U.S.C. 5150).
- (28) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (42 U.S.C. 5150).
- (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 (FEB 2006) (46 U.S.C. Appx 1241(b) 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 (JUL 2005) (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) (NOV 2006) (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.).

(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 \$550,000 (\$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 (SEP 2006) (38 U.S.C. 4212).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 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 (JUL 2005), 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 (FEB 2006) (46 U.S.C. Appx 1241(b) 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.4 52.217-7 OPTION FOR INCREASED QUANTITY--SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days of receipt of the previous line items' final deliverable.

NRC Acquisition Clauses - (NRCAR) 48 CFR Ch. 20

C.6 PROJECT OFFICER AUTHORITY (ALT 2) (FEB 2004)

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

Project Officer	Technical Monitor
Deborah Chan Mail Stop: T-10D5 U.S. Nuclear Regulatory Commission Washington, D.C. 20555-0001 Phone: (301) 415- 7041 Fax: (301) 415-5151 Email: DLC@nrc.gov	William Krotiuk Mail Stop: T-10K8 U.S. Nuclear Regulatory Commission Washington, D.C. 20055-0001 Phone: (301) 415-6839 Fax: (301) 415-5160 Email: WJK@nrc.gov

(b) With the assistance of the technical monitor, the project officer shall:

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

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

(3) Review all contractor invoices/vouchers requesting payment for products/services provided under the contract and make recommendations for approval, disapproval, or suspension.

(4) 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.

The project officer and Technical Monitor will coordinate with the contractor regarding the dates of the courses.

The project officer and technical monitor will respond to the contractor's initial course plan submission with suggestions and feedback regarding whether any changes are necessary and is responsible for resolving internal issues that affect the project.

C.7 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.

C.7 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.

SECTION D - LIST OF ATTACHMENTS

ATTACHMENTS: Billing Instructions

**BILLING INSTRUCTIONS FOR
FIXED PRICE CONTRACTS**

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:

Department of Interior
National Business Center
7301 Mansfield Avenue
Attn: Fiscal Services Branch – D2770 (NRC-09-08-330)
Denver, CO 80325

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.