
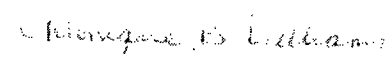


AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING		PAGE OF PAGES 1, 26	
2. CONTRACT (Proc. Inst. Ident.) NO. NRC-HQ-60-15-C-0002				3. EFFECTIVE DATE 05/06/2015		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. RES-15-0164	
5. ISSUED BY US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 WASHINGTON DC 20555-0001		CODE NRCHQ		6. ADMINISTERED BY (If other than Item 5)		CODE	
7. NAME AND ADDRESS OF CONTRACTOR (No., Street, City, Country, State and ZIP Code) THERMALHYDRAULICS CONSULTANT INC ATTN DIONYSIUS C GROENEVELD 100 FRONTENAC CRES DEEP RIVER ON ON KOJ 1PO				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT 30			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN			
CODE 202753240		FACILITY CODE					
11. SHIP TO/MARK FOR US NUCLEAR REGULATORY COMMISSION- MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY ROCKVILLE MD 20852		CODE NRCHQ		12. PAYMENT WILL BE MADE BY US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A ROCKVILLE MD 20852-2738		CODE NRCPAYMENTS	
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) () <input checked="" type="checkbox"/> 41 U.S.C. 253 (c) (1)				14. ACCOUNTING AND APPROPRIATION DATA See Schedule			
15A. ITEM NO	15B. SUPPLIES/SERVICES			15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	Continued						
15G. TOTAL AMOUNT OF CONTRACT						\$120,000.00	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
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X	A	SOLICITATION/CONTRACT FORM	1	X	I	CONTRACT CLAUSES	2
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	1	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
X	C	DESCRIPTION/SPECS./WORK STATEMENT	5	X	J	LIST OF ATTACHMENTS	1
X	D	PACKAGING AND MARKING	1	PART IV - REPRESENTATIONS AND INSTRUCTIONS			
X	E	INSPECTION AND ACCEPTANCE	1		K	REPRESENTATIONS, CERTIFICATIONS AND	
X	F	DELIVERIES OR PERFORMANCE	2			OTHER STATEMENTS OF OFFERORS	
X	G	CONTRACT ADMINISTRATION DATA	2		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
X	H	SPECIAL CONTRACT REQUIREMENTS	8		M	EVALUATION FACTORS FOR AWARD	
CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number NRC-HQ-20-15-R-0002 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)			
19A. NAME AND TITLE OF SIGNER (Type or print) Dionysius C. Groeneveld President				20A. NAME OF CONTRACTING OFFICER MONIQUE B. WILLIAMS			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED 05/08/ 2015		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED 05/07/2015	
BY  (Signature of person authorized to sign)				BY  (Signature of the Contracting Officer)			

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STANDARD FORM 26 (Rev. 5/2011)
Prescribed by GSA - FAR (48 CFR) 53.214(a)

SUNSI REVIEW COMPLETE

TEMPLATE - ADM001

MAY 19 2015 ANM002

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
NRC-HQ-60-15-C-0002PAGE OF
2 26

NAME OF OFFEROR OR CONTRACTOR

THERMALHYDRAULICS CONSULTANT INC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	SEE SCHEDULE Accounting and Appropriation Data: 2015-X0200-FEEBASED-60-60D003-11-6-213-1045-252A \$43,612.00 2015-C0200-FEEBASED-60-60D003-11-6-213-1045-252A \$26,388.00				

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SECTION B - Supplies or Services/Prices

NRCB010 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is: "Groeneveld Critical Heat Flux (CHF) and Film Boiling Data"

(b) Summary work description: The objective of this project is the preparation and delivery of Critical Heat Flux and Film Boiling data that was used to generate the 2006 Groeneveld CHF lookup tables as well as the 2003 film boiling lookup tables.

PRICE SCHEDULE - FIRM-FIXED-PRICE

ITEM NO	ITEM DESCRIPTION	QUANTITY (HOURS)	UNIT PRICE	AMOUNT
00001	Critical Heat Flux (CHF) Data and Documentation			
00002	Film Boiling Data and Documentation			
00003	NUREG Series Manuscript on Critical Heat Flux Data			
Total Price				\$120,000.00

NRCB080 CONSIDERATION AND OBLIGATION-FIRM-FIXED-PRICE

(a) The total amount of the Firm-Fixed-Price portion of this contract is \$120,000.00 and this amount is incrementally-funded in the amount of \$70,000.00 and FAR Clause 52.232-22 "Limitation of Funds" applies.

SECTION C - Description/Specifications

STATEMENT OF WORK (SOW)

Groeneveld Critical Heat Flux (CHF) and Film Boiling Data

1. INTRODUCTION

The U. S. Nuclear Regulatory Commission (NRC), Office of Nuclear Regulatory Research (RES) furthers the regulatory mission of the NRC by providing technical advice, technical tools, and information for identifying and resolving safety issues, making regulatory decisions, and promulgating regulations and guidance. RES conducts independent experiments and analyses, develops technical bases for supporting realistic safety decisions by the agency, and prepares the agency for the future by evaluating safety issues involving current and new designs and technologies.

The Office of Nuclear Regulatory Research has a unique requirement for acquisition of the preparation and delivery of Critical Heat Flux and Film Boiling data that was used to generate the 2006 Groeneveld CHF lookup tables¹ as well as the 2003 film boiling lookup tables². Additionally, RES requires the submission of supplemental materials, including the entire CHF and film boiling data collections and the documentation of the individual experiments where available, as described in theses, company reports, or other publications.

2. BACKGROUND

CHF is the condition at which the heat transfer coefficient of a heated surface begins to rapidly deteriorate. This occurs when a sufficiently high surface temperature or heat flux prevents liquid from reaching the surface. The resulting vapor layer is not able to transfer heat as effectively which results in a rapid rise in surface temperature. The characterization of the conditions that lead to CHF is vitally important to the analysis of postulated loss-of-coolant accidents (LOCAs) in light water reactors. Models and correlations for the conditions that lead to CHF are used in vendor codes and analyses, as well as in the NRC thermal-hydraulics code TRACE. These models and correlations are generally based on a subset of CHF experimental data and attempt to match the geometry and flow conditions that are being modeled. As more and better experimental data becomes available, models are expanded and adapted to include larger ranges of conditions, more geometric configurations, or better approximations to the physical behavior.

In the same way that CHF is a very significant phenomenon in the analysis of postulated reactor accident conditions, the characterization of the heat transfer in the liquid deficient regime beyond CHF is equally important. This post-CHF or "film boiling" regime is defined as the flow and heat transfer conditions that occur when a vapor film separates the heated surface from the bulk liquid. Therefore, another purpose of this project is to obtain the data collection used to develop the 2003 Groeneveld film boiling lookup tables². This additional large collection of 2003 data is a very necessary and valuable resource needed to expand existing film boiling models or develop new ones. This will improve the NRC's Thermal-hydraulic code TRACE,

¹ D. C. Groeneveld, J. Q. Shan, A. Z. Vasic, L. K. H. Leung, A. Durmayaz, J. Yang, S. C. Cheng, and A. Tanase, "The 2006 CHF Look-up Table," Nucl. Eng. and Design, Vol. 237, pp. 1909-1922 (2007).

² D. C. Groeneveld, L. K. H. Leung, A. Z. Vasic, Y. J. Guo, and S. C. Cheng, "A Look-up Table for Fully Developed Film-boiling Heat Transfer," Nucl. Eng. and Design, Vol. 225, pp. 83-97 (2003).

which is used for accident analysis and confirmatory studies.

3. SCOPE OF WORK

To further the regulatory mission of the NRC/ RES, the acquisition of this data is necessary for a number of regulatory and research activities. Specifically, this data will be used for confirmatory analysis of vendor CHF correlations and for improvement of the models and correlations used in the NRC best estimate thermal-hydraulic computer codes. Therefore, this effort has been designed to accomplish three main tasks and supporting subtasks, the contractor shall provide personnel and materials required to perform the following:

- Critical Heat Flux Data and Documentation
- Film Boiling Data and Documentation
- NUREG Series Manuscript on Critical Heat Flux Data

4. APPLICABLE DOCUMENTS AND STANDARDS

Compliance with applicable regulations, publications, manuals, and local policies and procedures is required:

- NUREG-0650, Rev. 2, "Preparing NUREG-Series Publications"
- NUREG-1379, Rev. 1, "NRC Editorial Style Guide"

5. REQUIREMENTS

5.1 CHF Data and Documentation

The contractor shall provide the data and supporting documentation for the experiments that are the basis of the 2006 Groeneveld CHF lookup tables¹.

5.1.1 2006 Groeneveld CHF Lookup Tables

The contractor shall provide the 2006 Groeneveld CHF lookup tables (e.g., spreadsheet). The electronic file shall include, in its entirety, the lookup tables as described in the following reference.

D. C. Groeneveld, J. Q. Shan, A. Z. Vasic, L. K. H. Leung, A. Durmayaz, J. Yang, S. C. Cheng, and A. Tanase, "The 2006 CHF Look-up Table," Nucl. Eng. and Design, Vol. 237, pp. 1909-1922 (2007).

The data shall clearly describe and differentiate the various sets of data presented and would readily allow conversion to other formats. Any supplemental information that is necessary for understanding the methodology for creating the original lookup tables shall also be provided by the contractor.

5.1.2 CHF Data used to Generate 2006 Groeneveld CHF Lookup Tables

The contractor shall provide an electronic form of the data used to generate the 2006 Groeneveld CHF lookup tables. This data has been selected and reviewed by Groeneveld and placed into a common format for easy creation of the lookup tables. The contractor shall deliver the data used in the tables in a format that clearly describes and

differentiates the various sets of data presented and would readily allow conversion to other formats. Any supplemental information or instructions that are necessary for the correct interpretation of the data shall also be provided by the contractor.

5.1.3 CHF Data Collection

The contractor shall deliver the available documents containing the raw data used in the generation of the 2006 Groeneveld CHF lookup tables. This data shall include all of the data Groeneveld started with in its rawest useable form. The data will likely be in many different sets of units. The data obtained in Subtask 5.1.2 is a subset of this data.

The data shall be descriptive and clearly describe and differentiate the various sets of data presented. Any supplemental information or instructions that are necessary for the correct interpretation of the data shall also be provided by the contractor.

5.1.4 CHF Data Collection Documentation

The contractor shall deliver the available documentation that describes each of the experiments used to collect CHF data used in the 2006 Groeneveld CHF lookup tables. The documentation shall be presented in a manner that allows for understanding of the testing methodology.

Additionally, the documentation shall summarize the aspects of the test that the contractor believes are important to understanding why the tests were included in the lookup table and the overall significance of data.

5.2 Film Boiling Data and Documentation

The contractor shall provide the data and documentation for the experiments that are the basis of the 2003 Groeneveld film boiling lookup tables².

5.2.1 2003 Groeneveld Film Boiling Lookup Tables

The contractor shall provide an electronic form of the 2003 Groeneveld Film Boiling lookup tables. The electronic file shall include, in their entirety, the lookup tables as described in the following reference.

D. C. Groeneveld, L. K. H. Leung, A. Z. Vasic, Y. J. Guo, and S. C. Cheng, "A Look-up Table for Fully Developed Film-boiling Heat Transfer," Nucl. Eng. and Design, Vol. 225, pp. 83-97 (2003).

The data shall clearly describe and differentiate the various sets of data presented. Any supplemental information that is necessary for understanding the methodology for creating the original lookup tables shall also be provided by the contractor.

5.2.2 Film Boiling Data used to Generate 2003 Groeneveld Film Boiling Lookup Tables

The contractor shall provide the data used to generate the 2003 Groeneveld film boiling lookup tables. This data has been selected and reviewed by Groeneveld and placed into a common format for easy creation of the lookup tables. The contractor shall

deliver the data used in the tables in a format that clearly describes and differentiates the various sets of data presented and would readily allow conversion to other formats. Any supplemental information or instructions that are necessary for the correct interpretation of the data shall also be provided by the contractor.

5.2.3 Film Boiling Data Collection

The contractor shall deliver the available documents containing the raw data used in the generation of the 2003 Groeneveld film boiling lookup tables. This data shall include all of the data Groeneveld started with in its rawest useable form. The data will likely be in many different sets of units. The data obtained in Subtask 5.2.2 is a subset of this data.

The data delivered shall be descriptive and clearly describe and differentiate the various sets of data presented. Any supplemental information or instructions that are necessary for the correct interpretation of the data shall also be provided by the contractor.

5.3 NUREG Series Manuscript on CHF Data

The contractor shall prepare a draft NUREG series manuscript containing the data used to develop the 2006 Groeneveld CHF lookup tables, specifically the data that was provided in Subtask 5.1.2.

At a minimum, the NUREG shall contain all of the non-proprietary data in a tabular form for public use as well as references for the respective tests. In addition, the NUREG shall contain a description section for each set of data that provides the appropriate context for the experiment(s). Any supplemental information that will provide context for how the data was used for creation of the CHF lookup tables shall also be provided. The manuscript shall meet the requirements for style and content as described in the NRC NUREG style guidelines (NUREG-0650, Rev.2 and NUREG-1379, Rev.1) (See <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0650/> and <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1379/>).

6. CONTRACTOR QUALIFICATIONS

Contractor personnel assigned shall have knowledge and understanding of the 2006 Groeneveld CHF lookup tables and the 2003 Groeneveld film boiling lookup tables, in addition an understanding of the methodology used to produce the tables from the experimental data is required.

7. REPORTING REQUIREMENTS

A Monthly Financial Report and a bi-monthly technical progress report and shall be submitted electronically by the contractor on the "20th" of the month. This report will be used by the Government to assess the adequacy of the resources proposed by the contractor to accomplish the work contained in this SOW and provide status of contractor progress in achieving tasks and producing deliverables. The report shall include contract/order summary information, work completed during the specified period, milestone schedule information, problem resolution, travel plans, and staff hour summary.

A final report summarizing the work performed and the results and conclusions derived shall be submitted to the COR no later than 30 days after the end of the contract of performance.

8. PLACE OF PERFORMANCE

Primary place of performance will be at the contractor's site. No travel is anticipated in the performance of this effort.

9. POST AWARD KICK OFF MEETING

The contractor shall meet with the Government representatives after the contract award and before contract performance to reach a common understanding of contract requirements, deliverables, and Government expectations. Meetings under this contract will be conducted via conference call, video conference, or Go-To-Meeting.

10. SPECIAL CONSIDERATIONS

10.1 Government-Furnished Property

No Government-furnished property will be required or provided to the contractor.

10.2 Security Requirements

Work performed under this effort will be UNCLASSIFIED.

10.3 Contractor Employees

The contractor shall not employ any person who is an employee of the U.S. Government if employing that person would create a conflict of interest. Additionally, the contractor shall not employ any person who is an employee of the NRC, unless such person seeks and receives approval from the NRC.

10.4 Data Rights

The Government has unlimited rights to all documents/material produced under this contract.

SECTION D - Packaging and Marking

NRCD020 BRANDING

The Contractor is required to use the statement below in any publications, presentations, articles, products, or materials funded under this contract/order, to the extent practical, in order to provide NRC with recognition for its involvement in and contribution to the project. If the work performed is funded entirely with NRC funds, then the contractor must acknowledge that information in its documentation/presentation.

Work Supported by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Regulatory Research, under Contract NRC-HQ-60-15-C-0002.

NRCD010 PACKAGING AND MARKING

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows: None

SECTION E - Inspection and Acceptance

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)	
52.246-4	INSPECTION OF SERVICES - FIXED-PRICE	(AUG 1996)

NRCE010 INSPECTION AND ACCEPTANCE BY THE NRC (SEP 2013)

Inspection and acceptance of the deliverable items to be furnished hereunder shall be made by the NRC Contracting Officer's Representative (COR) at the destination, accordance with FAR 52.247-34 - F.o.b. Destination.

SECTION F - Deliveries or Performance

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)	
52.242-15	STOP-WORK ORDER	(AUG 1989)

NRCF030 PERIOD OF PERFORMANCE

This contract shall commence on May 6, 2015 and will expire on April 5, 2016.

NRCF010 PLACE OF DELIVERY-REPORTS

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

- a. Name: Andrew Ireland (1 Electronic Copy)
- b. Contracting Officer's Representative (COR)
- c. Address: Andrew.Ireland@nrc.gov (1 Electronic Copy)
- d. Name: Hugo Alcantara (1 Electronic Copy)
- e. Contract Specialist (CS)
- f. Address: Hugo.Alcantara@nrc.gov (1 Electronic Copy)

DELIVERABLES AND DELIVERY SCHEDULE

Task No.	Task Name	Deliverable	Due Date
5.1.1	2006 Groeneveld CHF Lookup Tables	Electronic form of the 2006 Groeneveld CHF lookup tables	3 months after contract award date
5.1.2	CHF Data Used to Generate 2006 Groeneveld CHF Lookup Tables	Electronic form of the data used to generate the 2006 Groeneveld CHF lookup tables	6 months after contract award date
5.1.3	CHF Data Collection	Electronic form of the raw data used in the generation of the 2006 Groeneveld CHF lookup tables	9 months after contract award date
5.1.4	CHF Data Collection Documentation	Set of documentation that describes each of the experiments used to collect CHF data used in	12 months after contract award date

		the 2006 Groeneveld CHF lookup tables	
5.2.1	2003 Groeneveld Film Boiling Lookup Tables	Electronic form of the 2003 Groeneveld Film Boiling lookup tables	3 months after contract award date
5.2.2	Film Boiling Data Used to Generate 2003 Groeneveld Film Boiling Lookup Tables	Electronic form of the data used to generate the 2003 Groeneveld film boiling lookup tables	6 months after contract award date
5.2.3	Film Boiling Data Collection	Electronic form of the raw data used in the generation of the 2003 Groeneveld film boiling lookup tables	9 months after contract award date
5.3	NUREG Series Manuscript	Prepare a draft NUREG series manuscript containing the data used to develop the 2006 Groeneveld CHF lookup tables	14 months after contract award date

SECTION G - Contract Administration Data

2052.215-71 CONTRACTING OFFICER'S REPRESENTATIVE AUTHORITY (OCT 1999) - ALTERNATE II (OCT 1999)

(a) The Contracting Officer's authorized representative, hereinafter referred to as the COR, for this contract is:

CONTRACTING OFFICER'S REPRESENTATIVE (COR)

Name: Andrew Ireland
Agency: U.S. NRC
Office: RES/DSA/RSCB
Street Address: U.S. NRC, Mailstop C3-A07M
Washington D.C. 20555
E-Mail: Andrew.Ireland@nrc.gov
Phone: 301-251-7553
FAX: 301-251-7436

ALTERNATE CONTRACTING OFFICER'S REPRESENTATIVE

Name: Kirk Tien
Agency: U.S. NRC
Office: RES/DSA/RSCB
Street Address: U.S. NRC, Mailstop C3-A07M
Washington D.C. 20555
E-Mail: Kirk.Tien@nrc.gov
Phone: 301-251-7536
FAX: 301-251-7436

(b) The COR 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.

(c) The COR or Alternate COR may not make changes to the express terms and conditions of this contract.

NRCG20 REGISTRATION IN FEDCONNECT® (JULY 2014)

The Nuclear Regulatory Commission (NRC) uses Compusearch Software Systems' secure and auditable two-way web portal, FedConnect®, to communicate with vendors and contractors. FedConnect® provides bi-directional communication between the vendor/contractor and the NRC throughout pre-award, award, and post-award acquisition phases. Therefore, in order to do business with the NRC, vendors and contractors must register to use FedConnect® at <https://www.fedconnect.net/FedConnect>. The individual registering in FedConnect® must have

authority to bind the vendor/contractor. There is no charge for using FedConnect®. Assistance with FedConnect® is provided by Compusearch Software Systems, not the NRC. FedConnect® contact and assistance information is provided on the FedConnect® web site at <https://www.fedconnect.net/FedConnect>.

NRCG030 ELECTRONIC PAYMENT (SEP 2014)

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. Payment shall be made in accordance with FAR 52.232-33, entitled "Payment by Electronic Funds- System for Award Management".

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, 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." The preferred method of submitting invoices is electronically to: NRCPayments@nrc.gov.

SECTION H - Special Contract Requirements

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 it 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.

2052.211-72 FINANCIAL STATUS REPORT (OCT 1999) - ALTERNATE I (OCT 1999)

The contractor shall provide a monthly Financial Status Report (FSR) to the Project Officer and the contracting officer. The FSR shall include the acquisition of, or changes in the status of, contractor-held property acquired with government funds valued at the time of purchase at \$50,000 or more. Whenever these types of changes occur, the contractor shall send a copy of the report to the Chief, Property and Acquisition Oversight Branch, Office of Administration. The

report is due within 15 calendar days after the end of the report period and shall identify the title of the project, the contract number, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report shall include the following information for each discrete task:

(a) Total estimated contract amount.

(b) Total funds obligated to date.

(c) Total costs incurred this reporting period.

(d) Total costs incurred to date.

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

(f) Balance of obligations remaining.

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

(h) Property status:

(1) List property acquired for the project during the month with an acquisition cost between \$500 and \$49,999. Give the item number for the specific piece of equipment.

(2) Provide a separate list of property acquired for the project during the month with an acquisition cost of \$50,000 or more. Provide the following information for each item of property: item description or nomenclature, manufacturer, model number, serial number, acquisition cost, and receipt date. If no property was acquired during the month, include a statement to that effect. The same information must be provided for any component or peripheral equipment which is part of a "system or system unit."

(3) For multi-year projects, in the September monthly financial status report provide a cumulative listing of property with an acquisition cost of \$50,000 or more showing the information specified in paragraph (i) (3) of this clause.

(4) In the final financial status report provide a closeout property report containing the same elements as described above for the monthly financial status reports, for all property purchased with NRC funds regardless of value unless title has been vested in the contractor. If no property was acquired under the contract, provide a statement to that effect. The report should note any property requiring special handling for security, health, safety, or other reasons as part of the report.

(j) Travel status: List the starting and ending dates for each trip, the starting point and destination, and the traveler(s) for each trip.

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

2052.215-70 KEY PERSONNEL (JAN 1993)

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

D.C. Groeneveld, President, Thermalhydraulics Consultants Inc.

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.

NRCH490 AWARD NOTIFICATION AND COMMITMENT OF PUBLIC FUNDS

(a) All offerors will receive preaward and postaward notices in accordance with FAR 15.503.

(b) It is also brought to your attention that the contracting officer is the only individual who can legally obligate funds or commit the NRC to the expenditure of public funds in connection with this procurement. This means that unless provided in a contract document or specifically authorized by the contracting officer, NRC technical personnel may not issue contract modifications, give formal contractual commitments, or otherwise bind, commit, or obligate the NRC contractually. Informal unauthorized commitments, which do not obligate the NRC and do not entitle the contractor to payment, may include:

- (1) Encouraging a potential contractor to incur costs prior to receiving a contract;
- (2) Requesting or requiring a contractor to make changes under a contract without formal contract modifications;
- (3) Encouraging a contractor to incur costs under a cost-reimbursable contract in excess of

those costs contractually allowable; and

(4) Committing the Government to a course of action with regard to a potential contract, contract change, claim, or dispute.

NRCH480 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.

NRCH470 GREEN PURCHASING (SEP 2013)

(a) In furtherance of the sustainable acquisition goals included in Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," products and services acquired under this contract/order shall be energy-efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, bio based, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, recycled content, and non-toxic or less toxic alternatives, to the maximum extent practicable in meeting NRC contractual requirements.

(b) See NRC's Green Purchasing Plan (GPP) at: <http://pbadupws.nrc.gov/docs/ML1219/ML12191A130.pdf> and the General Service Administration's (GSA) Green Procurement Compilation at: <http://www.gsa.gov/portal/content/198257>.

(c) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

NRCH400 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS

Review and Approval of Reports

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, editing, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC's directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/

grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports, summaries, data, and related documents that the contractor/grantee intends to release, display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified Non-Safeguards Information (SUNSI) and Safeguards Information (SGI). The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes SUNSI or SGI is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/grantee shall clearly mark SUNSI and SGI, to include for example, OUO-Allegation Information or OUO-Security Related Information on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 Safeguards Information) in maintaining these records and documents. The contractor/grantee shall ensure that SUNSI and SGI is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified Non-Safeguards and Safeguards Information policies, and NRC Management Directives and Handbooks 12.5, 12.6 and 12.7.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee.

(e) Flowdown. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

NRCH310 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS

Annual and final evaluations of contractor performance under this contract will be prepared in accordance with FAR Subpart 42.15, "Contractor Performance Information," normally at or near the time the contractor is notified of the NRC's intent to exercise the contract option. If the multi-year contract does not have option years, then an annual evaluation will be prepared [N/A]. Final evaluations of contractor performance will be prepared at the expiration of the contract during the contract closeout process.

The Contracting Officer will transmit the NRC Contracting Officer's Representative's (COR) annual and final contractor performance evaluations to the contractor's Project Manager, unless otherwise instructed by the contractor. The contractor will be permitted thirty days to review the document and submit comments, rebutting statements, or additional information.

Where a contractor concurs with, or takes no exception to an annual performance evaluation, the Contracting Officer will consider such evaluation final and releasable for source selection purposes. Disagreements between the parties regarding a performance evaluation will be referred to an individual one level above the Contracting Officer, whose decision will be final.

The Contracting Officer will send a copy of the completed evaluation report, marked "Source Selection Information", to the contractor's Project Manager for their records as soon as practicable after it has been finalized. The completed evaluation report also will be used as a tool to improve communications between the NRC and the contractor and to improve contract performance.

The completed annual performance evaluation will be used to support future award decisions in accordance with FAR 42.1502 and 42.1503. During the period the information is being used to provide source selection information, the completed annual performance evaluation will be released to only two parties - the Federal government personnel performing the source selection evaluation and the contractor under evaluation if the contractor does not have a copy of the report already.

NRCH130 DENIAL OF FEDERAL BENEFITS TO INDIVIDUALS CONVICTED OF DRUG TRAFFICKING OR POSSESSION

In the event that an award is made to an individual, Section 5301 of the Anti-Drug Abuse Act of 1988 (P.L. 100-690), codified at 21 U.S.C. 862, authorizes denial of Federal benefits such as grants, contracts, purchase orders, financial aid, and business and professional licenses to individuals convicted of drug trafficking or possession.

SECTION I - Contract Clauses

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)	
52.202-1	DEFINITIONS	(NOV 2013)
52.203-3	GRATUITIES	(APR 1984)
52.203-5	COVENANT AGAINST CONTINGENT FEES	(MAY 2014)
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	(SEP 2006)
52.203-7	ANTI-KICKBACK PROCEDURES	(MAY 2014)
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	(MAY 2014)
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	(MAY 2014)
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	(OCT 2010)
52.203-17	CONTRACTOR EMPLOYEE WHISTLEBLOWER RIGHTS AND REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS	(APR 2014)
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER	(MAY 2011)
52.204-10	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS	(JUL 2013)
52.204-19	INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS	(DEC 2014)
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	(AUG 2013)
52.215-2	AUDIT AND RECORDS - NEGOTIATION	(OCT 2010)
52.222-50	COMBATING TRAFFICKING IN PERSONS	(MAR 2015)
52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	(AUG 2011)
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	(JUN 2008)
52.226-6	PROMOTING EXCESS FOOD DONATION TO NONPROFIT ORGANIZATIONS	(MAY 2014)
52.227-1	AUTHORIZATION AND CONSENT	(DEC 2007)
52.227-14	RIGHTS IN DATA-GENERAL	(MAY 2014)
52.229-6	TAXES - FOREIGN FIXED-PRICE CONTRACTS	(FEB 2013)
52.232-1	PAYMENTS	(APR 1984)
52.232-8	DISCOUNTS FOR PROMPT PAYMENT	(FEB 2002)
52.232-11	EXTRAS	(APR 1984)
52.232-17	INTEREST	(MAY 2014)
52.232-23	ASSIGNMENT OF CLAIMS	(MAY 2014)

52.232-25	PROMPT PAYMENT	(JUL 2013)
52.232-39	UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS	(JUN 2013)
52.232-40	PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS	(DEC 2013)
52.233-1	DISPUTES	(MAY 2014)
52.233-3	PROTEST AFTER AWARD	(AUG 1996)
52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	(OCT 2004)
52.242-13	BANKRUPTCY	(JUL 1995)
52.243-1	CHANGES - FIXED-PRICE (AUG 1987) - ALTERNATE I	(APR 1984)
52.244-5	COMPETITION IN SUBCONTRACTING	(DEC 1996)
52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	(MAR 2015)
52.246-25	LIMITATION OF LIABILITY - SERVICES	(FEB 1997)
52.249-2	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE)	(APR 2012)
52.249-8	DEFAULT (FIXED-PRICE SUPPLY AND SERVICE)	(APR 1984)
52.253-1	COMPUTER GENERATED FORMS	(JAN 1991)

CLAUSES INCORPORATED BY FULL TEXT

52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 15 days prior to contract expiration.

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://farsite.hill.af.mil/vffara.htm>

NRCI010 NRC ACQUISITION REGULATION (NRCAR) PROVISIONS AND CLAUSES (AUG 2011)

Applicable NRCAR provisions and clauses located in 48 CFR Chapter 20 are hereby incorporated by reference into this contract/order.

SECTION J - List of Documents, Exhibits and Other Attachments

Attachment No.

Description

1.

Billing Instructions for Firm-Fixed-Price Type Contracts