

2 CONTRACT NO (Proc Inst Ident) **NRC-04-03-061** | 3 EFFECTIVE DATE **FEB 24 2003** | 4 REQUISITION/PURCHASE REQUEST/PROJECT NO

5 ISSUED BY **U.S. Nuclear Regulatory Commission
Div of Contracts and Property Mgmt
Two White Flint North - MS T-7-I-2
Contract Management Center 2
Washington, DC 20555** | CODE | 6 ADMINISTERED BY (If other than Item 5) **U.S. Nuclear Regulatory Commission
Div of Contracts and Property Mgmt
Two White Flint North - MS T-7-I-2
Contract Management Center 2
Washington, DC 20555** | CODE

7 NAME AND ADDRESS OF CONTRACTOR (No. street city county State and ZIP Code)
**Advanced Environmental Solutions
899 Sycamore Drive
ATTN Van Price
Aiken SC 29803**

8 DELIVERY FOB ORIGIN OTHER (See below)

9 DISCOUNT FOR PROMPT PAYMENT
Net 30

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

11 SHIP TO/MARK FOR **U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
ATTN Tnomas Nicolson
Mail Stop T-9-F-31
Washington DC 20555** | CODE | FACILITY CODE | 12 PAYMENT WILL BE MADE BY **U.S. Nuclear Regulatory Commission
Payment Team, Mail Stop T-9-H-4
Attn: NRC-04-03-000
Washington DC 20555** | CODE

13 AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION 10 USC 2304(c)() 41 USC 253(c)() | 14 ACCOUNTING AND APPROPRIATION DATA
**APPN No. 31X0200.360 B&R No.: 36015304223 Job Code: Y6020
BOC: 252A RES ID#: RES-C02-425 Obligated Amt.: \$100,000**

15A ITEM NO	15B SUPPLIES/SERVICES	15C QUANTITY	15D UNIT	15E UNIT PRICE	15F AMOUNT
	The NRC hereby accepts Advanced Environmental Solutions' technical proposal's dated 9/2002 and 11/13/2002, which are hereby incorporated by reference, and made part of this cost-plus-fixed-fee contract.				

15G TOTAL AMOUNT OF CONTRACT

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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

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

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

19A NAME AND TITLE OF SIGNER (Type or print) **VAN PRICE Co-owner
Advanced Environmental Solutions, LLC** | 20A NAME OF CONTRACTING OFFICER **Stephen Pool
Contracting Officer**

19B NAME OF CONTRACTOR **Advanced Environmental Solutions, LLC** | 19C DATE SIGNED **2/24/03** | 20B UNITED STATES OF AMERICA | 20C DATE SIGNED **2/20/03**

BY **Van Price** (Signature of person authorized to sign) | BY **Stephen Pool** (Signature of Contracting Officer)

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PART I - THE SCHEDULE**SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS****B.1 PROJECT TITLE**

The title of this project is as follows:

Integrated Ground-Water Monitoring Strategy

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987)

The purpose of this contract is to develop an integrated and systematic strategy for monitoring ground-water flow and transport through the unsaturated zone to the underlying water-table aquifer that will confirm nuclear waste and decommissioning site performance.

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

(a) The total estimated cost to the Government for full performance of this contract is \$1,561,255, of which the sum of \$1,462,502 represents the estimated reimbursable costs, and of which \$98,753 represents the fixed fee.

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

(c) The amount currently obligated by the Government with respect to this contract is \$100,000, of which the sum of \$93,300 represents the estimated reimbursable costs, and of which \$6,700 represents the fixed fee.

(d) It is estimated that the amount currently allotted will cover performance through May 15, 2003..

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SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

[SEE ATTACHMENT NO. 1 - SECTION J FOR STATEMENT OF WORK]

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

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

SECTION E - INSPECTION AND ACCEPTANCE**E.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

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

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.246-9	INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR 1984

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

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

SECTION F - DELIVERIES OR PERFORMANCE**F.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

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

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.242-15	STOP-WORK ORDER ALTERNATE I (APR 1984)	AUG 1989
52.247-34	F.O.B. DESTINATION	NOV 1991
52.247-48	F.O.B. DESTINATION--EVIDENCE OF SHIPMENT	FEB 1999

F.2 2052.211-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)

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

F.3 2052.211-71 TECHNICAL PROGRESS REPORT (JAN 1993)

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

- (a) A listing of the efforts completed during the period, and milestones reached or, if missed, an explanation provided;
- (b) Any problems or delays encountered or anticipated and recommendations for resolution. If the recommended resolution involves a contract modification, e.g., change in work requirements, level of effort (cost) or schedule delay, the contractor shall submit a separate letter to the contracting officer identifying the required change and estimated cost impact.
- (c) A summary of progress to date; and
- (d) Plans for the next reporting period.

F.4 2052.211-72 FINANCIAL STATUS REPORT (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 property 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 must identify the title of the project, the contract number, the appropriate financial tracking code (e.g., Job Code Number or JCN) specified by the NRC Project Officer, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report must include the following for each discrete task:

- (a) 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) Contractor Spending Plan (CSP) status: A revised CSP is required with the Financial Status Report whenever the contractor or the contracting officer has reason to believe that the total cost for performance of this contract will be either greater or substantially less than what had been previously estimated.
 - (1) Projected percentage of completion cumulative through the report period for the project/task order as reflected in the current CSP.
 - (2) Indicate significant changes in the original CSP projection in either dollars or percentage of completion. Identify the change, the reasons for the change, whether there is any projected overrun, and when additional funds would be required. If there have been no changes to the original NRC-approved CSP projections, a written statement to that effect is sufficient in lieu of submitting a detailed response to item "h".
- (i) 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)(2) 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.

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

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

(a) Project Officer (2 copies)

Thomas Nicholson
Mail Stop T-9F31
Office of Nuclear Regulatory Research
DSARE/RPERWMB
Washington, DC. 20555

(b) Contracting Officer (1 copy)

F.6 DURATION OF CONTRACT PERIOD (MAR 1987)

This contract shall commence on the effective date and will expire 39 months thereafter.

F.7 DELIVERABLES/REPORTING REQUIREMENTS

The following reports are required during the period of performance of this contract:

1. Task 1 - 90 days from contract award, the contractor shall provide a letter report which summarizes ground-water monitoring strategies currently being using to confirm the performance of nuclear and hazardous waste facilities related to containment releases.

2. Task 2 - 1 year from contract award, the contractor shall provide an interim technical report outlining the initial integrated strategy for evaluation by the NRC. Within 30 days from receipt of the report the NRC Project Officer will meet with the contractor to discuss any comments and complete the integrated strategy. Within 1.5 years from contract award, the contract shall submit a revised integrated strategy for NRC review.

Upon completion of Task 5, the contractor shall provide a final report on the fully developed, tested, and revised integrated ground-water monitoring strategy.

3. Task 3 - Within 30 days from commencement of Task 3, the contractor shall develop and submit a preliminary outline of the test plan. Within 30 days from receipt of the outline, the NRC Project Officer will provide comments/approval to proceed with the development of the detailed test plan.

Within two years of contract initiation, the contractor shall submit a draft test plan to the NRC Project Officer. Within 30 days from receipt of the plan, the NRC Project Officer contract will meet with the contractor to discuss any comments. Withing 30 days from the meeting, the contractor shall submit a final test plan.

4. Task 4 - Within 1 year from commencement of the testing, the contractor shall provide a draft data report. The final testing report shall be incorporated in the final strategy report as a camera-ready manuscript for publications as a NRC NUREG/CR report (See Task 6).

5. Task 5 - 60 days prior to contract expiration, the contractor shall submit a final technical report to the NRC Project Officer.

6. Task 6 - 3 months prior to the completion of the study, the contractor shall conduct a technology transfer seminar to NRC staff and demonstrate the application of their strategy.

The contractor shall submit a final technical report which documents the result of Task 4.

All reports required under this contract shall be provided in WordPerfect 8.0 format. The content of each report is broadly described in each task description with the details on the technical level and completeness to be jointly agreed upon by the NRC Project Officer and the Principal Investigator. The reports shall be self-contained, and shall be suitable

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- for publication as a NUREG/CR report. The reports shall include an Executive Summary that summarizes the research results with regard to the project objectives as defined in this Statement of Work.

Presentations of accomplished research results at professional meetings and publication of this technical work in peer-reviewed professional journals are expected. A copy of all written and oral presentations including technical papers and abstracts to be submitted for publication in technical journals, related to or funded by this project, shall be transmitted to the NRC Project Officer prior to presentation or submittal for publication. The contractor shall abide by the following reporting requirements described in NRCAR 2052.235-70 Publication of Research Results (Section G).

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 2052.215-71 PROJECT OFFICER AUTHORITY

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

Name: Thomas Nicholson
Address: U.S. Nuclear Regulatory Commission
RES/DSARE/RPERWMB
Mail Stop T 9F31
Washington, DC 20555
Telephone Number: 301-415-6268

(b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. The term "technical direction" is defined to include the following:

(1) Technical direction to the contractor which shifts work emphasis between areas of work or tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work or changes to specific travel identified in the Statement of Work), fills in details, or otherwise serves to accomplish the contractual statement of work.

(2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

(3) Review and, where required by the contract, approval of technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.

(c) Technical direction must be within the general statement of work stated in the contract. The project officer does not have the authority to and may not issue any technical direction which:

(1) Constitutes an assignment of work outside the general scope of the contract.

(2) Constitutes a change as defined in the "Changes" clause of this contract.

(3) In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.

(4) Changes any of the expressed terms, conditions, or specifications of the contract.

(5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.

(d) All technical directions must be issued in writing by the project officer or must be confirmed by the project officer in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the contracting officer. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the contracting officer.

(e) The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause

(f) If, in the opinion of the contractor, any instruction or direction issued by the project officer is within one of the

categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

(g) Any unauthorized commitment or direction issued by the project officer may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.

(h) A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto is subject to 52.233-1 - Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the project officer shall.

(1) Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the contracting officer changes in requirements.

(2) Assist the contractor in the resolution of technical problems encountered during performance.

(3) Review all costs requested for reimbursement by the contractor and submit to the contracting officer recommendations for approval, disapproval, or suspension of payment for supplies and services required under this contract.

(4) Assist the contractor in obtaining the badges for the contractor personnel.

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

**G.2 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT
-ALTERNATE 1 (OCT 1999)**

(a) Total expenditure for travel may not exceed \$35,300 without the prior approval of the contracting officer.

(b) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days prior to the commencement of travel.

(c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and which are allowable subject to the limitations prescribed in FAR 31.205-46. (d) It is the responsibility of the contractor to notify the contracting officer in accordance with the FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.

(e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

G.3 2052.216-71 INDIRECT COST RATES-ALTERNATE 2 (OCT 1999)

(a) For this contract, the ceiling amount reimbursable for indirect costs is as follows:

INDIRECT COST POOL	RATE	BASE	PERIOD
[REDACTED]	Labor	1 year from contract effective date	

(b) In the event that indirect rates developed by the cognizant audit activity on the basis of actual allowable costs result in a lower amount for indirect costs, the lower amount will be paid. The Government may not be obligated to pay any additional amounts for indirect costs above the ceiling rates set forth above for the applicable period.

*The contractor agrees to cap the indirect rate at 12% for one year pending an audit from DCAA.

G.4 ELECTRONIC PAYMENT

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. The electronic system is known as Vendor Express. Payment shall be made in accordance with FAR 52.232-33, entitled "Mandatory Information for Electronic Funds Transfer Payment".

To receive payment, the contractor shall complete the "Company Information" portion of the Standard Form 3881, entitled "ACH Vendor/Miscellaneous Payment Enrollment Form" found as an attachment to this document. The contractor shall take the form to the ACH Coordinator at the financial institution that maintains its company's bank account. The contractor shall discuss with the ACH Coordinator how the payment identification information (addendum record) will be passed to them once the payment is received by the financial institution. Further information concerning the addendum is provided at Attachment . The ACN Coordinator should fill out the "Financial Institution Information" portion of the form and return it to the Office of the Controller at the following address: Nuclear Regulatory Commission, Division of Accounting and Finance, Financial Operations Section, Mail Stop T-9-H-4, Washington, DC 20555, ATTN: ACH/Vendor Express. It is the responsibility of the contractor to ensure that the financial institution returns the completed form to the above cited NRC address. If the contractor can provide the financial information, signature of the financial institutions ACH Coordinator is not required. The NRC is under no obligation to send reminders. Only after the Office of the Controller has processed the contractor's sign-up form will the contractor be eligible to receive payments.

Once electronic funds transfer is established for payments authorized by NRC, the contractor needs to submit an additional SF 3881 only to report changes to the information supplied.

Questions concerning ACH/Vendor Express should be directed to the Financial Operations staff at (301) 415-7520."

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 2052.209-72 CONTRACTOR ORGANIZATIONAL CONFLICTS OF INTEREST (JAN 1993)

(a) Purpose. The primary purpose of this clause is to aid in ensuring that the contractor:

(1) Is not placed in a conflicting role because of current or planned interests (financial, contractual, organizational, or otherwise) which relate to the work under this contract; and

(2) Does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(b) Scope. The restrictions described apply to performance or participation by the contractor, as defined in 48 CFR 2009.570-2 in the activities covered by this clause.

(c) Work for others.

(1) Notwithstanding any other provision of this contract, during the term of this contract, the contractor agrees to forego entering into consulting or other contractual arrangements with any firm or organization the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The contractor shall ensure that all employees under this contract abide by the provision of this clause. If the contractor has reason to believe, with respect to itself or any employee, that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the contractor shall obtain the written approval of the contracting officer before the execution of such contractual arrangement.

(2) The contractor may not represent, assist, or otherwise support an NRC licensee or applicant undergoing an NRC audit, inspection, or review where the activities that are the subject of the audit, inspection, or review are the same as or substantially similar to the services within the scope of this contract (or task order as appropriate) except where the NRC licensee or applicant requires the contractor's support to explain or defend the contractor's prior work for the utility or other entity which NRC questions.

(3) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site, the contractor shall neither solicit nor perform work in the same or similar technical area for that licensee or applicant organization for a period commencing with the award of the task order or beginning of work on the site (if not a task order contract) and ending one year after completion of all work under the associated task order, or last time at the site (if not a task order contract).

(4) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site,

(i) The contractor may not solicit work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate.

(ii) The contractor may not perform work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate, and for one year thereafter.

(iii) Notwithstanding the foregoing, the contracting officer may authorize the contractor to solicit or perform this type of work (except work in the same or similar technical area) if the contracting officer determines that the situation will not pose a potential for technical bias or unfair competitive advantage.

(d) Disclosure after award.

(1) The contractor warrants that to the best of its knowledge and belief, and except as otherwise set forth in this contract, that it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.

(2) The contractor agrees that if, after award, it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the contracting officer. This statement must include

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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.

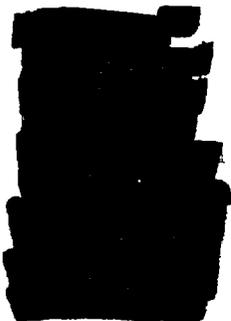
(i) Follow-on effort. The contractor shall be ineligible to participate in NRC contracts, subcontracts, or proposals therefor (solicited or unsolicited), which stem directly from the contractor's performance of work under this contract. Furthermore, unless so directed in writing by the contracting officer, 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

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

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



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

(b) If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the contractor shall immediately notify the contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

(c) Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer and the project officer shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision in writing.

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

H.3 2052.235-70 PUBLICATION OF RESEARCH RESULTS (OCT 1999)

(a) The principal investigator(s)/contractor shall comply with the provisions of NRC Management Directive 3.8 (Vol. 3, Part 1) and NRC Handbook 3.8 (Parts I-IV) regarding publication in refereed scientific and engineering journals or dissemination to the public of any information, oral or written, concerning the work performed under this contract.

Failure to comply with this clause shall be grounds for termination of this contract.

(b) The principal investigator(s)/contractor may publish the results of this work in refereed scientific and engineering journals or in open literature and present papers at public or association meetings at interim stages of work, in addition to submitting to NRC the final reports and other deliverables required under this contract. However, such publication and papers shall focus on advances in science and technology and minimize conclusions and/or recommendations which may have regulatory implications

(c) The principal investigator(s) shall coordinate all such publications with, and transmit a copy of the proposed article or paper to, the NRC Contracting Officer or Project Officer, prior to publication. The NRC agrees to review and provide comments within thirty (30) days after receipt of a proposed publication. However, in those cases where the information to be published is (1) subject to Commission approval, (2) has not been ruled upon, or (3) disapproved by the Commission, the NRC reserves the right to disapprove or delay the publication. Further, if the NRC disagrees with the proposed publication for any reason, it reserves the right to require that any publication not identify the NRC's sponsorship of the work and that any associated publication costs shall be borne by the contractor.

**H.4 2052.235-71 SAFETY, HEALTH, AND FIRE PROTECTION
(JAN 1993)**

The contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of its employees and of members of the public, including NRC employees and contractor personnel, and to minimize danger from all hazards to life and property. The contractor shall comply with all applicable health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission and the Department of Labor. If the contractor fails to comply with these regulations or requirements, the contracting office may, without prejudice to any other legal or contractual rights of the Commission, issue an order stopping all or any part of the work. Thereafter, a start work order for resumption of work may be issued at the discretion of the contracting officer. The contractor may not make a claim for an extension of time or for compensation or damages by reason of, or in connection with, this type of work stoppage.

H.5 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.

H.6 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS

Annual and final evaluations of contractor performance under this contract will be prepared in accordance with FAR 42.15, "Contractor Performance Information," normally at 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 (state time for annual evaluation). 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 Project Officer's 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. The contractor may concur without comment, submit additional information, or request a meeting to discuss the performance evaluation. The Contracting Officer may request the contractor's Project Manager to attend a meeting to discuss the performance evaluation.

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 "For Official Use Only," 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(a) and 42.1503(c). 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.

H.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 I-151 or must present other evidence from the Immigration and Naturalization Services that employment will not affect his/her immigration status. The INS Office of Business Liaison (OBL) provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on the INS website, <http://www.ins.usdoj.gov/graphics/services/employerinfo/index.htm#obl>.

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

(End of Clause)

04-03-061

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52 252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.202-1	DEFINITIONS	DEC 2001
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	APR 1984
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	JUL 1995
52.203-7	ANTI-KICKBACK PROCEDURES	JUL 1995
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	JUN 1997
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER	AUG 2000
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	JUL 1995
52.215-2	AUDIT AND RECORDS--NEGOTIATION	JUN 1999
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT 1997
52.215-10	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA	OCT 1997
52.215-12	SUBCONTRACTOR COST OR PRICING DATA	OCT 1997
52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS (DEC 1998)	DEC 1998
52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (PRB)	OCT 1997
52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT 1997
52.216-7	ALLOWABLE COST AND PAYMENT	FEB 2002
52.216-8	FIXED-FEE	MAR 1997
52.219-4	NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)	JAN 1999
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	OCT 2000
52.222-3	CONVICT LABOR	AUG 1996
52.222-19	CHILD LABOR - COOPERATION WITH AUTHORITIES AND REMEDIES	SEP 2002
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB 1999

52.222-26	EQUAL OPPORTUNITY	APR 2002
52 222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	DEC 2001
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN 1998
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	DEC 2001
52.222-38	COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS	DEC 2001
52.223-6	DRUG-FREE WORKPLACE	MAY 2001
52 225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUL 2000
52 227-1	AUTHORIZATION AND CONSENT ALTERNATE I (APR 1984)	JUL 1995
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	AUG 1996
52.227-14	RIGHTS IN DATA--GENERAL	JUN 1987
52.227-16	ADDITIONAL DATA REQUIREMENTS	JUN 1987
52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR 1996
52.230-2	COST ACCOUNTING STANDARDS	APR 1998
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS	NOV 1999
52.232-17	INTEREST	JUN 1996
52.232-22	LIMITATION OF FUNDS	APR 1984
52.232-23	ASSIGNMENT OF CLAIMS	JAN 1986
52.232-34	PAYMENT BY ELECTRONIC FUNDS TRANSFER-- OTHER THAN CENTRAL CONTRACTOR REGISTRATION	MAY 1999
52.233-1	DISPUTES	7/02
52.233-3	PROTEST AFTER AWARD ALTERNATE I (JUN 1985)	AUG 1996
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984
52.242-3	PENALTIES FOR UNALLOWABLE COSTS	MAY 2001
52.242-13	BANKRUPTCY	JUL 1995
52.243-2	CHANGES--COST REIMBURSEMENT ALTERNATE V (APR 1984)	AUG 1987
52.244-2	SUBCONTRACTS ALTERNATE II (AUG 1998)	AUG 1998
52.244-5	COMPETITION IN SUBCONTRACTING	DEC 1996
52.246-23	LIMITATION OF LIABILITY	FEB 1997
52.246-25	LIMITATION OF LIABILITY--SERVICES	FEB 1997
52.248-1	VALUE ENGINEERING	FEB 2000
52.249-6	TERMINATION (COST-REIMBURSEMENT)	SEP 1996
52.249-14	EXCUSABLE DELAYS	APR 1984
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

I.2 52.204-1 APPROVAL OF CONTRACT (DEC 1989)

This contract is subject to the written approval of , and shall not be binding until so approved.

I.3 52.232-25 PROMPT PAYMENT (FEB 2002)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer (EFT). Definitions of pertinent terms are set forth in sections 2.101, 32.001, and

- 32 902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--

(1) Due date.

(i) Except as indicated in paragraphs (a)(2) and (c) of this clause, the due date for making invoice payments by the designated payment office is the later of the following two events:

(A) The 30th day after the designated billing office receives a proper invoice from the Contractor (except as provided in paragraph (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed. For a final invoice, when the payment amount is subject to contract settlement actions, acceptance is deemed to occur on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments.

(i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(3)(i) through (a)(3)(x) of this clause. If the invoice does not comply with these requirements, the designated billing office will return it within 7 days after receipt (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils), with the reasons why it is not a proper invoice. The Government will take into account untimely notification when computing any interest penalty owed the Contractor.

(i) Name and address of the Contractor.

- (ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of the mailing or transmission.)
- (iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).
- (iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.
- (v) Shipping and payment terms (e.g., shipment number and date of shipment, discount for prompt payment terms) Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.
- (vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).
- (vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.
- (viii) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(ix) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232- 38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(x) Any other information or documentation required by the contract (e.g., evidence of shipment).

(4) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance is deemed to occur constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivers the supplies or performs the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. If actual acceptance occurs within the constructive acceptance period, the Government will base the determination of an interest penalty on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other

issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(6) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(7) Additional interest penalty.

(i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of \$1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest is due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt, provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(iii) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payment. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

(d) Overpayments. If the Contractor becomes aware of a duplicate payment or that the Government has otherwise overpaid on an invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

I.4 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.arnet.gov

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS
SECTION J - LIST OF ATTACHMENTS

ATTACHMENT NUMBER	TITLE	DATE	NO. PAGES
J.1	STATEMENT OF WORK/SPECIFICATION		
J.2	Billing Instructions - Cost Reimbursement Type Contract		
J.3	NRC Handbook 3.8		
J.4	Contractor Spending Plan (CSP) Instructions		
J.5	Payment Information Form SF3381 ACH Payment Systems		

**STATEMENT OF WORK
RES-02-051**

TITLE: INTEGRATED GROUND-WATER MONITORING STRATEGY

1.0 Background

Monitoring of certain nuclear facility sites (e.g., low-level and high-level radioactive waste and decommissioning sites) may be needed to confirm facility performance. A critically important aspect to developing and implementing monitoring programs is the understanding of site specific ground-water (i.e., ground water in this SOW refers to all subsurface water in both the unsaturated and saturated zones) movement and contaminant transport features, events and processes. Important considerations in designing a monitoring program are the range of scales and site complexities for both the unsaturated and saturated zone pathways, and the related performance assessment (NRC, 2000) models that need to be confirmed.

Previous NRC research focused on monitoring strategies for assessing infiltration, and ground-water movement and transport in the unsaturated zone. This earlier research (Young and others, 1998a and b) identified the need for an integrated monitoring strategy for both the unsaturated and saturated zones. Ongoing cooperative field studies with the Agricultural Research Service (ARS) on evaluating uncertainties in infiltration and ground-water recharge estimates indicate the value of real-time, near-continuous monitoring for capturing episodic events and dynamic transient processes (Timlin and others, 2000; and Timlin and others, 2001).

Earlier research programs by other Federal agencies [e.g , U.S. Geological Survey (USGS) and EPA] have developed guidance on ground-water monitoring instrumentation and sampling techniques. For example, USGS Water-Resources Investigations Report 96-4233 provides "Guidelines and Standard Procedures for Studies of Ground-Water Quality: Selection and Installation of Wells, and Supporting Documentation" (Lapham and others, 1997). EPA reports EPA/625/R-93/003a and 003b provide guidance on "Subsurface Characterization and Monitoring Techniques: A Desk Reference Guide, Volumes I and II" (EPA, 1993). DOE's Environmental Management Program has developed a listing and description of: intrusive sampling equipment, cone penetrometer tools, direct sampling source boreholes, downhole geophysical and other methods, surface geophysical methods, and field and laboratory analysis methods (see "Post Closure Monitoring of Physical Properties in Ground Water" from DOE's Preferred Alternatives Matrices report).¹ Monitoring is an important component in DOE's Accelerated Site Technology Deployment Projects for the decontamination and decommissioning of nuclear facilities.² DOE's National Vadose Zone Program administered by

¹ Please see the DOE-EM website: <http://www.em.doe.gov/define/cpamtbl/df3-16z.html> for details

² Please see the DOE-EM website: <http://www.netl.doe.gov/dd> for details.

Idaho National Engineering and Environmental Laboratory³, and DOE's National Subsurface Contaminants Focus Area have issued information on vadose zone characterization and performance monitoring (see Looney and Falta, 2000).

Recently, the National Academy of Sciences (NAS) issued reports [i.e., *Research Needs in Subsurface Science* (NAS, 2000a), *Long-Term Institutional Management of U.S. Department of Energy Legacy Waste Sites* (NAS, 2000b) and *Natural Attenuation for Ground-Water Remediation* (NAS, 2000c)] identifying:

- the need to develop "methods for designing monitoring systems to detect both the current conditions and changes in system behaviors" (see page 112 of NAS, 2000a);
- the need for "research to support the development of methods to monitor fluid and gaseous fluxes through the unsaturated zone." (see page 112 of NAS, 2000a);
- the need for performance monitoring of engineered barriers and stabilized wastes which "involves the continuous or periodic measurement of the effectiveness of the contaminant isolation system once it has been employed"(see page 39 of NAS, 2000b); and
- the important "...final step in documenting natural attenuation (for ground-water remediation) is to establish a long-term monitoring plan" (see pages 203-204 of NAS, 2000c).

One NAS report (NAS, 2000c) states that protocols for long-term monitoring are lacking and that guidelines should be developed.

2.0 Objectives

Develop an integrated and systematic strategy for monitoring ground-water flow and transport through the unsaturated zone to the underlying water-table aquifer that will confirm nuclear waste and decommissioning site performance.

- The strategy will be integrated to mean that it shall couple performance confirmation monitoring to site characterization and performance assessment, and systematic to mean that it shall consist of an ordered and logical sequence of procedures.
- The research shall develop the technical bases as citable references, identified guidance and analytical tools, and test case applications of the developed integrated ground-water monitoring strategy for confirming performance of nuclear waste and decommissioning sites.
- This strategy shall focus on identifying and monitoring critical performance indicators (e.g., water contents over time in the unsaturated zone, and ground-water potentials in the saturated zone) of the hydrologic system.
- The strategy shall demonstrate the connection between performance indicators and site performance.

³ Please see the DOE-INEEL website: <http://www.inel.gov/vadosezone> for details

3.0 Scope of Work

The research shall be conducted in a phased approach according to the following six tasks:

3.1 **Task 1: Review Ground-Water Monitoring Strategies**

Within 90 days of contract initiation, the contractor shall provide a letter report which summarizes ground-water monitoring strategies currently being used to confirm the performance of nuclear and hazardous waste facilities related to contaminant releases. The contractor shall examine literature and internet sources for ground-water monitoring strategies and their applications. This evaluation shall focus on how the monitoring strategies were applied, and how the resulting programs confirmed facility performance. These identified monitoring programs shall also be examined for their approaches to data collection and database management strategies (e.g., Massman and Freeze, 1987; and Loaiciga, 1989). Monitoring strategy and program examples may include, but should not be limited to, site characterization and data analyses, monitoring design and implementation, and performance confirmation monitoring for either or both the unsaturated and saturated zone systems (e.g., Young and others, 2000a; Young and others, 2000b; Everett and others, 1984; and Looney and Falta, 2000).

In this evaluation, the contractor shall include NRC-funded studies on characterization and monitoring strategies (e.g., Wierenga and others, 1993; Young and others, 2000a; Young and others, 2000b), and DOE-funded studies on performance confirmation monitoring strategies (e.g., Looney and Falta, 2000) in its evaluation. The contractor shall also review other strategies and monitoring programs focusing on practical field lessons learned from EPA, U.S. Army Corps of Engineers (COE), ARS, USGS and industry [e.g., National Ground Water Association (NGWA)] studies and guidance. The evaluation shall also include monitoring guidance and protocols derived from American Society of Testing and Materials (ASTM) and Soil Science Society of America (SSSA) procedures, USGS guidelines (e.g., Lapham, 1997; and Koterba and others, 1995) and NRC-funded research studies (e.g., NUREG/CR-5988 on soil characterization methods; and NUREG/CR-5694 and 5698 on unsaturated zone monitoring). This evaluation shall address how monitoring programs have provided databases for confirming hydrologic system performance and performance assessment (PA) model assumptions.

In the letter report, the contractor shall present or provide recommendations for development of an integrated ground-water monitoring strategy. Topics to be considered should include: (1) identification of performance indicators (e.g., contaminant concentrations, water contents in the unsaturated zone and ground-water potentials in the saturated zone) of the hydrologic system being monitored; (2) design and implementation of unsaturated-saturated zone monitoring programs; (3) confirmation of PA modeling assumptions related to hydrologic features, events and processes identified in site characterization and critical to radionuclide transport within a Probabilistic Risk Assessment (PRA) context; (4) spatial resolution and time frequency of monitored data collection; (5) effectiveness and robustness of the strategy; and (6) sources of uncertainties.

3.2 Task 2: Develop Integrated Monitoring Strategy

The contractor shall develop an integrated and systematic strategy for monitoring ground-water flow and transport that will be used to confirm nuclear waste and decommissioning site performance. The strategy shall address the following monitoring system issues: (1) identification and monitoring of performance indicators (e.g., contaminant concentrations, water contents over time in the unsaturated zone and ground-water potentials in the saturated zone) of the hydrologic system; (2) design and implementation of unsaturated-saturated zone monitoring programs; (3) confirmation of PA modeling assumptions related to hydrologic features, events and processes identified in site characterization and critical to radionuclide transport within a PRA context; (4) spatial resolution and time frequency of monitored data collection; (5) effectiveness and robustness of the strategy; and (6) sources of uncertainties. This strategy shall provide a unifying and integrating framework for systematic ground-water flow and transport analyses. The strategy shall connect the monitoring strategy to site characterization measurements, and confirmation of hydrologic system performance. In particular, the contractor shall identify the important PA model assumptions relating to hydrologic features, events and processes that are to be confirmed through monitoring. The strategy shall also relate the site characterization data and assumptions, where the hydrogeologic features are identified and quantified, to the monitoring objectives to confirm the hydrologic system behavior and facility performance.

The strategy shall be generic so that it can address the monitoring needs of all nuclear facilities (e.g., HLW, LLW, and decommissioning sites). The strategy needs to provide practical information linking monitoring to site characterization and confirmation of PA model assumptions. The monitoring strategy shall consider hydrologic system geometry and behavioral representation, and sources of uncertainties, taking into account the range of site complexities, property variabilities, site conditions, and natural processes which may occur at nuclear facilities and decommissioning sites. The strategy shall be robust (i.e., capable of handling a broad range of relevant ground-water flow and transport conditions and complexities) and flexible to confirm a wide range of PA modeling assumptions.

At the end of the first year of the project, the contractor shall provide an interim technical report outlining the initial integrated strategy for evaluation by the NRC Project Officer and other NRC staff. [If approved, this initial strategy will evolve into the revised monitoring strategy which shall later be the focus of an application and evaluation task (see Tasks 3 and 4)]. In this interim report, the contractor shall also outline the development of the strategy's technical bases (e.g., citable references, identified guidance and analytical tools, and test case applications of the developed integrated ground-water monitoring strategy). Following a 30-day NRC staff review period, the contractor shall meet with the NRC Project Manager and staff to resolve comments and received direction for completing the integrated strategy. At the 1.5 year milestone, the contractor shall complete the strategy development and submit a revised integrated strategy for review by the NRC Project Manager.

(The final report on the fully developed, tested, and revised integrated ground-water monitoring strategy is due upon completion of Task 5.)

The Government is acquiring unlimited rights to both data and software, not precluding any language in the FAR. The Government intends to release the data/software to the public at no cost.

3.3 Task 3 Develop Test Plan

Within 30 days from the initiation of Task 3, the contractor shall develop and submit a preliminary outline of the test plan. The outline shall include testing of the strategy over a range of hydrogeologic features (e.g., macropores and preferential flow paths), events (e.g., infiltration and ground-water recharge), processes (e.g., dispersion and diffusion), field scales (e.g., cm to 10's meters), and time considerations (e.g., short-term and long-term transients). Specifically the testing plan shall be designed to:

- (1) examine the effectiveness of monitoring systems and their relevant performance indicators to confirm the PA model assumptions, as well as facility performance;
- (2) assess the capabilities, limitations, and usefulness of the strategy to a wide range of sites (e.g., arid, semi-arid, and humid) for monitoring water movement and contaminant transport in the unsaturated zone and shallow water table system;
- (3) evaluate the logic and order of the specified steps of the strategy;
- (4) evaluate guidance identified in the strategy steps related to the design, installation, use, and decommissioning of ground-water monitoring systems;
- (5) evaluate specific monitoring guidance (e.g., USGS and EPA) and protocols (e.g., ASTM) identified in the strategy;
- (6) evaluate the integrated monitoring strategy by comparison of the monitored performance indicators to the PA model assumptions, and numerical simulation results representative of facility performance; and
- (7) identify and characterize the datasets needed for testing.

Within 30 days from receipt of the test plan outline the NRC Project Officer will provide approval or disapproval. The contractor shall then develop the detailed test plan. This detailed plan shall identify existing field databases useful to testing the strategy. These field database descriptions shall include information such as the field characterization, geophysical surveys, instruments and data recorders used. Information to be used in developing the test plan shall be based upon available information in the technical literature or through existing site study documentation prior to initiation of field studies. For example, the test plan shall use, where available, field data on water application and tracer experiments which simulate a range of field events and processes envisioned at nuclear facilities. For the database(s) identified, the test plan shall address the specific PA modeling assumptions and hydrologic system behavior to be analyzed. In the test plan, the contractor shall identify quality assurance (QA)/quality control (QC) aspects related to instrument reliability, system failures, and sources of uncertainty.

If sufficient field databases cannot be identified, the contractor may need to identify a field site and related database for supplemental monitoring to obtain the necessary database to test the strategy. Preferably, the field site shall be part of an ongoing monitoring study such as an NRC, DOE, EPA or industry-funded facility or an ARS field station in which there is: (1) a significant historical database on the meteorology and water use at the site; and (2) a significant amount of data on the physical and chemical properties of the material comprising the unsaturated and

saturated zones at the site. The recommended site shall not be one actively being considered for radioactive or toxic waste disposal. The contractor shall consult with the NRC Project Officer in the identification of the site and development of the experimental testing plan. The plan shall include provisions for very limited field investigations and monitoring to obtain the necessary information to assure the feasibility of the test plan, and allow for any subsequent modification before executing the plan. The contractor shall specify in detail the need and rationale for installing additional field instruments, and where necessary, develop and implement new monitoring systems to collect useful field datasets to test the strategy. These monitoring instruments, data loggers and data analysis software shall be commercially available to the technical community with no new instrumentation development programs authorized. This task does not authorize the development of an entirely new field site, nor significant modification of an existing site.

The test plan shall discuss data analyses and computer simulations for comparing PA model assumptions and modeling results to monitored performance indicators. The PA models to be used shall be jointly chosen by the NRC Project Officer and contractor, preferably those developed and used by the Federal modeling community (e.g., Ground-Water Modeling System models) with no new model or processor development authorized. The test plan shall identify how the monitoring data used in the testing and the comparison results shall be presented (e.g., use of visualized computer graphics programs) to the NRC management and staff in the technical reports and at the technology transfer workshop and seminar (see Task 6). Ultimately, the testing should demonstrate the ability of the strategy to confirm PA model assumptions, and facility performance using the identified performance indicators derived from specified NRC performance measure(s) and the hydrogeologic system.

At the conclusion of the second year of study, the contractor shall submit a draft test plan to the NRC Project Officer. This draft plan shall document the details of the plan including the databases selected. The plan shall also discuss the monitoring program methods, instrumentation, and geophysical surveys used to collect the data and related the field experiment design (e.g., continuous point source of water and tracer), and performance assessment model(s). The test plan shall identify if alternative monitoring strategies and performance assessment models were considered in the data collection and analyses. The test plan shall document the range of complexities (e.g., dimensionality, hydrogeologic property heterogeneities, and related features), site conditions (e.g., ambient water content and water table levels), processes and assumptions being addressed that are appropriate to nuclear facilities. If additional field monitoring was approved, the plan shall identify the field experiments that were conducted at the chosen site to simulate the range and complexities of unsaturated and saturated zone water flow and transport site conditions and processes as described in the test plan.

Following a 30-day review, the contractor shall meet with the NRC Project Officer and staff to resolve comments and received direction to prepare and submit a final test plan within 30 days.

3.4 Task 4 Test Strategies by Application to Monitoring Datasets

Upon the approval of the final test plan by the NRC Project Officer, the contractor shall execute the test plan. Specifically the testing shall determine if the monitoring strategy is practical and

useful for performance confirmation of PA model assumptions, hydrologic system behavior, and facility performance.

The contractor shall coordinate the testing and possible field studies with (i.e., provide field data and information to) other Federal agencies (e.g., ARS, EPA and USGS) and NRC contractors as directed by the NRC Project Officer.

As directed by the NRC Project Officer, the contractor shall further revise the integrated strategy developed in Task 2 using lessons learned in these applications and testing activities. One year after beginning the testing, the contractor shall provide a draft data report identifying: (1) the monitoring datasets identified, (and/or collected), and analyzed; (2) computer codes and software (pre- and post-processors) being used to analysis the monitoring data; and (3) significant lessons learned in the testing of the strategy to that time. Th revising of the strategy shall continue through to the completion of the project. The final testing report shall be incorporated into the final strategy report as a camera-ready manuscript for publication as a NUREG/CR report (see Task 6)

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3.5 Task 5 Documentation of Strategy and its Application

Following completion of final test plan and identification of datasets, the contractor shall begin documenting the final integrated ground-water monitoring strategy and its application. The documentation shall include: the details of the integrating monitoring strategy (see Task 2 for monitoring system issues to be addressed); information developed in the draft field data report (see Task 4); and the evaluation of the test results (see Task 4) in accordance with the design of the test plan. The documentation shall indicate how reliable, robust, and practical the monitoring strategy is, and in particular, its identified instruments, sensors, field surveys and methods. The documentation shall also include: the data analysis tools; PA models and their related assumptions; and the results of the comparison of the PA outputs to the monitored performance indicators used to demonstrate confirmation. Issues such as effectiveness in monitoring important transient processes and conditions, sources of uncertainties, and difficulties in identifying the critical performance indicators used to confirm the PA model assumptions, hydrologic system behavior, and facility performance shall also be addressed. This information shall be developed in a format through consultations with the NRC Project Officer to assist in technology transfer.

60-days prior to the end date of the contract, the contractor shall submit a final technical report in electronic form to the NRC Project Officer according to the NUREG/CR report format (see NUREG-0650, Revision 2). This final report shall document the testing, and revisions following the field application studies. In the final report, the contractor also shall recommend, for NRC staff approval, an appropriate integrated ground-water monitoring strategy covering the range of hydrologic system behavior including site features, events and processes, PA modeling assumptions, and facility performance to be confirmed. This information shall be developed in consultation with the NRC Project Officer to assist in technology transfer to NRC licensing staff

for their review of monitoring programs at nuclear facilities and sites. The final technical report shall have external peer-review. The technical peer-reviewers shall be selected in consultation with the Project Officer. The contractor shall provide a letter report identifying the peer-review comments received, their analysis and disposition (particularly those incorporated into the final technical report) prior to submittal of the final technical report.

3.6 TASK 6 Technology Transfer

The contractor shall demonstrate the application of their strategy in a "hands-on" technology transfer seminar to the NRC staff convened at NRC Headquarters three months prior to the completion of the study. The contractor shall prepare and provide a seminar notebook on the strategy, and testing applications at least 30 days prior to the technology transfer seminar. The contractor shall also transfer information on the lessons learned in the application of their strategy and data collected, codes utilized, and updates and enhancements in monitoring instrumentation and system analysis used in testing their strategy. The contractor shall inform the Project Manager of the technology transfer scheduling and details in a letter report three months prior to the completion of this contract.

The contractor shall prepare and deliver a final technical report which reports upon and documents the results of Task 4. The report shall outline recommended monitoring strategies, and recommendation based on lessons learned from the testing of the various monitoring strategies and methods indicating how difficulties may arise in applying these methodologies to nuclear facility sites. Field data sets shall be transferred to the NRC staff on computer diskettes appropriate to software interfaces specified by the Project Officer.

The contractor also shall demonstrate the use of field monitoring methods and instrumentation to the NRC staff using "hands-on" field workshops. Accordingly, in consultation with the NRC Project Manager, the contractor shall organize and conduct a technology transfer seminar at NRC Headquarters in the final year of the contract (at least 60 days prior to the project completion date).

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4.0 QUALITY ASSURANCE

Any work (i.e., data, interpretations, analyses, computations, methods, etc), developed under the contract shall be performed under an adequate quality assurance program. Quality assurance comprises all those planned and systematic actions necessary to provide adequate confidence that the research has been satisfactorily performed. Quality assurance includes sufficient documentation to assure the reproducibility of the results of the research. That is, the methods and techniques used to collect, reduce, and interpret data produced by research are sufficiently accurate, traceable, and articulate so that other researchers could duplicate the work done and independently evaluate the results.

An adequate QA program should address the following areas as appropriate.

- experimental design and rationale--sample selection, number of samples, sampling frequency, controls;
- statistical evaluation of experimental design--assessment of statistical power, of sampling scheme and measurement techniques, including expected accuracy and precision;
- sample preparation--selection of sample type, treatment of samples, sample identification;
- measurement techniques used--description of measurement process, description/identification of equipment used;
- calibration methods--frequency, techniques, standards, traceability;
- data recording--method of recording data, identification of person(s) recording/certifying data;
- data reduction--methods and code(s) (including identification of modifications and updates);
- data analysis--description of techniques used, methods of data verification (e.g., spot checking of measurements, calculations, etc.),
- records management--identification, location, and retention time of data, analyses, associated records, duplicate data and/or records; and
- statistical evaluation--interpretation of data, stating actual accuracy and precision of results achieved.

In addition, if standard test or calibration procedures are employed (e.g., ASTM and SSSA standards) these should be cited in the program. Finally, if appropriate to the size and nature of the contract, the work and results should receive exposure in the scientific community through publication of results in refereed journals, or through peer reviews, or both. See Attachment 1.

5.0 CAPITAL EQUIPMENT

All capital equipment expenditures, including the purchase of computer codes related and charged to this project, require the prior written approval of the NRC Contracting Officer.

6.0 RELATED RES PROJECTS

The contractor shall work with the NRC Project Manager to coordinate the research studies with the following closely-related RES project;

JCN W6933 "Variability and Uncertainty in Transient Flux and Transport Estimates in Support of SDMP Reviews" being conducted at PNNL, and

- JCN W6790 "Testing of Ground-Water Flow and Transport Models" being conducted by the University of Arizona."
- JCN Y6363 "Field Studies to Confirm Ground-Water Recharge Estimates" being conducted by the Agricultural Research Service and NRC/RES staff.
- JCN Y6465 "Hydrologic Conceptual Model, Parameter, and Scenario Uncertainty Assessments" to be conducted by PNNL.

7.0 MEETINGS AND TRAVEL

The contractor shall present the technical progress of the project at NRC headquarters on annual basis, and make additional trips to NRC related contractor meetings and professional technical symposia as requested by the NRC Project Manager. The contractor shall organize and conduct a "hands-on" field workshop at the field site to NRC staff and Agreement States staff (as invited by the NRC) during the last year of the contract. The contractor shall also provide a technology transfer seminar to the NRC Staff and Agreement States staff at the completion of the work at NRC Headquarters. Any additional domestic travel to be charged against project funds requires prior approval by the NRC Project Officer. All foreign travel related to and/or funded by the project must be approved in writing by the NRC Project Officer.

It is anticipated that two annual visits to NRC Headquarters and one annual trip to a technical workshop (usually held in Las Vegas or other Western U.S. city location) will be taken.

8.0 DISPOSAL OF PROPERTIES

At the conclusion of the contract, the contractor shall discuss the decommissioning of the field site and disposition of the field and laboratory equipment and instrumentation. A letter from the contractor shall release NRC of any future liability with regard to the site and certifies that no adverse environmental impacts remains. The contractor shall also discuss and with the approval of the NRC determine the ultimate disposition of equipment and instrumentation purchased and developed during the course of the contract. A letter from the contractor shall itemize and discuss the contractor's plans for transfer, retention and disposal of all equipment, information, software and technical reports.

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