



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Date Issued: September 22, 2011

This request for proposal (RFP) is issued under the authority of the Department of Energy prime contract DE-AC06-09RL14728.

This RFP is issued by:
Mission Support Alliance, LLC
P.O. Box 650
Richland, WA 99352

Contracting Officer:
Robert Joshlin
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Richland, WA 99352
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Proposals are to be prepared in accordance with the instructions and conditions set forth herein. Proposal is to be received by 2PM, October 24, 2011 e-mailed directly to the Contracting Officer identified above.

All questions concerning this RFP must be directed to the Contracting Officer identified above via e-mail.

Hanford procedures prohibits all contact with Hanford Employees where issues of this Request for Proposal are concerned. All correspondence and communication concerning this RFP is limited to the Contracting Officer or those individuals listed in Section "G" Contract Administration, 1.1 Authorized Personnel.

Please review, respond, and sign the RFP document before the solicitation end date above.

Signature of Authorizing Individual _____ Date Accepted _____

Printed Name/Title _____

Company Name _____



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A.0 SOLICITATION

A.1 North American Industry Classification System (NAICS) Code and Size Standard

(A01) Rev 002 3/1/2011

The Buyer has determined that North American Industry Classification System (NAICS) Code 541380 applies to this acquisition. Therefore, the size standard for determining whether an Offeror is a small business in regard to this acquisition is \$12M. If this solicitation is designated as a small business set-aside, the Offeror certifies that they are a small business when submitting a quote or an offer to this solicitation.

A.2 Basis of Qualification

(A06) Rev. 1 03/14/2011

Award of this requirement may be relegated to Subcontractors currently qualified by the Buyer for production of this item. Contractors interested in becoming qualified for future Subcontracts are invited to submit information with their proposal sufficient to demonstrate; Price Competitiveness, Familiarity with the Material, Production Capability and Quality Program.

A.3 Required Price Support Information

(A15) Rev. 1 3/14/2011

The Subcontractor is required to submit information sufficient to determine that the prices or costs being charged are reasonable, fair, and realistic. Such information may include pricing, sales, or cost information that is pertinent to establishing the pricing or costs being charged.

Certified cost or pricing data need not be submitted.

For example:

- 1. For items where pricing is controlled, by law or regulation, by periodic rulings, reviews, or similar actions of a governmental body; identify and submit the controlling document establishing the price offered.
2. For Commercial items - submit, at minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price of this acquisition. Such information may include:



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- a. For catalog items - a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or Re-Subcontractor;
 - Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities;
 - b. For market-priced items - the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market;
 - c. For items included on an active Federal Supply Service Multiple Award Schedule contract - a copy of the appropriate pages for the offered items, Schedule cover page, terms and conditions, unless already on file with the contracting office.
3. Additional supporting information, to the extent necessary to determine whether the price is fair and reasonable.

The Subcontractor grants the Buyer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify the reasonableness of the price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the Subcontractor’s determination of the prices to be offered in the catalog or marketplace.

A.4 Cost or Pricing Data

(A16) Rev. 1 03/14/2011

This is not a request for cost or pricing data, but notification to all Offerors that this information may be required prior to award unless the Subcontract is determined by the Buyer to be exempt from the requirements of PL 87-653 (10 USC Sec. 2306a).

A.4 Financial Capability Determination

(A39) Rev. 0 03/14/2011

The Buyer reserves the right, prior to award, to request any or all Offerors to submit data which will be used to make a determination of financial capability to perform on any resultant Subcontract. Such data may include, however not be limited to, current annual reports, lines of credit with financial institutions and suppliers, and/or any other such data as may be required to make a determination of the Subcontractor’s financial capabilities.



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A.5 Basis of Award

(A86) Rev. 0 1/28/2010

Award shall be made to the Offeror submitting the best proposal in which both cost/price and other specifically defined factors will be the basis of award. Though price is important, MSA reserves the right to award a technically superior proposal at a higher price.

Selection Criteria for RSS Radiobioassay Contract

Proposals will be evaluated to determine the response that provides the best value to the MSA and the government, considering all criteria. The evaluation will consider technical understanding and approach, management approach, qualifications and experience of proposed personnel, past performance, and cost/price.

Technical Proposal must address the following technical evaluation factors. Offerors must submit all relevant plans, procedures, processes, forms, detailed levels of effort, schedules, resumes, past performance, etc. necessary to convince technical evaluators evaluating the proposal that the offeror is technically qualified and can successfully perform the scope.

1. Technical Understanding and Approach

This criterion evaluates the offerors' understanding of the Scope of Work (SOW), and the ability of the offeror to accomplish the work. The evaluation will be based upon:

- a. The offeror's proposed approach to meeting RSS program quality, schedule, and safety requirements, as demonstrated by the technical quality, clarity, and completeness of the proposal; a thorough understanding of the SOW; and of the applicable DOE and Hanford regulatory requirements.
- b. Adequacy of the Quality Assurance Plan and quality control measures to meet DOELAP requirements.

2. Management Approach

This criterion evaluates the offeror's proposed management approach to accomplishing the work. The evaluation will consider:

- a. The offeror's planned organization and resources, including supervisory responsibility, lines of authority, access to corporate resources, and proposed lines of communication between MSA and offeror.
- b. The offeror's corporate resource base, including the ability to respond to short-notice or emergency needs, and to provide additional support, as needed.
- c. The availability of facilities and equipment to perform the required work.

3. Qualifications and Experience

This criterion evaluates the expertise and experience of the companies and personnel proposed to perform the work. The evaluation will consider:

- a. Corporate experience, certifications and accreditations relevant to the SOW
- b. Qualifications or certifications of the individuals who will perform the SOW and the amounts of their respective participation.



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- c. The experience of proposed personnel performing work with similar DOE specific requirements and procedures, including specific Hanford experience.
 - d. The proposed personnel's record performing DOELAP radiobioassay analyses.
 - e. **Submit all information concerning Qualifications and Experience on Attachment 1 - Key Personnel Resume Form.**
4. Past Performance
- a. This factor is used to evaluate the offeror's record of performing services similar in size, scope and complexity to this contract. The evaluation will consider specific past performance of radiobioassay services in compliance with DOELAP requirements throughout the DOE complex.
 - b. **Submit all Past Performance on Attachment 2 - Offeror's Past Performance Survey.**

The Price Proposal must address the following Price Evaluation factors and be provided only on the contract price schedule. Custom price schedules other than the one found in Section B, Price Schedule of this RFP will be rejected and considered non-responsive,

1. Cost/Price

Proposed costs will be analyzed to determine the cost/price and associated risks of doing business with an offeror, should it be selected for award. The evaluation will include:

- c. A cost realism analysis to assess the reasonableness and realism of the proposed costs.
- d. Other cost considerations, including historical, current and comparable costs for similar services from those with similar expertise, experience and/or ability.
- e. Proposal risk will be evaluated with respect to cost and performance or technical aspects.



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A.6 Proposal Preparation

(A94) Rev. 0 4/19/2010

Organize the proposal as outlined in the following paragraph entitled “Proposal Content.” Prepare the proposal simply and economically and provide a straightforward and concise presentation of the information requested in the RFP. Emphasize completeness and clarity. Do not submit elaborate brochures or other presentations that are neither required nor desired by the MSA. For additional instruction please see Special Provisions (SP-17) – Instructions for the Preparation of Proposals attached to this RFP.

Proposal Content

Proposals shall include the following elements and be organized in the manner listed below. Each volume of the proposal should be separate and complete. Omit all cost of pricing details from the technical proposal.

- The technical proposal shall include all necessary technical elements from the Statement of Work and **must address the Technical Evaluation factors found in A.4 Basis of Award.**
- The price proposal shall address all technical and price elements and **must address Price Evaluation factors found in A.4 Basis of Award.**

A.7 Proposal Submission Requirements

(A96) Rev. 0 7/15/2010

It is noted that there may or may not be an award made as a result of this solicitation. MSA is under no obligation to pay the Offeror for the preparation or submittal of any response to this solicitation.

Offerors shall submit an original and two copies (or as otherwise specified by Buyer) of the complete proposal package.

Offeror shall insert the necessary information in all blanks on the Solicitation. Any proposals not submitted in accordance with the Solicitation may be considered nonresponsive. Unless otherwise requested, Offeror is to propose price and delivery based upon his normal workweek. In addition, Offeror is to specify basis of normal workweek (i.e., number of days/week and number of hours/day).

Compliance with specifications and other requirements of this Solicitation is essential. Unless otherwise indicated by Offeror, his/her signature on his/her proposal shall indicate unqualified acceptance of all requirements including all the terms and conditions stated and referenced by this Solicitation. Interpretations established by the Offeror to any part of this Solicitation may be considered an exception. In case of doubt, Offeror should request clarification from Buyer. If there are any exceptions to the requirements of the Solicitation, the price offered should be based on the Solicitation's requirements and the exception(s) priced as alternates. If Offeror's proposal is based only on the proposed exceptions, it must be recognized that this may be grounds for a determination that such a proposal is non-responsive.



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Any questions or requests for additional information relative to the Solicitation must be submitted in writing to the Buyer's representative responsible for issuing the Solicitation. Copies of replies to questions will be furnished to all Offerors.

Proprietary Information

Offerors who include in their proposals any data that they do not want disclosed to the public for any purpose or used by Buyer or the Government except for evaluation purposes, shall:

A. Mark the title page of their proposal with the following legend:

“This proposal includes data that shall not be disclosed outside Buyer or the Government and shall not be duplicated, used, or disclosed - in whole or in part - for any purpose other than to evaluate this proposal. If, however, a Subcontract is awarded to this Offeror as a result of -- or in connection with -- the submission of this data, Buyer and the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting Subcontract. This restriction does not limit Buyer’s nor the Government’s right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets];” and

B. Mark each sheet of data it wishes to restrict with the following legend:

“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.”

A.8 Past Performance Information

(A97) Rev. 0 1/27/2011

Offeror’s must have sufficient business experience for the work being contemplated with US Federal government agencies or their prime contractors. If any Offeror is partnering with another firm in the response to this solicitation, the Offeror must have sufficient experience with the partnership relationship.

As part of the solicitation response, the Offeror shall furnish at least two (2) references for previous and/or current projects that reflect the criteria noted above. References shall include the current and up-to-date information listed below for each specific reference. Note: Information gained elsewhere by the Buyer can also be used as part of the evaluation.

- Client Name and Address
- Client Technical Point of Contact and phone number
- Contract Number
- Brief Description of Work Scope



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- Contract Type
- Period of Performance
- Original Contract Value \$<<insert value>>
- Final Contract Value \$<<insert value>>

If these latter two amounts are different, provide a brief explanation for the difference.



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B.0 PRICE SCHEDULE

PRICE LIST BIOASSAY RADIOCHEMICAL ANALYTICAL SERVICES							
FY12							
TABLE X KIT DELIVERY/RETRIEVAL							
							FUP \$
			DELIVERY AND RETRIEVAL				
			PICK-UP ONLY				
			OUT OF DELIVERY AREA				
Fixed Unit Prices (FUP) apply as of date of sample receipt.							

Table X							
Analytical Test	Sample Medium	Routine* FUP \$	Priority** FUP \$	Expedite*** FUP \$	Emergency**** FUP \$	Data Recheck FUP \$	Recount FUP \$
IPU	U						
	F						
IPUL	U						
SR90	U						
	F						
SR	U						
	F						
PM147	U						
	F						
U238	U						
	F						
U236	U						
AM241	U						
	F						
AM243	U						
	F						
ISPEC	U						
	F						
LEPD	U						
	F						
ITPAC	U						
ICM	U						
	F						
H3	U						
IU	U						
	F						
IPS	U						
	F						
IPA	U						
	F						
IPSA	U						
	F						
C14	U						
	F						



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PU241	U						
	F						
ISR	U						
	F						
NP237	U						
	F						
IRA	U						
	F						
ICA	U						
	F						
IPUB	U						
	F						
IPUBA	U						
	F						
IUPU	U						
	F						
ITH	U						
	F						
IPIU	U						
	F						

Table X Analyses							
		Routine*	Priority**	Expedite***	Emergency****	Data Recheck	Recount
		FUP \$	FUP \$	FUP \$	FUP \$	FUP \$	FUP \$
RADIOANALYSES							
Pu/ISO; Am-BLOOD							
LOW-LEVEL U							
SP. GRAVITY							
Ph							
NOTE: SEE STATEMENT OF WORK FOR CONSTITUENT LISTS							
NOTE: SAMPLE MEDIUM: U=URINE, F=FECEs							
*UNIT PRICES ALSO APPLY FOR ROUTINE REANALYSIS							
**UNIT PRICES ALSO APPLY FOR PRIORITY REANALYSIS							
***UNIT PRICES ALSO APPLY FOR EXPEDITE REANALYSIS							
****UNIT PRICES ALSO APPLY FOR EMERGENCY REANALYSIS							
Unit pricing above represents the price required to provide a complete and usable product with all fees and adders included							

Option Year price escalation factors - For the following Option Years indicate by percent what out year pricing will be.

Option 1(FY13): ____% Option 2(FY14): ____% Option 3(FY15): ____% Option 4 (FY16): ____%



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B.1 Identification of Items

B34) Rev. 0 3/14/2011

All items shall be identified with the part number/model number. Identification shall be on the item or the package containing the item. When the identification is on the item, such marking shall not impair the service of the item or violate dimensional, chemical, or physical requirements.

The Subcontractor shall submit a legible copy of the product data sheet (e.g., drawing, catalog page, brochure) that provides adequate information to enable the Buyer to verify the form and function of the articles procured.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.



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C.0 DESCRIPTION/STATEMENT OF WORK

Statement of Work

Title: **Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis**

Revision Number: **0**

Date: **September 01, 2011**

DEFINITIONS

In general, the terminology used throughout this Statement of Work is consistent with common usage. However, certain terminology used herein has the meaning indicated below:

1. AMAD - Activity Median Aerodynamic Diameter.
2. ANSI - American National Standards Institute.
3. Audit Sample - A quality control sample with a predetermined concentration of radionuclides or other measurable parameter used to evaluate the validity of an analytical process.
4. Bioassay - Radiochemical or other analysis of human excreta, body fluids, or tissue.
5. Blank Sample - A quality control sample (reagent or matrix) containing an insignificant quantity of the constituent of interest.
6. Buyer's Technical Representative (BTR)- The MSA person who interfaces with the contracted laboratory regarding technical matters.
7. Business hours - Any time between 8:00 a.m. and 4:30 p.m. (Pacific Time) on any business day.
8. Certified Standard - Traceable to the National Institute of Standards and Technology (NIST), the EPA or similar standardizing agencies.

Combined Standard Uncertainty– Estimate of the overall uncertainty associated with the analytical result (formerly referred to as Total Propagated Uncertainty).
9. Contractual Detection Level (CL) - The required minimum detection level which is equivalent to the highest acceptable MDA. The CL applies to the overall process and not to individual samples.
10. Delivery Area - An area that surrounds the Contractor's local receiving facility for a radius of 75 miles.
11. Designated Service Client - An organization/entity designated by the MSA Contract Representative as authorized to order analytical tests.
12. Determination Day - Any day, Monday through Friday, that is not an MSA paid holiday.
13. Decision Limit (L_C) - The quantity of radioactivity (or mass of uranium for uranium analyses) above which there is a specified confidence that the sample is not a blank.
14. Electronic Mail (email) - A way of sending messages between computers attached to local or



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- global networks.
- 15. Electronic Transmission - A computer-to-computer transfer of data.
- 16. Facsimile - A system for sending printed or graphic information from one location to another location using machines that communicate over the same telephone lines used for person-to-person conversation. The information is transmitted using audio tones.
- 17. LEPD - Low Energy Photon Detector.
- 18. Matrix - The material within which the constituent of interest is contained.
- 19. Minimum Detectable Activity (MDA) - An estimate of the smallest quantity of radioactivity that can be measured in a sample such that the risk probabilities for false detection and false nondetection are no greater than specified percentages.
- 20. NIST - U. S. National Institute of Standards and Technology.
- 21. Nonstandard Order - Bioassay analytical tests, ordered as necessary.
- 22. Standard Order - Bioassay analytical tests ordered on a monthly basis.
- 23. Sample Receipt - The point at which the processing instructions and the sample to be tested are both received at the Contractor's local receiving facility.
- 24. Spiked Sample - A quality control sample to which specific amounts of radionuclides or other materials
- 25. Test User - An organizational element of MSA or of a Designated Service Client.
- 26. Test User Identifier - The name "MSA" or the name of a Designated Service Client followed by an alpha-numeric code.
- 27. Total Propagated Uncertainty – See Combined Standard Uncertainty.

INTRODUCTION / BACKGROUND

Currently the Pacific Northwest National Laboratory (PNNL) provides Radiological Site Services (RSS) to the Hanford site to the Hanford site. A part of the RSS includes *in-vivo* bio-assay services. As a part of a Department of Energy (DOE) requirement, the RSS work scope is being transitioned to Mission Support Alliance (MSA). PNNL currently has a sub-contract to perform bio-assay laboratory services work scope.

OBJECTIVE

The purpose of this MSA SOW is obtain *in-vivo* bio-assay services from a DOELAP compliant sub-contractor.

DESCRIPTION OF WORK – SPECIFIC

3.1 BIOASSAY SERVICES

3.1.1 Services Required

This section specifies the processing of bioassay and other samples. Processing encompasses distribution and collection of sampling kits, sample handling and storage, analytical testing of samples, reporting of results, and disposal of sample residuals.



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The Contractor shall supply all facilities, equipment and materials necessary for the proper performance of the work unless otherwise specified in this contract.

The facilities supplied by the Contractor shall include a local receiving facility to which MSA or a Designated Service Client may deliver samples for analytical testing. Such facility shall be located within the city limits of Richland, Washington.

3.1.2 Sample Characteristics

Samples to be processed include urine, feces, blood, body tissue, nasal irrigation fluid, and miscellaneous materials such as cloth, filter paper, or cotton.

Urine and fecal samples will be contained in one or more individual containers. Sample containers will be contained in sample kits with the contents of the containers in the kit composited for analysis as a single sample. Exceptions to this include compositing of multiple kits in cases where a "total" (i.e., 24-hr composite) sample is required with part of the sample collected at an individual's home (one kit) and part collected at another location (another kit).

Special instructions will be provided by the MSA Buyer's Technical Representative (BTR) in other circumstances where special compositing is required.

Minimum acceptable sample volumes are specified in Table B-11. Samples containing less than the specified volumes shall not be analyzed, and shall be reported as insufficient sample.

3.1.3. Processing Requirements

a. Sample Scheduling and Collection

Prior to the end of the each calendar month, MSA will provide the contractor standard bioassay orders for the following month. Such orders will consist of a computer data file using the following format which will be transmitted to the contractor's Secure Shell File Transfer Protocol (SFTP) server:

<u>COLUMN</u>	<u>LENGTH</u>	<u>FIELD NAME</u>
1	5	Payroll Number
6	25	First Name
31	25	Middle Name
56	25	Last Name
81	3	Suffix Abbreviation (Sr., Jr., etc.)
84	30	Delivery Street Address
114	15	Delivery City
129	2	Delivery State
131	5	Isotope Request (Table B-19)



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136	1	Sample Type Code (Table B-13)
137	2	Sample Reason Code (Table B-14)
139	1	Process Code (Table B-16)
140	1	Kit Code (Table B-15)
141	1	Frequency Code (Table B-18)
142	8	Evaluation ID Number
150	30	Comment to Lab
180	2	Contractor Code
182	10	Sample Date (MM/DD/YYYY)
192	7	Tagword (unique alpha-numeric assigned to each sample ordered)
199	1	Multiple Analysis Flag (Y/N)
200	1	Person Code (specifies worker categories such as contractor, visitor, etc.)

Standard bioassay orders will specify the individuals to be sampled during the month, the collection points, types of samples to be collected, and the analytical tests to be performed. Kit deliveries within the month shall be scheduled and made by the Contractor. The schedule for kit retrieval shall be dictated by the type of sample ordered. Sample kit codes, specified in Table B-1, identify the type of sample to be collected and the relation of sample delivery and retrieval dates to the sample date. By the close-of-business of the day following the receipt of the order file, the Contractor shall report to MSA via the outstanding order file, an OR (i.e., order received) status code for each new tagword received in the electronic file.

MSA may transmit nonstandard bioassay orders specified in Table B-2. Such orders will contain the information specified above and may be written, oral or electronic. The Contractor shall provide a one-point contact person, available on-call at all times, to receive nonstandard bioassay orders. Table B-1 specifies the required relation of sample delivery and retrieval dates to the sample date. Oral orders will be followed up in writing or electronically within one (1) business day. MSA will promptly notify the Contractor by telephone or other means that a nonstandard order has been transmitted.

The Contractor shall expeditiously retrieve and transport samples to its local receiving facility (see Tables B-1 and B-2). Kits for Emergency or Expedite processing of samples shall be retrieved with all practicable speed and shall not be delayed for the retrieval of kits for Routine and/or Priority processing. If a bioassay kit is not available when the Contractor attempts to retrieve it at a residence, the Contractor will place a tag on the residence door, which provides notice that the Contractor has



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attempted to retrieve the sample kit and gives instructions on the procedure for rescheduling retrieval.

The Contractor shall provide suitable containers for collection of urine and feces that shall be leak-proof, aesthetically pleasing, convenient to use by men or women, radiologically and pathogenically clean, free of odor or visible contaminants, and easily transportable. Containers shall be subject to written approval by the MSA BTR.

Sample transport boxes and each container shall be labeled by the Contractor with sample date, analysis request, matrix type (e.g., urine or feces), and the name and address of the individual designated to provide the sample. Clear, concise instructions, approved in writing by the MSA BTR, keyed by kit code, shall accompany the kit describing the sample requirements, including the date of delivery, period of collection, and a date for retrieval. The instructions shall provide a phone number for questions to be answered by the Contractor regarding the sampling procedure. The Contractor shall also place additional instructions or notices in kits when instructed by the MSA BTR.

b. Sample Handling and Storage

Preservatives or other substances shall not be added to sample collection containers prior to sample collection without prior approval (oral or written) of the MSA BTR. The Contractor shall utilize systems and procedures to store samples such that the samples can be retrieved in a timely manner. The Contractor shall take whatever steps are necessary, depending on the analytical test ordered, to preserve the sample integrity from kit collection to the start of the analysis.

When ordered, the Contractor shall collect a sample and store it pending further instructions from the MSA BTR. The Contractor shall not dispose of a sample that has been ordered stored without prior approval (oral or written) of the MSA BTR.

For all samples submitted by MSA for Emergency or Expedite Processing, for Priority Processing with a Special Reason Code, or when ordered by MSA, the Contractor shall collect and store all analytical waste fractions for a sample (excepting waste fractions containing chemicals that may release appreciable quantities of hydrogen cyanide when digested) pending verification the sample met the yield requirements of Table B-10. If the yield requirements are not met, the Contractor shall request further instructions from the MSA BTR. For fecal samples, this requirement pertains only to the last available aliquot of the sample.

The Contractor shall assure that any aliquots removed from a fecal sample shall be representative of the entire sample. The Contractor shall store and preserve the integrity of the unused portions of samples for at least 90 business days following reporting of analytical results to the MSA BTR unless earlier disposal authorization is received from the MSA BTR. After completion of all analytical tests ordered for a sample, the Contractor shall preserve any final analytical preparations (e.g., counting planchetes, scintillation vials, etc.) as follows:

- Routine processing - Except for scintillation vials, when the result is less than the email reporting limit, the final analytical preparation shall be preserved for 8 weeks following reporting of the original result. Except for scintillation vials, when the result is greater than or equal to the email reporting limit, the final analytical



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preparation shall be preserved for 1 year following reporting of original results. Scintillation vials containing the final analytical preparation from a sample, from which another aliquot is available, need not be preserved. If another aliquot of the original sample is not available, the scintillation vial shall be preserved for 17 calendar days.

- Priority, Expedite, Emergency processing - In all cases except for scintillation vials, the final analytical preparation shall be preserved for 1 year following reporting of the original results. Scintillation vials containing the final analytical preparation from a sample from which another aliquot is available, need not be preserved. If another aliquot of the original sample is not available, the scintillation vial shall be preserved for 17 calendar days.

The Contractor shall dispose of the residuals of all samples and all final analytical preparations, unless, prior to the expiration of the specified preservation period, the MSA BTR requires that the unused portion of a sample or the final analytical preparation be delivered to MSA.

With the exception of counting radioactivity in the final analytical preparation, Expedite and Emergency processing of bioassay samples shall be performed in areas and with equipment separate from those used for processing Routine or Priority samples.

c. Analytical Requirements

Analytical test requirements are specified in Tables B-3 through B-9. Analytical test procedures shall follow recognized standard methods and shall meet requirements and limitations specified herein; provided, however, that the Contractor shall be excused from attaining CLs listed for gamma spectrometry or LEPD when, due to the presence of interfering species in a sample to be processed, such CLs cannot be attained utilizing the procedures provided for in the Contractor's approved procedures manual. The notification and report specified in the Contract Schedule shall also be furnished.

Analytical test requirements for which recognized standard methods do not exist or which may, for a particular situation, be preferable to recognized standard methods (e.g., more efficient, more accurate, etc.) may be used, provided they are clearly documented and verified through the performance of QC analyses prior to being submitted to the MSA Contract Representative for review. The QC analyses shall be submitted with the request for approval.

Analytical measurement uncertainties shall be examined, evaluated, and carried through to the final analytical result. Each report of results submitted to MSA shall include estimates of the overall uncertainty associated with the analytical results (combined standard uncertainty). Uncertainty estimates shall be calculated in conformance with National Institute of Standards and Technology Technical Note 1297, B.N. Taylor and C.E. Kuyatt, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results", NIST, 1994.

The Contractor shall perform data Rechecks of previously reported results, if ordered. Data Rechecks shall consist of a review of calculations, aliquot size, yield, counter background, counting efficiency, and other data pertinent to the reported analytical result. The Contractor shall also review the results of quality control samples and other samples processed in the same batch. The results of the Contractor's data



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Recheck evaluations along with the associated quality control sample results shall be delivered in writing, within five (5) business days to the MSA BTR.

The Contractor shall perform a Recount on a preserved final analytical preparation from a sample previously analyzed, if ordered. A Recount shall consist of recounting the sample and recalculating the concentration of the radionuclide in question. The Contractor shall report the result of the Recount of an analysis originally ordered with Routine or Priority processing to the MSA BTR within the reporting times listed in Table B-4. The Contractor shall report the result of the Recount of an analysis originally ordered with Emergency or Expedite processing to the MSA BTR within the reporting times listed in Table B-7.

The Contractor shall perform Reanalysis of the preserved unused portion of samples, if ordered. The analytical specifications listed in Table B-3 through B-9 shall apply. The Contractor shall report the results of a Reanalysis in accordance with Section I.B.3.c.2

3.1.4 Performance Criteria

The minimum detectable activity (MDA) shall be equal to or less than the CLs listed in Tables B-3 through B-8.

The decision limit is determined according to the following formula:

L_c = 2s_A

(1)

where, s_A equals the combined standard uncertainty of the net analyte reported.

For alpha and gamma spectroscopy procedures, the email reporting limit shall be equal to the decision limit (L_c). For procedures other than alpha and gamma spectrometry, the email reporting limit is specified in Table B-3.

The Minimum Detectable Amount (L_D) for bioassay analytical tests is determined according to the following formula:

L_D = [(C_c + t^2/2 + t * sqrt(t^2/4 + C_c + C_B * (1 + T_s/T_B))) / ((a)(Efficiency)(Yield)(T_s)(V_a/V_T)(e^(-0.693t/T_1/2)))]

(2)

where, C_C equals L_C defined in Equation (1) multiplied by nominal values for detector efficiency (Efficiency) and chemical yield (Yield); C_B is the mean gross count of "n" appropriate blank samples; t is the 95th quantile of the "student-t" distribution with (n-1) degrees of freedom; T_S and T_B are the sample count time and the background count time in minutes, respectively; V_a and V_T are the volume of the



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aliquot analyzed and the total sample volume, respectively; $T_{1/2}$ is the physical half-life of the analyte; and a is the decay scheme fraction for the measured radiation.

For n samples spiked at the contractual detection limit, no more than 20 percent of the reported results shall be less than the decision level for n between 5 and 25 and no more than 10 percent for n greater than 25. The Contract Limit criterion will be considered satisfied if the performance criteria in this paragraph are met.

Minimum, low, high, and maximum tracer yields or gravimetric recovery limits for individual analyses are specified in Table B-10. Analyses not between the low and high yield specifications in Table B-10 shall be reported as specified in Sections I.B.3.c.2.a. and e. For any analyses not meeting the appropriate minimum or maximum criterion in Table B-10, the "Comment from Lab" field of the electronic report of analytical results shall include the tracer yield for the sample. Routine and Priority analyses outside the minimum or maximum yield specifications shall be declared a failed analysis; provided, however, if part of a sequential analytical test is declared a failed analysis, payment for such test shall be reduced by the amount of the fixed-unit price of the lost portion(s).

Reagent blank samples (i.e. water samples run through the chemical separation process) shall be analyzed to determine if reagents to be used do not exceed acceptable levels of radioactivity. Reagent blank samples analyzed with each batch of samples processed shall be used to determine the activity contribution from the reagents. The Contractor shall establish and document its limits for radioactive contamination in the blank samples. Such limits shall be consistent with the analytical specifications described herein.

The reagent blank data acquired from the analysis of blank samples with each batch of samples shall be used to determine average reagent blank values to be subtracted from sample results. The Contractor shall maintain an ongoing system for calculating reagent blank values and subtracting these from measured sample concentrations. The uncertainty of the reagent blank values shall be combined into the total propagated uncertainty. If matrix blank data (either synthetic or natural) indicate that the matrix is not adding a significant quantity of the constituent of interest to the final sample preparation, the matrix blanks may be used to meet the requirements of this paragraph.

The mean relative bias (B_r) shall be determined for each radionuclide, procedure, and matrix (for n equal to or greater than 15). B_r is determined from

$$B_{rij} = \frac{(A_{ij} - A_{ai})}{A_{ai}}$$

(3)

where,

A_{ij} = the j th measured value of the i th spike level, and

A_{ai} = the true value of the i th spike level, and



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$$B_r = \frac{\left[\sum_{i=1}^m \sum_{j=1}^n B_{rij} \right]}{N}$$

(4)

where,

m = the number of spike levels, and

$$N = \sum_{i=1}^m n_i, \text{ and}$$

n_i = the number of measured values at the *i*th spike level.

For samples spiked at or above the contractual detection limit, *B_r* shall fall within the range -0.20 to +0.20 for *n* between 15 and 50 and -0.10 to +0.10 for *n* greater than 50. Spike results shall be adjusted for environmental background levels.

The relative precision statistic, *S_B*, shall be determined for each radionuclide, procedure, and matrix (for *n* equal to or greater than 15). Using terms defined above, *S_B* is determined from

$$S_B = \left[\frac{\sum_{i=1}^m \sum_{j=1}^n (B_{rij} - B_r)^2}{(N - 1)} \right]^{1/2}$$

(5)

The relative precision statistic shall be, in absolute value, less than or equal to 0.4 for samples spiked greater than three times the CL and less than or equal to 0.5 for samples spiked between one and three times the CL.

3.1.5 Reports and Communications

a. Reporting Results of Analyses

A report of analytical data shall consist of an electronic communication when the original order was made electronically. Electronic reports shall be made available to the Hanford computer in the format specified below on the contractor’s Secure Shell File Transfer Protocol (SFTP) server. In addition to the electronic report of analytical data, the Contractor shall make available at least each Tuesday on their SFTP server, a summary report of electronic data reported the previous week. The summary report shall be in an electronic Portable Document Format (PDF) file. If an email transmission (including an email report specified in Tables B-3 or B-4) contains personal identifying information or bioassay results, the message shall include the notation “Sensitive/Strictly Private” in the first line, before the beginning of text and shall be encrypted using software designated by the MSA BTR. If the message itself is not sensitive information but an attachment is, the message and attachment must be encrypted.

The following information shall be provided by the Contractor for each test result reported electronically:



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- Tagword (from order data)
- Contractor Code
- Employee Payroll Number
- Isotope Code
- Sample Type Code
- Sample Collection Date (MM/DD/YYYY)
- First Name, Middle Name, Last Name, and Title (i.e., Sr., Jr., etc.)
- Kit Code
- Sample Reason Code
- Process Code
- Analysis Date (MM/DD/YYYY)
- Frequency Code
- Sample Volume Collected
- Sample Volume Used
- Sample Unit Code
- Analysis Result
- Analysis Error
- No Result Code
- Comment from Lab
- Yield Flag (Y if outside low or high criterion in Table B-10)
- Multiple Result Code (when applicable)
- Evaluation ID Number
- Email Reporting Limit Flag
- Contractual Detection Level
- Multiple Analysis Flag (from order data)
- Date Received by Lab (MM/DD/YYYY)
- Lab Sample Identification (ID number assigned by Contractor which allows results to be sorted to duplicate the invoice format)



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- Laboratory Code (from order data)
- Person Code (from order data)

Electronic reports of analytical results shall be transmitted from the Contractor to MSA using the following format:

<u>COLUMN</u>	<u>LENGTH</u>	<u>FIELD NAME</u>
1	7	Tagword (from order data)
8	2	Contractor Code (from order data)
10	5	Pay Number (from order data)
15	5	Isotope code (Table B-19)
20	1	Sample Type Code (Table B-13)
21	1	Blank Filler position
22	10	Sample Collection Date (MM/DD/YYYY)
32	25	First Name (from order data)
57	25	Middle Name (from order data)
82	25	Last Name (from order data)
107	3	Suffix Abbreviation (from order data)
110	1	Kit Code (Table B-15)
111	2	Sample Reason Code (Table B-14)
113	1	Process Code (Table B-16)
114	10	Analysis Date (MM/DD/YYYY)
124	1	Frequency Code (Table B-18)
125	4	Sample Volume Collected (ml or g – right justified integer)
129	4	Sample Volume Used (ml or g – right justified integer)
133	2	Sample Unit Code (Table B-17)
135	9	Analysis Result ($\pm x.xx E \pm xx$)
144	8	Analysis Uncertainty ($x.xx E \pm xx$)
152	2	No Result Code (Table B-12)
154	30	Comment from Lab



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184	1	Yield Flag (Y)
185	1	Multiple Result Code (Table B-19)
186	8	Evaluation ID Number (from order data)
194	1	Email Reporting Limit Flag (+ or -)
195	8	Contractual Detection Level (Table B-3 through B-8, x.xxE±xx)
203	1	Multiple Analysis Flag (from order data)
204	10	Date Received by Lab (MM/DD/YYYY)
214	10	Lab Sample Identification
224	2	Laboratory Code (assigned to Contractor by MSA)
226	1	Person Code (from order data)

The email reporting limit flag shall be set positive for results greater than or equal to the routine email reporting limit specified in Table B-3.

Results transmitted electronically from the Contractor to MSA must match orders transmitted from MSA to Contractor in the following fields:

Result Order

<u>Field Name</u>	<u>Column</u>	<u>Column</u>
Tagword 1-7	192-198	
Payroll Number	10-14	1-5
Contractor Code	8-9	180-181
Isotope 15-19	131-135 and Tables B-19 and B-21	
Sample Date	22-31	182-191
Sample Type	20	136
Kit Code 110	140	
Reason Code	111-112	137-138
Processing Code	113	139
Multiple Result Code	185	131-135 and Table B-19
Evaluation ID Number	186-193	142-149



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Reports of analytical data that are not associated with bioassay samples shall be transmitted in writing. Except as specified otherwise, written communications of analytical data shall be delivered to the MSA BTR either in person or via email. The following information shall be provided by the Contractor for each test result reported in writing:

- Date of analytical request from MSA
- Sample Collection Date (MM/DD/YYYY from order letter)
- Analysis Code (from order letter)
- Analysis Date (MM/DD/YYYY)
- Sample Volume Collected
- Sample Volume Used
- Sample Volume Units
- Isotope Code
- Analysis Result
- Analysis Error
- Comments from Lab

In addition to other reports specified herein, the Contractor shall deliver each business day to the MSA BTR, an electronic status report sorted by test user, worker payroll number, and sample status, listing the samples that have changed reporting category during the previous business day. The sample status categories (Table B-20) shall include order received (OR), kit delivered (DL), kits not delivered (ND), samples converted during the week from "container-not-out" (CN) to lost container (LC), kits retrieved that contain no sample (NS), valid samples received with some sample in container (RV), valid samples received and held pending further instructions from the BTR (PE), samples converted from valid samples to insufficient volume (IS), and failed analyses (FA). Samples originally reported in the status file as pending (PE) shall be reported in the next status report as either RV when instructions are received to analyze the sample or NE when instructions are received to dispose of the sample. The report shall also specify the sample tagword, employee payroll number, sample status code, and status change date of each sample listed. If the status code is OR, the proposed delivery date will be reported in the delivery date field. If the status code is DL, the actual delivery date will be reported in the delivery date field. For other status codes the delivery date shall be blank. Failed analysis (FA) status shall be reported no later than the close of business, the day following it is identified by the Contractor.



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Electronic reports of sample status using the following format shall be made available to the MSA on the contractor’s SFTP server:

<u>Column</u>	<u>Length</u>	<u>Field Name</u>
1	7	Tagword (from order data)
8	5	Payroll Number (from order data)
13	2	Sample Status
15	10	Status Change Date (MM/DD/YYYY)
25	10	Delivery Date (MM/DD/YYYY)

b. Reporting Modified Results

Whenever the Contractor determines that a correction should be made to a previously reported result, the MSA BTR shall be immediately (before the end of the business day) notified by email of the corrected result and the reason for the change. The previous and revised result and the reason for the revision shall be detailed in a separate letter for each identified event requiring modified results within five (5) business days of the email report. The notification and report specified in the Contract Schedule shall also be furnished.

c. Notification When Partial or No Analytical Results are Obtained

When only partial results will be reported, the electronic report shall identify the constituents for which no results can be reported. The report shall include the reason for the failure to complete the analysis.

The Contractor shall immediately notify the MSA BTR by email of any sample ordered for Priority, Expedite, or Emergency processing for which the ordered analysis cannot be completed. By the close of the next business day, the Contractor shall notify the MSA BTR by electronic report (sample status report) of any sample ordered for Routine processing for which the ordered analysis cannot be completed. Email notifications shall specify the employee name and payroll number, sample processing code, sample reason code, sample type, sample analysis code, and sample collection date. Examples of an order that cannot be completed include kit not delivered (ND), unacceptable sample (IS), lost container (LC), container-not-out (CN), no sample received (NS), and failed analyses (FA).

For CN samples, if arrangements with the involved worker have not been completed within 10 business days to collect the sample, the sample shall be declared a lost container and reported accordingly unless the Contractor is instructed otherwise by the MSA BTR.

When the sample is converted from a CN to a lost container (LC), the Contractor shall notify the MSA BTR by electronic report (sample status report) by the close of the



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same business day. The Contractor shall follow up such notifications with a LC electronic report of analytical results within 5 business days. Reports shall be electronic if the original order was made electronically. If not, the report shall be by letter or email.

For orders for which all constituents cannot be reported, the electronic report shall be in accordance with the analytical code specified on the original order (I.B.3.a.) and the appropriate multiple result code (Table B-19). The multiple result code must be included even if only a portion of the requested analyses fail. The notification and report specified in the Contract Schedule shall also be furnished.

d. Notification of Sample Accountability

The Contractor shall assist the MSA BTR in resolving and documenting discrepancies between MSA and Contractor records detailing samples submitted and analyzed.

The Contractor shall notify the MSA BTR by email of any Special reason code sample ordered for Priority processing for which the ordered analysis cannot be completed within the specified time period. The notification shall be sent by the close of business the day the results are due. Electronic mail notifications shall specify the employee name and payroll number, sample processing code, sample reason code, sample type, sample analysis code, sample collection date and order tagword.

e. Reporting Performance

A report (two hard-copies or one electronic copy) shall be delivered to the MSA BTR detailing and evaluating the Contractor's performance during each calendar quarter of the operational year of the analytical requirements specified in Section I.B.3.c. The report shall be a stand-alone, self explanatory document that includes a legend for abbreviations and acronyms. The end of the first quarter of the first operational year shall coincide with the end of the appropriate calendar quarter (i.e., March 31, June 30, September 30, or December 31).

The quarterly reports shall include the results of all quality control samples analyzed during the quarter, along with the performance statistics categorized by sample type, analyte, and contractor separation procedure. Performance statistics need not be calculated if fewer than five quality control samples were analyzed. In addition to the number of quality control samples, the total number of samples submitted by MSA (i.e., analytical results reported by the contractor plus failed analyses) shall be reported by sample type and contractor separation procedure. For fecal analyses, each quarterly report shall include an evaluation of duplicate aliquots from the samples. The fourth quarter report shall be a summary for the entire year and shall include listings of all quality control samples performed during the year. The report shall be delivered within 45 business days following the end of each quarter. No greater than one of the differences of the results of individual duplicate pairs in a nuclide category shall exceed three standard deviations of the difference (based on the reported Combined Standard Uncertainties of the individual analyses).

In addition to performance statistics specified in this statement of work, the report shall include a narrative that describes the extent to which the MDA, yield, bias and precision requirements were met, by sample type, contractor separation procedure, isotope, and spike activity level, and a listing of the titles of the incident reports submitted during the quarter in compliance with Section II.8 "Contractor Incident



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Reports” of the Contract Schedule. The fourth quarter report shall also list the values for detector efficiency, chemical recovery, and counting time used in the MDA calculations. The fourth quarter report shall include a review of the appropriateness of the assumed radiochemical yield for analyses in which the yield is not specifically determined for individual samples, and the status of corrective actions for each Incident Report submitted to MSA during the year.

If during the quarter more than 10% (for n >15) of the analytical yields in a given radionuclide-processing category combination are outside the minimum and maximum yield criteria specified in Table B-10, it shall be noted in the performance report statistics and narrative. The reasons for the low or high yield and the corrective actions taken or planned shall be detailed. Furthermore, it shall also be noted if during the quarter more than either 20 percent of the reported results for samples spiked at the Contractual Detection Level are less than the decision level (for n between 5 and 25) or more than 10 percent of the reported results are less than the decision level (for n > 25).

f. Records

Records that furnish evidence of the quality of the analytical test services specified in the Statement of Work shall be identified, prepared, and maintained by the contractor in accordance with contract requirements. .

Records pertaining to each bioassay analysis shall at a minimum include:

Sample specific: Sample identification number, batch number, sample date, sample type, processing code, type of radioactivity analyzed, employee pay number and name (first name, middle name, and last name);

Procedural data: Reference to procedure(s) used, reference to computer code or algorithms, any departure from procedure, radiochemical yield, counting time, raw count data, spectral results including range covered and units per channel, instrument identification, final result, uncertainty, analysts signatures or code, analysis date(s), notes pertaining to the procedure or counting (such as was the sample recounted or rerun through the procedure, corrections to original results with justification);

Records of general data shall at a minimum include: Training records of analysts, calibration records for instruments, calibration source records, detector background and source checks, and maintenance records for analytical instruments.

Records shall be maintained and disposed in accordance with contract requirements.

3.2 REQUIREMENTS

The Contractor shall assure the integrity and validity of analytical test results through implementation of an internal quality control program. The Contractor's quality control program shall be described in a written procedure(s) and shall include a corrective action system for discrepant results. A system of reviewing and analyzing discrepant results shall be maintained to detect problems due to contamination, inadequate calibrations, calculations, procedures, or other causes. Standard methods shall be used whenever possible and methods that are developed or adapted shall be tested and completely documented by the Contractor.

The Contractor shall prepare and analyze spiked, blank and duplicate samples to verify the accuracy and precision of all analytical results. Such samples shall comprise no less than 15



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percent of all ordered tests. Spiked and blank samples shall be included with each batch of samples processed at one time. Spiked samples shall have, insofar as possible, a matrix, volume, and other relevant characteristics of the actual sample being analyzed. It is not necessary to recount spiked, blank, and duplicate samples when the results fall outside established performance criteria. Also, spiked, blank, and duplicate sample results that fall outside established performance criteria will not in themselves invalidate results from other samples in an associated batch.

Analytical tests that are normally performed on an aliquot of a fecal sample shall be evaluated throughout the operational year by analysis of duplicate aliquots from the samples. Duplicate aliquots shall be analyzed for no less than 15 percent of the samples analyzed.

Blank samples shall be comprised of matrix blanks (either synthetic or natural) unless the matrix used adds a significant quantity of the constituent of interest to the final sample preparation. In that case the blank samples shall be reagent blanks (i.e., water samples run through the chemical separation process). Spiked samples shall have a range of activity from one-half the MDA to no more than ten (10) times the MDA, and no more than three spike levels shall be used. At least one laboratory control sample spiked at the Contractual Level for each radionuclide analyte and separation procedure shall be processed with each analytical batch. The Contractor shall document the results of these blank and spike analyses in internal QC program reports. Analytical problems identified through analysis of QC samples shall be promptly corrected. Precision and accuracy data obtained from the analysis of QC samples and the associated corrective actions shall be documented in internal QC program reports. In accordance with Equation 2 of Section B.3.c.1, the MDA of each analytical process shall be calculated for a nominal volume of 1000 mL for all urine analyses. The MDA for tritium shall be calculated in terms of dpm/mL instead of dpm/sample. The MDA of fecal analyses shall be calculated for a nominal mass of 100g. All calculated MDA values shall be documented in internal QC program reports. In addition to the calculated MDA values, the Contractor shall document the results of samples spiked at the Contractual Detection Level. MDA data obtained from the analysis of QC samples and the associated corrective actions shall be documented in internal QC program reports.

The Contractor shall participate in performance tests for all indirect radiobioassay categories offered by the Department of Energy Laboratory Accreditation Program (DOELAP), and all synthetic urine and synthetic feces matrices of the National Institute of Standards and Technology Radiochemistry Intercomparison Program (NRIP). The Contractor shall demonstrate the ability to satisfy both the performance testing and the on-site assessment requirements of the DOE Technical Standard "The Department of Energy Laboratory Accreditation Program for Radiobioassay" (DOE Standard DOE-STD-1112-98).

The Contractor shall provide a QC report (two copies) to the MSA BTR, within 45 business days of the end of each calendar quarter of each operational year. The report shall summarize the results of bioassay QC samples analyzed during the quarter, except the fourth quarter report shall summarize results for the whole year as a single data set (See Section I.B.3.c.2.e for details on the reports). The fourth quarter report shall also identify the paired duplicate samples analyzed to demonstrate the representativeness of the aliquoting procedure, and results of the Contractors participation in DOELAP and NRIP radiobioassay performance tests.



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All QC sample results shall be included in the data set (and listed as part of the fourth quarter report), including all results of samples counted more than once. Outlier data may be determined, identified as such, and not used in the calculation of performance criteria or in the calculation of the reagent blank value. Outliers shall be determined using a documented outlier test approved by the MSA BTR.

Radionuclide standards used to test the accuracy of the analytical procedures and/or measurement equipment should be either those designated as Standard Reference Material (SRMs) by the National Institute of Standards and Technology, or standards directly compared with appropriate SRMs, and where available, with the same measuring apparatus. For those in vitro analyses for which standards are not available, the chemical procedure for the determination of the unknown may be tested by using an SRM of a different radioisotope of the same element.

See the Quality Assurance Section of the RFP for additional quality control requirements.

General

For any work performed on the Hanford Site or any MSA controlled facility, the provisions of the On Site Services Provisions, SP-5, will apply to Subcontractor personnel.

3.2.1 Engineering Requirements

N/A

3.2.2 Safety

The Subcontractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Subcontractor shall comply with, and assist the Contract Specialist in complying with Environmental, Safety, Health, and Quality (ESH&Q) requirements of all applicable laws, regulations and directives.

The Subcontractor shall exercise a degree of care commensurate with the work and the associated hazards. The Subcontractor shall ensure that management of ES&H functions and activities is an integral and visible part of the Subcontractor’s work planning and execution processes. As a minimum, the Subcontractor shall:

- Thoroughly review the defined scope of work;
- Identify hazards and ES&H requirements;
- Analyze hazards and implement controls;
- Perform work within controls; and
- Provide feedback on adequacy of controls and continue to improve safety management

The Subcontractor shall flow down ESH&Q requirements to the lowest tier Subcontractor performing work on the Hanford site commensurate with the risk and complexity of the work.

3.3 RESULTS

The Seller shall assure the integrity and validity of all analytical results thought implementation of an internal QA program. The program shall meet the most stringent requirements, as follows along with the QA Clauses specified in Table 1, below:



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Table 1 – MSA QA Clauses

QA Clause	Description	Remarks
B-76	Procurement of Potentially Suspect or Counterfeit Items	N/A

Department of Energy Laboratory Accreditation Program, for processing bioassay and other samples, which encompasses distribution and collection of sampling kits, sample handling and storage, analytical testing of samples, reporting results and disposal of sample residuals.

Seller and any subcontractor supporting Seller performing work under this SOW shall meet the following QA requirements:

- a. Laboratory operations and analytical work on Hanford Site samples shall be performed in facilities that have a program that meets the Department of Energy Laboratory Accreditation Program (DOELAP).
- b. Laboratory operations and analytical work on Hanford Site samples shall be performed using procedures that have been approved and issued through Seller's document control system. The Seller shall submit controlled copies of all analytical procedures used to support work performed under this SOW prior to initiation of work and throughout the period of performance. Updated controlled copies of all analytical procedures shall be submitted to the Buyer throughout the period of performance within at least 30 days prior to implementation of the revision by the Seller. Updates and revisions that are non-technical in nature do not require submittal prior to implementation. Non-technical changes include format, typographical, editing, and other changes that do not affect the chemistry or detection capability of the method.
- c. The Sellers QA program shall describe the management system, including planning and scheduling.
- d. The Seller shall submit to Buyer, a controlled copy of the laboratory QA Program and implementing procedures that implement the requirements specified in this SOW. Any changes to the QA Program or implementing procedures shall be submitted the Buyer for review prior to implementation. Seller shall, at all times, strictly follow the procedures as written.
- e. An SOP is defined as a written narrative description of facility procedures including examples of Seller documents. The SOPs shall accurately describe the actual procedures used by Seller, and copies shall be available to the appropriate personnel. Seller must have written SOPs that cover, but are not limited to, the following areas:
 - o Sample receipt and log-in
 - o Chain of Custody
 - o Sample storage and security
 - o Sample tracking; receipt to disposition
 - o Data reduction, verification, and reporting
 - o Document control
 - o Data package assembly
 - o Preparation and traceability of standards
 - o Equipment maintenance, as applicable, and calibration
 - o Glassware cleaning
 - o Qualifications of personnel and training.
- f. Any subcontractor who performs work on behalf of Seller must meet all requirements of this



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SOW, Seller's issued QA program and implementing documentation and all other terms and conditions of the Hanford Site purchase order with Seller. Seller shall require its subcontractor(s), including those possessing the same corporate name, to submit to Buyer, controlled copies of the QA Program and SOPs that implement requirements of Seller and this SOW within 30 calendar days of any change or revision during the period of performance, updated controlled copies of the QA Program and SOPs shall be provided to Buyer.

- g. Seller and any subcontractors performing work under this SOW are subject to Hanford Site QA assessments and surveillances at any time for the duration of the purchase order and shall participate in Department of Energy Laboratory Accreditation Program (DOELAP) audits. Buyer has the authority to stop work on their Hanford Site samples under conditions of non-compliant quality-affecting activities. Buyer shall be granted access to all facilities, equipment, files, and documents and records associated with this SOW for QA audits and surveillances. Buyer, at its discretion, can accompany Seller on its QA audits and surveillances of the subcontractors. Seller shall notify Buyer of upcoming audits within 14 days so that Buyer can make arrangements to participate. Any corrective action resulting from audit/surveillance shall be documented according to the procedures of the auditing team. All assessment reports shall be made available to all affected parties.

Buyer shall notify Seller a minimum of 14 days in advance to arrange any assessments and/or surveillance activities.

- h. Whenever applicable, standards shall be made from materials traceable to recognized national or international standards or to reagent grade chemicals. If national or international standard traceable materials are not available, then Seller shall use reagent grade chemicals and qualify the prepared standards against an independent reference source. Documentation of standard qualifications shall be available to Buyer upon request. Standards shall not be used after the expiration date. Seller may re-qualify expired standards by certifying the expired standard against an independent reference material. Documentation of the standard requalification shall be available to Buyer upon request.

The Seller shall have an established standard operating procedure or equivalent that describes the process for qualification and requalification of standards. With the exception of radiochemistry, all calibration curve standards and QC standards shall be made from separate sources.

- i. Seller shall follow the requirements established in the most current promulgated version of the USEPA, *Good Automated Laboratory Practices*, No. EPA-2185, 1995.
- j. Seller shall submit to Buyer the applicable procedures which address requirements for software documentation, testing, control, security, change control, usage error control, and verification. Commercially available software is excluded from this requirement. Commercially available software exemption does not include Seller-generated applications of that software.

3.4 Government Property

N/A

PERSONNEL REQUIREMENTS

1.1 Training and Qualifications

Subcontractor shall ensure that its personnel meet and maintain the appropriate training, qualification and certification requirements. The following types of training qualifications are required:



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Required Qualifications:

All staff working in support of this scope of work will meet the minimum qualifications of the Department of Energy Laboratory Accreditation Program (DOELAP).

1.2 Security and Badging Requirements

For any on site work, see Special Provisions – On Site Services SP-5 for details.

Subcontractor employees will be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

1.3 Work Location / Potential Access Requirements

The scope of this will not require access to the Hanford site.

1.4 Site Access and Work Hours

The Hanford Site operates on the standard 8/9’s schedule. The standard work day shall consist of nine (9) hours of work between 7:00 AM and 4:30 PM with one-half hour designated as an unpaid period for lunch. An eight (8) hour work day is substituted on alternate working Fridays, and no work occurs on the alternate non-working Friday.

MEETINGS / SUBMITTAL

Subcontractor shall participate in all meetings as required by the Buyer’s Technical Representative (BTR).

DELIVERABLES AND PERFORMANCE SCHEDULE REQUIREMENTS

1.1 Deliverables

Deliverables and performance requirements are fully describe in section 3.0 above

1.2 Schedule

Base Year (FY12) - Implementation Phase

Start Date: Award Date to Completion Date: September 30, 2012

Option 1 (FY13) - Life Cycle Phase

Start Date: October 1, 2012 to Completion Date: September 30, 2013

Option 2 (FY14)- Life Cycle Phase

Start Date: October 1, 2013 to Completion Date: September 30, 2014

Option 3 (FY15) - Life Cycle Phase

Start Date: October 1, 2014 to Completion Date: September 30, 2015

Option 4 (FY16) - Life Cycle Phase

Start Date: October 1, 2015 to Completion Date: September 30, 2016



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SPECIAL REQUIREMENTS

Include this activity results in the acquisition of electrical conductors or equipment, include the following requirement:

Electrical Components:

N/A

Submittals:

If the SOW requires the submittal of Subcontractor Information, insert the following:

- The following items shall be submitted to the Contract Specialist in accordance with the instructions contained in the Attachment A, Submittal Register.
- The Subcontractor submittals identified herein and summarized on the Submittal Register shall be submitted by the Subcontractor using the [Contractor Document Submittal Form \(CDSF\)](#)
- See <http://www.hanford.gov/pmm/page.cfm/ContractorForms>)
- Subcontractor information shall be submitted in either hard copy or electronic format (If electronic, it must be viewable using either Microsoft® Windows®, Microsoft® Office, or Adobe® Acrobat® software).

Configuration Management:

N/A

Reporting Administration

Meetings

General purpose of meetings is for the coordination, control, and direction of the Work. In addition to meetings addressed by this Section, Subcontractor may be required by other Sections and other Subcontract documents to conduct special-purpose meetings and various safety meetings and briefings.

MSA will issue meeting notices and prepare an agenda and minutes for each meeting addressed in this Section. When applicable, minutes will identify action items, assigned actionees, and due dates.

- KICKOFF MEETING - Before start of the Work, MSA will conduct a conference at a time and Hanford Site location agreed to by Subcontractor and MSA. Invited attendees will include MSA, Subcontractor, key lower tier subcontractors and others having an interest in the Work. Purpose of the conference is the coordination of Work start up and familiarization of project participants with the Work and worksite.
- PROGRESS MEETINGS -Every three months, MSA will conduct a progress meeting at time and Hanford Site location determined by MSA. Invited attendees will include MSA, Subcontractor and key subcontractors. At the progress meeting, Subcontractor shall submit a written report showing actual man-hours expended versus planned and scheduled progress versus actual progress giving details of Work completed in relation to the approved schedule, together with a two (2) week "look ahead" which provides details of how the Work will be completed.
- The purpose of the meetings is the exchange of Work-related information.

Reports



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- **PROGRESS REPORT PREPARATION** - Prepare a summary progress report for each reporting period, showing summary of highlights, samples analyzed by category, and issues associated with the assigned work scope, one month after the completion of each calendar quarter.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

ATTACHMENT A
SUBMITTAL REGISTER

Submittal Register Definitions

1. Numerical submittal sequence number: Example: 1, 2, 3, 4, ... (or organized by topics and project assigned coding structure).
2. Number of Copies and electronic and/or hard copy: Example: E (Electronic only), 6 (Six Hard Copies), or Hard, 1: E, 1 (One Hard Copy, and Electronic).
3. Format: Describes the type of submittal required:
 - DWG** An AutoCAD drawing using the Hanford standard formatting
(See [HNF-14660](#), *Off-Site Vendor Directions of the Preparation and Control of Engineering Drawings*).
 - MFC** Microsoft Format Compatible application (Word, Excel, Access, PowerPoint)
 - P3** A Primavera Project Planner schedule
 - GEN** General or Open Format/Media
 - PDF** Adobe Acrobat (Portable Document Format)
4. Submittal Type:
 - APW =** Approval Required Prior to Work (Buyer must approve the Subcontractor's submittal prior to the Subcontractor being authorized to proceed with any activity/work associated with the submittal).
 - AP =** Approval Required (Buyer must approve the Subcontractor's submittal, however, work associated with the submittal may proceed prior to Buyer approval).
 - FIO =** For Information Only (the submittal is not subject to review and/or approval).
5. **Vendor Information: Mark Yes if document(s) are VI, otherwise leave blank.**
6. Description / Document Title: Title or general description of the document.
7. Submittal Date: Actual date or number of Calendar Days before or after a milestone that a submittal is due from the Subcontractor: Example: June 1, 2005 or CD + 60 [60 days after Conceptual Design Complete]
 - A** Date of Award
 - CD** Conceptual Design Complete
 - PD** Preliminary Design Complete
 - FD** Final Design Complete
 - M** Mobilization
 - SC** Start of Construction
 - EC** End of Construction
8. Buyer Review Time (Work Days): Example: 3 Days



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

9. Subcontract Reference: Cross reference to the Subcontract requirement that defines this submittal:
Example: SOW 3.1.2.



Mission Support Alliance Request for Proposal

Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Submittal Register:

The Subcontractor shall meet the required schedule and provide the documents specified in accordance with the following submittals.

Subcontract Number and Name:						Revision:		
1. No.	2. No. of Copies * (See End Note)	3. Format	4. Type	5. Vendor Information – Mark Yes if VI, Otherwise Leave Blank	6. Description / Document Title	7. Submittal Date (Calendar Days)	8. Buyer Review Time (Work Days)	9. Subcontract Paragraph or Requirement Reference
1	1	E	MFC		QA Program & Implementing Procedures IAW Para. 4.3	1 week after award of contract	For	4.3

*For electronic submittals, the number of hard copies can be negotiated with the Contract Specialist and approved by the Project Manager.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-1

Kit Codes Description			<u>Delivery</u>	<u>Retrieval</u>
<u>Code^a</u>		<u>Description</u>	<u>Days Before</u>	<u>Days After</u>
<u>D/R</u>	<u>P/U</u>		<u>Sample Date</u>	<u>Sample Date</u>
1	P	Simulated 24-hr urine. Sample collected at home over a two-day period.	1	1
2	Q	12-hr termination urine. Sample collected at home overnight.	1	0
3	R	24-hr total urine. Sample collected at home and at work. All urine voided during a 24-hour period is collected. (May involve two separate kits; a work kit and a home kit.)	Instructions provided by MSA BTR	

a D/R = Delivery and Retrieval P/U = Pick-Up only.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

4	S	Spot urine. A single voiding. ^a	0	0
5	T	Feces. A single voiding. ^b	1	0
6	U	Variable sampling time (Urine). Used for incidents.	0	1
7	V	Simulated 12-hr urine. Sunday-Monday.	2	1
8	W	Feces (special). A single voiding.	Instructions provided by MSA BTR	
9	X	Out of delivery area urine. (A special kit designed to withstand shipping.)	Instructions provided by MSA BTR	
A	Y	A Simulated 48-hr urine. Sample collected at home over a 4 day period.	2	2
B	N/A	12-hr termination urine. Sample collected at home overnight. Kit delivered in normal manner, but brought to a designated on-site location by worker for pick-up by Contractor.	1	N/A

^a MSA BTR may specify specific sample and pickup days.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-2

Nonstandard Bioassay Orders

Processing

Category

Nonstandard Ordering/Kit Delivery/Kit Retrieval

Routine

Nonstandard bioassay orders for Routine processing will be transmitted as necessary no later than 2:00 p.m. on the business day preceding the business day specified for sample kit delivery. The Contractor shall, as instructed, deliver sample kits during the following business day. Retrieval of sample kits shall be performed as dictated by the type of analytical test and kit code ordered.

Priority

Nonstandard bioassay orders for Priority processing will be transmitted during business hours, as necessary. The Contractor shall deliver Priority processing sample kits within four (4) hours of receiving instructions unless otherwise directed by the MSA BTR. When kit delivery orders are transmitted after 1:00 p.m., kit delivery may be performed the following business day so long as the total elapsed time, during business hours, does not exceed four (4) hours. Retrieval of sample kits shall be performed as dictated by the type of analytical test and kit code ordered.

When instructed by MSA, the Contractor shall deliver Priority processing sample kits outside business hours, within four (4) hours of receiving instructions. Retrieval of sample kits shall be performed as dictated by the type of analytical test and kit code ordered (outside business hours if necessary).

Expedite

Nonstandard bioassay orders for Expedite processing will be transmitted at any time, as necessary. The Contractor shall deliver or retrieve Expedite processing sample kits within four (4) business hours of receiving instructions.

Emergency

Bioassay orders for Emergency processing will be transmitted at any time, as necessary. The Contractor shall deliver or retrieve Emergency processing sample kits, as soon as possible, not to exceed four (4) hours of receiving instructions.

Out of Delivery

When ordered, the Contractor shall ship sample kits outside of the delivery area.

Area

The sample kits may be shipped by surface to the individual designated to provide the sample. The sample kit shall be returned via overnight air delivery, with charges reversed to the Contractor, or U.S. Mail COD.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Collection

When ordered, the Contractor shall collect a sample and store it pending the evaluation of the analytical results of a specified related sample. The Contractor shall not dispose of a sample that has been ordered stored unless authorized by the MSA BTR.

Pick-Up Only

Orders may be designated pick-up only by appropriate designation of the kit code in the electronic order, or by oral or electronic notification of the Contractor. For such orders, the Contractor only retrieves the kit from the designated location. Following notification the kit is available for pick-up; the Contractor shall retrieve the kit within the time normally specified for kit delivery.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

ABLE B-3

Analytical And Reporting Requirements For Routine Processing Of Samples

Analysis (Code)	Constituents Reported	Contractual Detection			Determination Time (business days following sample receipt)	Reporting Time ^(a)			Email Reporting Limit; (dpm/sample) ^(b)	
		Level ^(a) (dpm/sample)	Urine	Fecal		Email	Electronic	Written	Urine	Fecal
Pu(∞) Isotopic (IPU)	Pu-238, Pu-239, 240	0.02	0.2	20	By close of business on day of determination	Within five business days of determination	Within 10 business days of determination	Eq. 1	Eq. 1	
Pu(∞) Isotopic (IPUL)	Pu-238, Pu-239, 240	0.005		30				Eq. 1		
Am-241 (AM241)	Am-241	0.02	0.2	20				Eq. 1	Eq. 1	
Am-243 (AM243)	Am-243	0.02	0.2	20			Eq. 1	Eq. 1		
Cm(∞) Isotopic (ICM)	Cm-242, Cm-244 ^(c)	0.02		20			Eq. 1			
U(∞) Isotopic (IU)	U-234, U-235, U-238	0.02		20			(d)			
Th(∞) Isotopic (ITH)	Th-228, Th-229, Th-230, Th-232	0.1	1	20			Eq. 1	Eq. 1		
Np-237 (NP237)	Np-237	0.02	0.1	20			Eq. 1	Eq. 1		
Tritium (H3)	H-3	20 dpm/ml		5			10 dpm/ml			
Sr-total (SR)	Sr (sum Sr-89 + Sr-90)	10		20			5			
Sr-90 (SR90) ^(e)	Sr-90	10		30			5			
Gamma Spectroscopy (ISPEC)	K-40, Cs-137 + Others ^(f)	See Table B-5		20			Eq. 1			
Gamma Spectroscopy (LEPD)	Am-241	5		20			Eq. 1			
U-236 Mass (U 236)	U-236	0.000140 $\mu\text{g/sample}^{(g)}$		20			70 pg/sample			
U-238 Mass (U 238)	U-238	0.06 $\mu\text{g/sample}$	0.3	20			0.2 $\mu\text{g/sample}$			
Pm-147 (PM147)	Pm-147	50	200	20			Eq. 1			
Sequential Analyses:										
Pu(∞) Iso and Sr-total (IPS)	As for individual analyses			25	As for individual analyses					
Pu(∞) Iso, Am-241 (IPA)				25						
Pu(∞) Iso, Am-241, Sr-total (IPSA)				25						



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Pu(∞) Iso, U-238 (IUPU)	25
Actinide(∞) Isotopic (ITPAC) ^(h)	25
Cm(∞) Iso, Am-241 (ICA) Cm-242, Cm-244, Am-241 ^(c)	20
Pu(∞) Iso and U ISO (IPIU)	25

- (a) Time allowed following determination of results to receipt of results by MSA.
- (b) Email report required only when analytical results exceed level specified.
- (c) Report measured activity for Cm-246, and Cm-248 upon request of the MSA BTR.
- (d) 0.15 dpm for U-234, 0.15 dpm for U-238, and the greater of 0.007dpm and Equation 5 for U-235.
- (e) If total Strontium is less than 15 dpm, Y ingrowth is not required.
- (f) Report all isotopes present at levels exceeding Equation 1. If ordered by the MSA BTR, report results for radionuclides in Table B-5 specified in the processing instruction, regardless of the activity measured.
- (g) CL is for U-236 in the presence of 0.2 microgram U-238 and 0.0014 microgram U-235.
- (h) Pu (∞) Isotopic, Am-241, and Cm (∞) Isotopic.

TABLE B-4

ANALYTICAL AND REPORTING REQUIREMENTS FOR PRIORITY PROCESSING OF SAMPLES

Analysis (Code)	Constituents Reported	Contractual Detection Level ^(a) (dpm/sample)		Determination Time (business days following sample receipt)	Reporting Time ^(b)		
		Urine	Fecal		Email	Electronic	Written
Pu(∞) Isotopic (IPU)	Pu-238, Pu-239, 240	0.02	0.2	8	By close of business on day of determination	Within five business days of determination	Within 10 business days of determination
Pu(∞) Isotopic (IPUL)	Pu-238, Pu-239, 240	0.005		15			
Cm(∞) Isotopic (ICM)	Cm-242, Cm-244 ^(c)	0.02	0.2	8			
U(∞) Isotopic (IU)	U-234, U-235, U-238	0.02	0.3	8			
Ra(∞) Isotopic (IRA)	Ra-224, Ra-226	0.3	1.5	8			
Np-237 (NP237)	Np-237	0.02	0.1	8			
Am-241 (AM241)	Am-241	0.02	0.2	8			
Am-243 (AM243)	Am-243	0.02	0.2	8			
Th(∞) Isotopic (ITH)	Th-228, Th-229, Th-230, Th-232	0.1	1	8			



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

U-236 Mass (U 236)	U-236	140 pg/sample ^(d)		8
U-238 Mass (U 238)	U-238	0.06 µg/sample	0.3 µg/sample	8
Tritium (H3)	H-3	20 dpm/ml		3
C-14 (C14)	C-14	10 dpm/ml	200	3
Sr-total (SR)	Sr (sum Sr-89 + Sr-90)	10	30	7
Sr-Isotopic (ISR)	Sr-89, Sr-90	30	45, 30 respectively	15 ^(e)
Sr-90 (SR90)	Sr-90	10	30	15 ^(e)
Pm-147 (PM147)	Pm-147	50	200	8
Pu-241 (PU241)	Pu-241	10	10	9
Gamma Spectroscopy (ISPEC)	K-40, Cs-137 + Others ^(f)	See Table B-5	See Table B-5	3
Gamma Spectroscopy (LEPD)	Am-241	5	5	8

Sequential Analyses:

Pu(∞) Iso and Sr-total (IPS)	As for individual analyses	As for individual analyses		9
Pu(∞) Iso, Am-241 (IPA)				9
Pu(∞) Iso, Am-241, Sr-total(IPSA)				9
Pu(∞) Iso, Pu-241 (IPUB)				9 ^(g)
Pu(∞) Iso, Pu-241, Am-241 (IPUBA)				9 ^(g)
Pu(∞) Iso, U-238 (IUPU)				9
Actinide(∞) Isotopic (ITPAC) ^(h)				9
Cm(∞) Iso, Am-241(ICA)				8 ^(c)
Pu(∞) Iso and UIISO (IPIU)				9

(a) CL is stated in terms of dpm/sample for fecal samples of 20 to 500 g.

(b) Time allowed following determination of results to receipt of results by MSA. Email report required for all priority analytical results.

(c) Report measured activity for Cm-246, and Cm-248 upon request of the MSA BTR.

(d) CL is for U-236 in the presence of 0.2 microgram U-238 and 0.0014 microgram U-235.

(e) Sr-90 to be determined within 15 business days. Total Sr to be determined within 7 business days and email report provided upon determination. Y in-growth not required if total Sr less than 15 dpm.

(f) Report all isotopes present at levels exceeding one-half the appropriate CL listed in Table B-5. If ordered by the MSA BTR report results for all radionuclides in Table B-5.

(g) Pu-241 to be determined within 16 business days.

(h) Pu (∞) Isotopic, Am-241, and Cm (∞) Isotopic.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-5

Contractual Detection Levels (CLs) for Routine, Priority
and Expedite Processing of Gamma Spectroscopy Analyses^(a)

<u>Isotope</u>	<u>CL, Urine (dpm/sample)^(b)</u>	<u>CL, Feces (dpm/sample)</u>
Co-60	15	15
Fe-59	15	15
Mn-54	10	10
Ru-106	60	75
Ce-141	15	20
Ce-144	40	50
Cs-134	10	10
Cs-137	15	15
Zr-95	15	20
Ba-140	35	35
I-131	10	20



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Na-24	15	15
Na-22	15	15
Zn-65	20	20
Np-239	25	30
Am-241	70	65

-
- (a) The Contractor shall resolve and quantify unknown mixtures of gamma-emitting radionuclides. The nuclides and CLs listed shall be interpreted as minimum requirement; the Contractor shall detect and quantify all other gamma emitters present at a nominal detection limit of 20 dpm for each unspecified nuclide with $E_{\gamma} > 100$ keV as relative to energy and photon abundance of Cs-137.
 - (b) CL is in units of dpm/liter, for samples greater than or equal to 1 liter.



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TABLE B-6

Analytical and Reporting Requirements for Expedite Processing of Samples

<u>Analysis (Code)</u>	<u>Constituents Reported</u>	<u>Contractual Detections Level^(a) (dpm/sample)</u>		<u>Reporting Time^(b)</u>		
		<u>Urine</u>	<u>Feces</u>	<u>Email^(c)</u>	<u>Electronic</u>	<u>Written</u>
Pu(□) Isotopic (IPU)	Pu-238, Pu-239, 240	0.08	3	By 9:00 a.m. on 2nd business day following sample receipt	Within five business days	Within 10 business days
Cm(□) Isotopic (ICM)	Cm-242, Cm-244 ^(d)	1.2	70			
U(□) Isotopic (IU)	U- 234, U-235, U-238	0.12	4			
Ra(□) Isotopic (IRA)	Ra-224, Ra-226	0.3	3			
Am-241 (AM241)	Am-241	0.08	6			
Am-243 (AM243)	Am-243	0.08	6			
Np-237 (NP237)	Np-237	0.12	3			
Th (□) Isotopic (ITH)	Th-228, Th-229, Th-230, Th-232	0.1	1			
U-238 (U)	U-238	0.5 µg/sample	5 µg/sample			
Tritium (H3)	H-3	100 dpm/ml				
C-14 (C14)	C-14	20 dpm/ml	2000			
Pm-147 (PM147)	Pm-147	200	2000			
Sr-total (SR)	Sr (sum Sr-89 + Sr-90)	50	150			
Gamma Spectroscopy (ISPEC)	K-40, Cs-137 + Others ^(e)	See Table B-5	See Table B-5			
Gamma Spectroscopy (LEPD)	Am-241	5	5			

Sequential Analyses:

Pu(□) Iso, Am-241 (IPA)	As for individual analyses	As for individual analyses	As for individual analyses
Pu(□) Iso, Sr-total (IPS)			
Pu(□) Iso, Sr-total, Am-241 (IPSA)			
Pu(□) Iso, U-238 (IUPU)			

(a) Detection level in terms of dpm/300 ml for urine samples in excess of 300 ml. CL is stated in terms of dpm/sample for fecal samples of 20 to 500 g.

(b) Time allowed following email report to delivery of results to the MSA BTR.



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- (c) Email report required for all analytical results.
- (d) Report measured activity for Cm-246, and Cm-248 upon request of the MSA BTR (see Table B-3).
- (e) Report all isotopes present at levels exceeding one-half the appropriate CL listed in Table B-5. If ordered by the MSA BTR, report results for radionuclides in Table B-5 specified in the processing instructions, regardless of the activity measured.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-7

Analytical and Reporting Requirements for Emergency Processing of Samples

<u>Analysis (Code)</u>	<u>Constituents Reported</u>	<u>Contractual Detection Level^(a)</u>		<u>Email^(b)</u>	<u>Reporting Time</u>	
		<u>dpm/sample)</u>			<u>Electronic^(c)</u>	<u>Written^(c)</u>
Pu(□) Isotopic (IPU)	Pu-238, Pu-239, 240	0.5	9	24	Within five business days.	Within ten business days.
Cm(□) Isotopic (ICM)	Cm-242, 244 + Others ^(d)	10	240	24		
U(□) Isotopic (IU)	U-233, 234, U-235, U-238	1	12	24		
Ra(□) Isotopic (IRA)	Ra-224, Ra-226	2	10	24		
Th(□) Isotopic (ITH)	Th-228, Th-229, Th-230, Th-232	0.5	2	24		
Am-241 (AM241)	Am-241	1	20	24		
Am-243 (AM243)	Am-243	1	20	24		
Np-237 (NP237)	Np-237	1	10	24		
U-238 (U238)	U-238	7 µg/sample	8 µg/sample	24		
Tritium (H3)	H-3	100 dpm/ml	-	24		
C-14 (C14)	C-14	100 dpm/ml	10,000	24		
Pm-147 (PM147)	Pm-147	1,000	10,000	24		
Sr-total (SR)	Sr (Sr-89 + Sr-90)	80	450	24		
Gamma Spectroscopy (ISPEC)	K-40, Cs-137, + Others ^(e)	See Table B-8	See Table B-8	24		
Gamma Spectroscopy (LEPD)	Am-241	20	20	24		
Sequential Analyses:						
Pu(□) Iso, Am-241 (IPA)	As for individual analyses	As for individual	As for individual	24		
Pu(□) Iso, Sr-total (IPS)		analyses	analyses	24		
Pu(□) Iso, Sr-total, Am-241 (IPSA)				24		
Pu(□) Iso, U-238 (IUPU)				24		

(a) Detection level in terms of dpm/300 ml for urine samples in excess of 300 ml. CL is stated in terms of dpm/sample for fecal samples of 20 to 500 g.

(b) Hours following sample receipt. Email report required for all analytical results. These time requirements apply for up to 25 (20 for LEPD) samples submitted at any one time.

(c) Time allowed following email report to delivery of results to the MSA BTR.



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(d) Report measured activity for Cm-246, and Cm-248 upon request of the MSA BTR

(e) Report all isotopes present at levels exceeding one-half the appropriate CL listed in Table B-5. If ordered by the MSA BTR, report results for radionuclides in Table B-5 specified in the processing instructions, regardless of the activity measured.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-8

Contractual Detection Levels (CLs) for Emergency Processing of Gamma Spectroscopy Analyses^(a)

<u>Isotope</u>	<u>CL, Urine (dpm/sample)^(b)</u>	<u>CL, Feces (dpm/sample)</u>
Co-60	35	35
Fe-59	35	55
Mn-54	20	35
Ru-106	115	220
Ce-141	20	35
Ce-144	75	145
Cs-134	20	30
Cs-137	20	35
Zr-95	30	50
Ba-140	60	115
I-131	15	25
Na-24	25	25
Na-22	25	25
Zn-65	40	65
Np-239	40	70
Am-241	100	180

(a)The Contractor shall resolve and quantify unknown mixtures of gamma-emitting radionuclides. The nuclides and CLs listed should be interpreted as minimum requirements; the Contractor shall detect and quantify all other gamma emitters detectable using the same conditions as for the CLs listed.

(b)CL is in units of dpm/liter, for samples larger than or equal to 100 ml.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-9 - Special Analyses

Analysis	Processing Code	Constituent	CL	Determination Time (following Sample Receipt)	Report (Email & Written)
Radioanalyses of various media (tissue, filter, paper, cotton swabs)	Expedite	Any item in Table B-7	10 x CL for urine in Table B-4	24-hours	Email – immediately at determination Written-COB next business day
	Priority	Any item in Table B-4	10 x CL for urine in Table B-4	5 business days	Email – immediately at determination Written-5 business days
Pu (□) Iso, Am-241 in blood	Expedite	Pu-238, Pu-239/240, Am-241	1 dpm/sample each constituent (sample size, 1–25 ml)	8-hours	Email – immediately at determination Written-COB next business day
	Priority	Pu-238, Pu-239/240, Am-241	1 dpm/sample each constituent (sample size, 1–25 ml)	5 business days	Email – immediately at determination Written-5 business days
Low-Level Uranium on air sample collection plates/filters	Routine	Elemental Uranium	0.2 microgram per sample	20 business days	Email – immediately at determination Written-10 business days following determination
Low-Level Uranium, water	Routine	Elemental Uranium	0.2 microgram per sample	20 business days	Email – immediately at determination Written-10 business days following determination



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Sp. Gravity pH (urine)	Expedite	Sp. Gravity pH	N/A N/A	24-hours	Email – immediately at determination Written-COB next business day
	Priority	Sp. Gravity pH	N/A N/A	5 business days	Email – immediately at determination Written-5 business days



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-10

Yield Requirements

<u>Element</u>	<u>Minimum Yield^a</u>	<u>Low Yield^a</u>	<u>High Yield^a</u>	<u>Maximum Yield^a</u>
Plutonium	25% ^b	50% ^b	110% ^b	125% ^b
Strontium	25%	50%	110%	125%
Americium	20%	40%	110%	125%
Uranium	20%	40%	110%	125%
Neptunium	20%	40%	110%	125%
Thorium	20%	40%	110%	125%
Curium	20%	40%	110%	125%

(a) Gravimetric or radiometric as applicable.

(b) Not applicable to kit code A samples.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-11

Minimum Acceptable Volumes^a

<u>Kit Code</u>	<u>Minimum Acceptable Volume (ml)</u>	
	<u>Routine Process</u>	<u>Other Process</u>
1, P	500	20
2, Q	20	20
3, R	500	20
4, S	20	20
5, T	N/A ^b	20 ^c
6, U	250	20
7, V	250	20
8, W	20 ^c	N/A ^b

aFor tritium analysis, the minimum volume shall be 20 ml, regardless of the kit code. For other analyses, samples with less than the listed volumes shall be reported as insufficient volume (IS) and shall not be processed unless specifically directed otherwise by the MSA BTR.

bNot applicable

cFor fecal samples the criteria are in terms of mass (grams).



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

9, X	20	20
A, Y	1000	N/A ^b
B	20	20



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-12

NO RESULT CODES

IS = Insufficient Volume

NS = Employee Did Not Sample

FA = Failed Analysis (comment field states chemical yield value if below minimum or above maximum yield)

LC = Lost Container

CS = Canceled by MSA

ND = Not Delivered

NE = Not Evaluated

TABLE B-13

SAMPLE TYPE CODES

<u>Sample Type Code</u>	<u>Description</u>
B	Blood
F	Feces
S	Sputum
T	Tissue
U	Urine

TABLE B-14

SAMPLE REASON CODES FOR EXCRETA



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Sample

Reason for

Reason Code

Measurement

BL	Baseline
CR	Contractor Request
EA	End Assignment
HL	Pick-up/Hold Pending Instructions
HA	Analyze HL Sample
HC	Cancel Analysis of HL Sample
PR	Periodic
QR	Quality/Research
RA	First Reanalysis
RB	Second Reanalysis
R1	First Recount
R2	Second Recount
RX	Fecal Recount to Urine CL
SP	Special
TM	Termination



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-15

SAMPLE KIT CODES

<u>Kit Code^a</u>			
<u>D/R</u>	<u>P/U</u>	<u>Media</u>	<u>Sample Description</u>
1	P	Urine	Approximate 24-hour urine collection. Collected at home over a 2-day period. Used for routine sampling and when a larger volume sample is desired. Designated sample date is the day after kit delivery to the employee.
2	Q	Urine	Approximate 12-hour urine collection for termination sampling only. Collected at home overnight. Designated sample date is the day after the date of kit delivery to the employee.
3	R	Urine	Total 24-hour urine collection. Collected at home and at work (if necessary) to collect ALL urine voided during a 24-hour period. Generally used for sampling immediately following an occurrence or for work restriction sampling. Designated sample date is the day after delivery or the date on which the sample collection began.
4	S	Urine	Single void (spot urine) collection. Collection in a single bottle, used for initial indications of an intake. Designated sample date is the date of voiding.
5	T	Feces	Collection of a single fecal voiding usually for investigation of a potential intake. Rapid or priority processing. Sample date is the date on which the sample is collected.
6	U	Urine	Partial day or approximate 12-hour collection. Usually collected at home overnight. Used for collection following an occurrence or when a large volume urine sample is not necessary, such as for tritium or uranium determination. Designated sample date is the date of delivery to the employee.
7	V	Urine	Approximate 12-hour collection Sunday-Monday sample (Friday delivery only). Generally used for uranium workers. Designated sample date is the Sunday in the sampling period.

a D/R = Delivery and Retrieval; P/U = Pick-Up only.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

8	W	Feces	Collection of a single fecal voiding used for a special program for plutonium oxide workers. Designated sample date for shift workers is the Tuesday of long shift change, and for day workers is the appropriate Sunday.
9	X	Urine	Kit designed for collection of urine outside the local service area. Transportation is handled by private carrier. Generally used for termination samples not collected locally.
A	Y	Urine	Approximate 48-hour urine collection. Collected at home over a 4-day period. Used for IPUL sampling. Designated sample date is two days after kit delivery to the employee.
B	N/A	Urine	12-hour urine collection for termination sampling only. Collected at home overnight. Kit delivered in normal manner, but brought to a designated on-site location by worker for pick-up by Contractor. Designated sample date is the day after the date of kit delivery to the employee.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

TABLE B-16

PROCESS CODES

Computer

<u>Code</u>	<u>Description</u>
R	Routine Processing
P	Priority Processing
X	Expedite Processing
E	Emergency Processing

TABLE B-17

UNITS CODES

Computer

<u>Code</u>	<u>Description of Units</u>
01	dpm/sample
02	dpm/volume analyzed
04	µg/sample
05	µCi/L
08	µCi/sample
09	dpm/mL

TABLE B-18

BIOASSAY FREQUENCY CODES



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Code	Frequency of Bioassay
A	Annual
B	Biennial
D	Special Day
F	Five Years
M	Monthly
Q	Quarterly
S	Semiannual
W	Weekly
X	Biweekly (every 2 weeks)

TABLE B-19

ISOTOPE CODES

Isotope	Multiple Result Code	Isotope	Multiple Result Code
AM241		ITPAC	K
AM243		IU	U
BA140		IUPU	O
C 14		K40	
CE141		LEPD	X



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

CE144		MN 54	
CM242		NA 22	
CM244		NA 24	
CS134		NP237	
CS137		PU238	
CO 60		PU239	
EU154		PU241	
EU155		PU242	
EU156		RA244	
FE 59		RA226	
H 3		RA228	
I 131		RU106	
IPIU	B	SR	
ICA	V	SR 89	
ICM	D	SR 90	
IPA	J	TH228	
IPS	P	TH230	
IPSA	L	TH232	
IPU	Q	U	
IPUB	N	UMS	E
IPUBA	Z	U 234	
IPUL	G	U 235	
IRA	R	U 236	
ISPEC	W	U 238	
ISR	Y	ZN 65	
ITH	T	ZR 65	



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

Note: All isotope codes require five characters. Codes without numerals shall have spaces added at the end. Codes with numerals shall have spaces added between the letters and numerals to total five characters.

TABLE B-20

STATUS CODES

CN	Container Not Out
CS	Canceled by MSA
FA	Failed Analysis (comment field states chemical yield if below minimum or above maximum yield)
IS	Insufficient Volume
LC	Lost Container
ND	Not Delivered
NE	Not Evaluated
NS	Employee Did Not Sample
PE	Held Pending Further Instructions
RV	Received Valid

TABLE B-21

ANALYSIS CODES AND ASSOCIATED MULTIPLE RESULT CODES (underline indicates space)

<u>Analysis</u>	<u>Multiple Result Code</u> (Results Column 185)	<u>Reported Isotopes</u> (Columns 15-19)
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Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

ICA CM244	V	AM241, CM242,
ICM	D	CM242, CM244
IPIU U_234,	B	PU238, PU239, U_235, U_238
IPA AM241	J	PU238, PU239,
IPS SR__	P	PU238, PU239,
IPSA SR__, AM241	L	PU238, PU239,
IPU	Q	PU238, PU239
IPUB PU241	N	PU238, PU239,
IPUBA PU241, AM241	Z	PU238, PU239,
IPUL	G	PU238, PU239
IRA	R	RA224, RA226
ISPEC	W	Table B-5
ISR	Y	SR_89, SR_90
ITH TH230, TH232	T	TH228, TH229,
ITPAC CM242, CM244	K	PU238, PU239, AM241,
IU U_238	U	U_234, U_235,
IUPU	O	U____, PU238, U239



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

ESTIMATED BIOASSAY RADIOCHEMICAL ANALYTICAL SERVICES FOR FY12

The table below provides FY-12 and FY-13 estimates of the number of units by test, type, and media. These estimates are based on current knowledge of the changing conditions associated with Hanford Site activities and estimated funding profiles as well as historical trends. There is no assurance that these estimates will met or that they will not be exceeded.

TABLE X KIT DELIVERY/RETRIEVAL

		Qty	
	DELIVERY AND RETRIEVAL	4760	
	PICK-UP ONLY	526	
	OUT OF DELIVERY AREA	6	

Fixed Unit Prices (FUP) apply as of date of sample receipt.

Table X

Analytical Test	Sample Medium	Routine Qty	Priority Qty	Expedite Qty	Emergency Qty	Data Recheck Qty	Recount Qty
IPU	U	1408	32	0	1	8	21
	F	1	1	1	0	1	2
IPUL	U	5	0	0	0	1	1
SR90	U	100	8	0	0	1	1
	F	0	1	0	0	1	1
SR	U	136	1	0	0	1	1
	F	0	0	0	0	1	1
PM147	U	1	0	0	0	1	1
	F	0	0	0	0	1	1
U238	U	432	8	0	0	1	1
	F	0	0	0	0	1	1
U236	U	8	2	0	0	1	1
AM241	U	92	8	0	0	1	6
	F	1	3	0	0	1	1
AM243	U	88	4	0	0	1	4
	F	0	0	0	0	1	1
ISPEC	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
LEPD	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
ITPAC	U	184	0	0	0	1	1
ICM	U	8	2	0	0	1	1
	F	0	1	0	0	1	1
H3	U	816	5	0	0	1	1
IU	U	536	8	0	0	1	4
	F	0	2	0	0	1	1
IPS	U	624	0	0	0	5	1
	F	0	0	0	0	1	1
IPA	U	408	16	0	0	2	2
	F	8	40	0	0	1	3
IPSA	U	160	8	0	0	1	1
	F	0	0	0	0	1	1
C14	U	0	0	0	0	1	1
	F	0	0	0	0	1	1



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

PU241	U	0	0	0	0	1	1
	F	0	1	0	0	1	1
ISR	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
NP237	U	8	0	0	0	1	1
	F	0	0	0	0	1	1
IRA	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
ICA	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
IPUB	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
IPUBA	U	0	0	0	0	1	1
	F	0	0	0	0	1	1
IUPU	U	104	0	0	0	1	1
	F	0	0	0	0	1	1
ITH	U	4	1	0	0	1	2
	F	0	0	0	0	1	1
IPIU	U	12	0	0	0	1	1
	F	0	1	0	0	1	1

Table X Analyses

		Routine Qty	Priority Qty	Expedite Qty	Emergency Qty	Data Recheck Qty	Recount Qty
RADIOANALYSES		0	1	0	1	1	1
PuISO; Am-BLOOD		0	1	0	1	1	1
LOW-LEVEL U		1	0	0	0	1	1
SP. GRAVITY		0	1	0	1	0	1
Ph		0	1	0	1	0	1

NOTE: SEE STATEMENT OF WORK FOR CONSTITUENT LISTS

NOTE: SAMPLE MEDIUM: U=URINE, F=FECES



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

D.0 PACKING MARKING & TRANSPORTATION INSTRUCTIONS – NOT USED

F.0 DELIVERY/PERFORMANCE

F.1 Term of Contract

(F08) Rev. 0 3/14/2011

The term of this Subcontract shall commence on the date of award and shall end on September 30, 2012 unless extended by the parties or unless terminated by other provisions of this Subcontract. (See Section H., Clause H54 Subcontract Options)

Contract Option Years

Base Year (FY12) - Implementation Phase

Start Date: Award Date to Completion Date: September 30, 2012

Option 1 (FY13) - Life Cycle Phase

Start Date: October 1, 2012 to Completion Date: September 30, 2013

Option 2 (FY14)- Life Cycle Phase

Start Date: October 1, 2013 to Completion Date: September 30, 2014

Option 3 (FY15) - Life Cycle Phase

Start Date: October 1, 2014 to Completion Date: September 30, 2015

Option 4 (FY16) - Life Cycle Phase

Start Date: October 1, 2015 to Completion Date: September 30, 2016

G.0 CONTRACT ADMINISTRATION

G.1 Document Transmittals

(G01) Rev. 0 3/14/2011

The Subcontractor shall utilize a document transmittal system for the exchange of data and information during the performance of work under this Subcontract. The transmittal shall contain (1) a unique identification number, (2) a brief identification of the document(s) including revisions, (3) the date of the transmittal, (4) purpose of the transmittal, including required action (if any) (5) signature of Subcontractor representative, and (6) means or provisions for receipt acknowledgement by the Buyer.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

G.2 Estimated Billing

(G02) Rev. 0 3/14/2011

It is mandatory for continued acceptable performance that the Subcontractor provide monthly, to Mission Support Alliance Accounts Payable, the best estimate of the total billable cost (invoiced plus invoiceable) from inception of the Subcontract through the current calendar month end. This information must be provided in writing by email (preferred), fax, or mail by the 15th of each month. This data must be provided for each Subcontract release until all payments are received and the Subcontract is complete.

Email: msa_accruals@rl.gov

Fax: (509) 373-6264

Mailing Address:

Mission Support Alliance, LLC.

Attn: Accruals MSIN G1-80

P.O. Box 650

Richland, WA 99352

Monthly Subcontract-to-Date Cost Estimate Form can be obtained at the following Internet Address: <http://www.hanford.gov/pmm/page.cfm/AP>

G.3 Electronic Mail Capability

(G11) Rev. 0 3/14/2011

The Subcontractor shall provide and maintain Internet and electronic mail capability for the duration of the Subcontract. The Subcontractor email account shall be able to send and receive attached documents of up to 1/2 megabyte in size. Correspondence and Administrative messages concerning this Subcontract will be conducted via email in current versions of Microsoft Office applications, ASCII text, RTF, PDF, ZIP, and other commonly used file formats. In addition, information, data and forms may be posted on the Buyer's Internet web site for downloading by the Subcontractor.

G.4 Closeout Certification

(G19) Rev. 0 3/14/2011

Subcontractor shall properly execute and mail to the Buyer a final release, in a format acceptable to the Buyer, within five working days from the last date services are provided hereunder and/or the date of the last shipment made hereunder. Final payment will not be made until a final release is properly executed and received by the Buyer.

See: http://www.hanford.gov/pmm/files.cfm/Final_Release_MSA.pdf.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

G.5 Requests for Clarification or Information

G32) Rev. 0 3/14/2011

Where necessary, the Subcontractor may elect to submit a formal request for Clarification or Information as necessary to obtain technical clarifications using the [Request for Clarification or Information \(RCI\) Form](#) available at <http://www.hanford.gov/pmm/page.cfm/ContractorForms>. Instructions for completion of the RCI Form are included with the form. The inquiry portion of the RCI Form shall be completed by the Subcontractor, including a determination of priority and an identification of schedule delay with the issue, if applicable. RCI Form numbering shall be left blank and assigned by MSA upon receipt. MSA will complete an evaluation, and provide a disposition and determine additional actions required, when appropriate. The purpose of the form is to facilitate formal communications when necessary.

G.6 Electronic Funds Transfer of Invoice Payments

(G33) Rev. 0 1/28/2010

Electronic funds transfer of invoice payments is an available optional method of invoice payment by the Buyer. An “Authorization for Electronic Funds Transfer of Invoice Payments” form must be completed and returned before payments can be made. A copy of the form is available for downloading from the Buyer’s Web page or from the Buyer.

<http://www.hanford.gov/pmm/files.cfm/eft.pdf>

G.7 Invoices and Payments (Electronic)

(G36) Rev. 0 1/28/2010

Invoices shall be submitted electronically via e-mail to both Mission Support Alliance Accounts Payable (MSA AP) at the following e-mail address: msa_invoices@rl.gov (msa_invoices@rl.gov) **and (in the same email)** to the Contract Specialist. The company name, invoice number, and the contract and release numbers must be shown in the subject line of the e-mail message used to submit an electronic invoice. The suggested format for the subject line is: Contractor Name, Invoice XXXXX, Contract XXXXX-X.

If payments will be made via Electronic Funds Transfer (EFT), an “Authorization for Electronic Funds Transfer of Invoice Payments” form must be completed and returned before payments can be made. <http://www.hanford.gov/pmm/files.cfm/eft.pdf>

Each invoice must have a unique invoice number and, as a minimum, shall identify the:

- Billing company;
- Blanket Order or Basic Ordering Agreement (if applicable),
- Task order (release) number
- Name of the worker(s);
- Hourly rate(s);
- Work hours and date performed;



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

- Brief statement describing the work performed.

Submittal of an invoice constitutes certification that services have been delivered and invoice rates are in accordance with the task order. An electronically submitted invoice will be accepted as an original invoice when authorized by the Contract and received by MSA AP. Unauthorized deviations will result in disapproval of the invoice.

H.0 SPECIAL REQUIREMENTS

H.1 Availability of Funds

(H17) Rev. 0 3/14/2011

Funds are not presently available for this Subcontract. The Buyer's obligation under this Subcontract is contingent upon the availability of funds from which payment for Subcontract purposes can be made. No legal liability on the part of the Buyer for any payment may arise until funds are made available to the Buyer for this Subcontract and until the Buyer receives notice of such availability, to be confirmed in writing by the Buyer.

H.2 Reimbursement of Travel Expenses

(H21) Rev. 0 3/14/2011

Only when authorized as part of the workscope on this Subcontract, will travel expenses incurred in performance be reimbursed. Expenses must be in accordance with the Federal Travel Regulations (FTR) in effect at the time of travel, this clause, and any other Subcontract provisions agreed upon in advance.

Current FTR information is available on GSA internet web site. www.gsa.gov (look for links to Travel Policy and Federal Travel Regulations)

The travel expenses must be:

1. Allowable under the FTR and the provisions of this Subcontract;
2. Reasonable, and;
3. Allocable and necessary to performance of the Subcontract.

Submittal of an invoice to the Buyer that includes travel expenses signifies Subcontractor's certification to the above. Failure to comply with these provisions may cause any request for reimbursement to be denied.

Expense reimbursement requests must be submitted in a timely manner, and must identify the name of the traveler, destination, purpose of the travel and days worked under the Subcontract as well as document any required Buyer pre-approval.

The Subcontractor is expected to take reasonable steps to minimize the amount of travel expenses. Unless agreed in advance by the Buyer, invoices for travel expenses must include original or legible copies of receipts, to support:



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1. Actual airfare or other public conveyance expenses
2. Car rental expenses for each rental day - car rental must be for compact or intermediate size
3. Lodging, meals and incidental expenses – must not exceed the GSA CONUS guidelines for the area.

When work assignments are such that travel for any one employee would exceed a short term (typically more than 30 days), the Subcontractor is expected to propose and implement lower cost alternatives to per-diem travel expenses (such as long term lodging, temporary relocation, long term car rental, etc.).

Some information about local travel is posted on the Buyer’s web site at: <http://www.hanford.gov/pmm/page.cfm/Travel>

H.3 Key Personnel

(H23) Rev. 0 3/14/2011

Subcontractor agrees those individuals determined to be key individuals will not be reassigned without the written agreement of the Buyer. Whenever, for any reason, one or more of these individuals are unavailable for assignment for work under this Subcontract, the Subcontractor (with the written approval from the Buyer), shall replace such individual with an individual substantially equal in abilities or qualifications.

The following named individuals have been determined to be key personnel assigned to the performance of this Subcontract.

H.4 Service Contract Act of 1965

(H27) Rev. 0 3/14/2011

This Subcontract is subject to the McNamara-O’Hara Service Contract Act of 1965 (SCA) as specified in [FAR 22.10](#). In accordance with the SCA, the Subcontractor shall pay service employees, employed in the performance of this Subcontract, no less than the minimum wage and furnish fringe benefits in accordance with the applicable Wage Determination.

During the term of this Subcontract, the Buyer may unilaterally modify this Subcontract to incorporate revised Wage Determinations. If a Wage Determination (or revision) is incorporated after award and the Subcontractor has to adjust rates payable to employees covered by the SCA in order to comply with the revised minimum wages and fringe benefits, the Subcontractor may request an equitable adjustment in accordance with the SCA and other provisions of this Subcontract.

Blanket Wage Determination (BWD) 05-2569 is applicable to work performed on the Hanford Site and adjacent area by service occupations identified in the BWD. Service occupations that will be used in performance of this Subcontract at another location or that are not listed in the BWD must be specifically identified herein along with an applicable wage determination.

A copy of the most recent Hanford Area Service Contract Act Blanket Wage Determination is posted at <http://www.wdol.gov/wdol/scafiles/std/05-2569.txt>.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

A Directory of Occupations and more information about the Service Contract Act can be found on the Department of Labor web site at <http://www.dol.gov/compliance/laws/comp-sca.htm>

H.5 Designation of Technical Representative

(H38) Rev. 0 3/14/2011

The Buyer will designate a Buyer’s Technical Representative, (BTR) for this Contract after date of award.

The BTR is responsible for monitoring and providing technical guidance for this Subcontract and should be contacted regarding questions or problems of a technical nature. The BTR is also responsible for appropriate surveillance of the Subcontractor’s representative while on site. In no event, however, will an understanding or agreement, modification, change order, or any deviation from the terms of this Subcontract be effective or binding upon the Buyer unless formalized by proper contractual documents executed by the Contract Specialist prior to completion of this Subcontract. On all matters that pertain to Subcontract terms, the Subcontractor shall contact the Contract Specialist specified within this Subcontract. When in the opinion of the Subcontractor, the BTR requests or directs efforts outside the existing scope of the Subcontract; the Subcontractor shall promptly notify the Contract Specialist in writing. The BTR does not possess any explicit, apparent or implied authority to modify the Subcontract. No action should be taken until the Contract Specialist makes a determination and/or modifies the Subcontract in writing.

H.6 Subcontract Options

(H54) Rev. 0 3/14/2011

The Buyer retains the sole right to exercise the option(s) included in this Subcontract. The inclusion of the option(s) does not represent a commitment, financial or otherwise, on the part of the Buyer to exercise any or all of the option(s) nor extend the Subcontract beyond the end date specified by the Subcontract or most current Subcontract amendment. Buyer may exercise one or more options by providing written notice to the Subcontractor prior to the most current Subcontract end date. Lacking written notice by the Buyer, the option(s) will expire with the Subcontract.

H.7 Requirements Contract

(H66) Rev. 0 3/14/2011

1. This is a requirements Subcontract to obtain periodic delivery of the supplies or services specified in the Subcontract. Delivery or performance shall be requested only by authorized releases, tasks, on-line orders, P-card orders, etc., issued in accordance with the terms of this requirements Subcontract.



Radiological Site Services (RSS) In-vivo Bioassay Sample Analysis

2. The quantities of supplies or services if specified herein are estimates only. The Buyer is obligated only to the extent of authorized delivery requests submitted to the Subcontractor.
3. Unless the Subcontractor is unable to meet the Buyer's needs, Buyer will use this requirements Subcontract as a preferred source for the specified supplies or services.

I.0 TERMS AND CONDITIONS

The terms and conditions set forth or referenced in the body of this document by the Buyer shall apply and the Buyer objects to and shall not be bound by any additional or different terms and conditions.

I.1 Buy American Act

((I64) Rev. 0 1/29/2010)

It is the Buyer's preference to purchase domestic end products in accordance with the Buy American Act (BAA, FAR part 25). Subcontractor certifies that all products supplied under this contract are domestic end products as defined in the Buy American Act, except those products of foreign origin which were specifically identified, evaluated and authorized by the Buyer prior to award, <https://www.acquisition.gov/Far/current/html/FARTOCP25.html>

I.2 General Provisions

(Revision 09, March 14, 2011) <http://www.hanford.gov/pmm/page.cfm/Provisions>

I.3 Special Provisions - Instructions for the Preparation of Proposals

(SP-17 Revision 002, May 5, 2011)

<http://www.hanford.gov/pmm/page.cfm/Provisions>

I.4 Special Provisions – Conflict of Interest Disclosure and Representation

(SP-20 Revision 000, March 14, 2011) <http://www.hanford.gov/pmm/page.cfm/Provisions>



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I.5 Special Provisions for Subcontracted Labor

(Revision 001, April 05, 2011) <http://www.hanford.gov/pmm/page.cfm/Provisions>

I.6 General Provisions for Commercial Items

(Revision 004, March 14, 2011) The Buyer has designated this action as meeting the requirements for “commercial items” as defined in FAR Part 2.101 and 12.501.

<http://www.hanford.gov/pmm/page.cfm/Provisions>



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J.0 LIST OF ATTACHMENTS

J.1 Attachment 1 - KEY PERSONNEL RESUME FORM

OFFEROR KEY PERSONNEL:

Title: _____

Name of Individual: _____

Employed by: _____

Number of years with firm: _____

Number of years as practicing professional in your current field _____

Education:(degree(s)/year/specialization/certifications):

Experience: (most recent to earliest)

Project: _____ **Company** _____

Dates: From _____ **to** _____

Title: _____

Duties & Responsibilities:



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Project: _____ Company _____

Dates: From _____ to _____

Title: _____

Duties & Responsibilities:

Project: _____ Company _____

Dates: From _____ to _____

Title: _____

Duties & Responsibilities:

Project: _____ Company _____

Dates: From _____ to _____

Title: _____

Duties & Responsibilities:

Additional Info:



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J.2 Attachment 2 - OFFEROR’S PAST PERFORMANCE SURVEY

Fill out all applicable parts.

Fluor is interested in your assessment of the named company's "past performance." Past performance refers to the company's record of conforming to contract requirements and to standards of good workmanship; the company's record of forecasting and controlling costs; the company's adherence to contract schedules including the administrative aspects of performance; the company's history of reasonable and cooperative behavior and commitment to customer satisfaction; and the company’s general business-like concern for the interest of the customer.

These questions relate to the work performed by _____

(Name of Offeror)

at _____

(Name and Location of Contract)

for _____

(Type of Work Performed)

1. How would you rate the performance of this Contractor on the subject project:

a. Conformance to contract requirements and standards of Quality.

Outstanding Above Average Satisfactory Marginal Unsatisfactory



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b. Effectiveness of Management considering the elements cooperation and responsiveness, management of resources/personnel, coordination and control of subcontractors, effectiveness of personnel supervision, compliance with laws and regulations, professional conduct, and review/resolution of subcontractor's issues.

Outstanding Above Average Satisfactory Marginal Unsatisfactory

c. Timely Performance considering the elements resolution of delays, submission of required documentation, conformance to scheduled.

Outstanding Above Average Satisfactory Marginal Unsatisfactory

d. Compliance with Labor considering the elements correction of noted deficiencies, payrolls properly completed and submitted, compliance with labor laws and regulations, and EEO requirements.

Outstanding Above Average Satisfactory Marginal Unsatisfactory

e. Compliance with Safety considering the elements adequacy of safety and correction of noted deficiencies.



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Outstanding Above Average Satisfactory Marginal Unsatisfactory

2.

Remarks/Comments: _____

Name _____
Title _____
Telephone _____
Fax _____
E-Mail Address _____
Date _____



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K.0 SIGNATURES – NOT USED

L.0 REPRESENTATIONS AND CERTIFICATIONS

L.1 Anti-kickback Certifications

(L02) Rev. 0 2/2/2010

By signing the first page of this solicitation, the Offeror or subcontractor certifies that he/she has not:

Provided, attempted to provide, or offered to provide, any kickback;
Has not solicited, accepted, or attempted to accept any kickback; or

Included, directly or indirectly, the amount of any kickback, in the contract price proposed by the Offeror or subcontractor to the buyer. (For interpretation of the term Subcontractor Kickback, see 41 U.S.C. Sections U51-58).

L.2 Conflict of Interest Disclosure and Representation

(L07) Rev. 2 3/14/2011

It is Buyer's policy to avoid situations, which place a Subcontractor in a position wherein it may not be able to compete on an equal basis for Buyer-controlled work with other qualified contractors. To address this matter, the Subcontractor shall provide Buyer a statement which describes in a concise manner, all relevant facts concerning any past, present, or currently planned interest (financial, contractual, organizational, or otherwise) relating to the work described in the statement of work of this solicitation. This representation can be accessed via the following link:

<http://www.hanford.gov/pmm/page.cfm/Provisions>

A signed copy is to be provided with the Subcontractor's proposal.

L.3 Subcontractor Acknowledgement for Online Representations and Certifications Application (ORCA)

(L16) Rev. 0 3/14/2011

Mission Support Alliance, LLC ("MSA"), relies upon Subcontractor's current representations and certifications within the Federal Online Representations and Certifications Application (ORCA), a web-based system that centralizes and standardizes the collection, storage and viewing of many of the representations and certifications required by the Federal Acquisition Regulations. ORCA is accessible via the following link: <https://orca.bpn.gov/login.aspx>

By submitting a proposal to MSA in response to this solicitation, the Subcontractor is certifying that:

1. The information within ORCA is still current;
2. All statements and explanatory documentation submitted is current and accurate;



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3. Signer is authorized to represent the Subcontractor in all matters related to pricing, terms and conditions, and conduct of business;
4. Subcontractor complies with all requirements of State of Washington statutes, ordinances, rules and regulations, codes, and orders related to equal employment opportunity and operation of non-segregated facilities;
5. All Subcontractor employees who may work on MSA's premises or on the Hanford Site are not under the influence of controlled substances, drugs or alcohol. Subcontractor agrees to testing of assigned employees under the MSA's program for controlled substances;
6. Subcontractor's information in the MSA's registration system is current (no more than 12 months old); and
7. Subcontractor will update ORCA on an annual basis.