RELEASE INSTRUCTIONS (RI) 0047751

DOCUMENT NO.: WHC-CM-5-4

PAGE 1 OF 1

TO:

D. A. Isom H6-08
Copy #072

TITLE: Laboratories Administration

RELEASE NO.: 067

DATE PREPARED: September 9, 1997

I have entered this release into the document per instructions.

DA Isom — Signature
9/12/97 — Date

If you have any questions about this release contact:

Jean Feaster
Phone: 373-4426

INSTRUCTIONS

1. REMOVE AND/OR INSERT INDICATED SECTIONS INTO DOCUMENT AS SHOWN BELOW.
2. UPDATE THE RELEASE RECORD AT THE FRONT OF THE DOCUMENT.
3. SIGN THIS FORM AND RETURN IT TO DOCUMENTATION ADMINISTRATION WITHIN 5 WORKING DAYS.

SECTION NO. AND TITLE(S)	REMOVE			INSERT		
	PAGES	REV	DATE	PAGES	REV	DATE
Table of Contents	1 - 6	66	08/20/97	1 - 6	67	09/09/97
Section 3.20, "Technical Verification of Analytical Laboratory Data Packages"	--	--	--	1 - 29	0	09/09/97
Section 4.5, "Training Programs"	1 - 12	2	09/11/95	1 - 4	3	09/09/97
Section 8.9, "Management Assessment Program"	1 - 12	0	11/14/96	1 - 16	1	09/09/97

IMPLEMENTATION NOTICE

(ROUTE A COPY OF THE IMPLEMENTATION NOTICE TO ALL USERS OF THIS COPY OF THE MANUAL)

Procedures revised to current operating practices.

** Please note that this may be the last update to the Laboratories Administration manual. You will receive a notice when the manual is recalled. The procedures contained therein are being moved to other procedure systems such as Laboratory Administrative Procedures (LAPs) and the WMH Level 200 series.

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Jean Feaster T6-03

Section	Title	Revision	Effective Date
1.0	POLICIES		
1.1	Safety Priority and Procedure Compliance Policy	5	05/13/97
2.0	ORGANIZATION		
NOTE:	The charter for Analytical Services may be found in WHC-CM-1, *Company Policies and Charters.*		
2.1	Charters — Section Title (no text)		
2.1.1	222-S Analytical Operations Charter	3	04/13/95
2.1.3	Program Management and Integration Charter	2	04/05/95
2.1.9	Engineering and Technology Services Charter	1	03/31/95
2.2.2	Chemical Hygiene Committee Charter	1	05/31/95
2.2.6	Laboratories Pollution Prevention Team Charter	1	05/01/95
2.3.2	Waste Sampling and Characterization Facility — Analytical Operations Charter	2	02/26/96
2.3.3	Quality Systems Charter	1	08/02/96
2.3.4	Laboratory Transition Charter	0	03/21/95
2.3.6	222-S Production/Scheduling Charter	0	08/05/96
3.0	ADMINISTRATION		
3.1	Manual Administration	6	03/31/97
3.5	Administration for Nuclear Materials	4	09/09/96
3.6	Laboratories Entry Requirements	0	03/07/95
3.9	Laboratory Procedures	6	05/13/97
	Change 1 (pages 12-15 and Attachment 5)	6, Chg 1	07/07/97
3.14	Laboratory Sample Tracking	1	03/31/97
3.15	Data Package Administrative Verification	1	03/31/97
3.16	Data Package Control Requirements and Procedure	3	03/31/97
3.19	Sample Authorization Form (SAF) Issuance and Procedure		
	Change 1	0, Chg 1	03/31/97
3.20	*Technical Verification of Analytical Laboratory Data Packages*	*0*	*09/09/97*
3.25	Data Validation for High Level RCRA/CERCLA Radiochemical Analyses	0	06/19/97

Section	Title	Revision	Effective Date
3.26	Terms and Conditions of Requests for Services at the Waste Sampling and Characterization Facility	0	07/30/96
3.27	Hanford Analytical Services Long Range Planning Process	0	06/04/97
3.31	Approval of Environmental, Safety, Quality and Radiological Control Affecting Documents	0	08/20/97
3.34	Statements of Work for Hanford Analytical Services	0	07/14/97
4.0	TRAINING		
4.1	Training Responsibilities and Definitions	2	04/10/97
4.2	Training Development and Maintenance	1	04/10/97
4.3	Training Administration Change 1 (5)	1	11/15/95 01/22/96
4.4	On-The-Job Training	4	05/01/96
4.5	*Training Programs*	*3*	*09/09/97*
4.6	Training Plan for Hanford Analytical Services Laboratories RCRA Waste Management Units Change 1 (pages 21-24)	2 2, Chg 1	04/30/97 06/30/97
5.0	PROCEDURES		
5.4	Laboratory Test Programs	0	03/30/92
6.0	CONDUCT OF OPERATIONS		
6.1	222-S/WSCF Daily Operating Instructions/Standing Orders	1	09/15/95
6.7	Occurrence Categorization, Notification, and Reporting (Conduct of Operations Chapter 7)	8	04/10/97
6.8	Lessons Learned Administration	0	01/22/96
6.9	Required Reading Change 1 (Page 2)	0	09/02/96 03/12/97
6.17	Operator Aid Postings (Conduct of Operations, Chapter 17)	2	04/10/97
7.0	RECORDS MANAGEMENT		
7.2	Laboratory Records System	1	02/19/97

Section	Title	Revision	Effective Date
8.0	QUALITY ASSURANCE/QUALITY CONTROL		
8.1	222-S Laboratory Analytical Quality Assurance Plans	1	04/08/96
8.3	Laboratory Quality Affecting Software Control System	1	08/15/94
8.5	Laboratory Assessments	0	08/15/94
8.5-A	Laboratory Assessments — Procedure	0	08/15/94
8.6	Laboratory Computer Configuration Control	0	12/15/95
8.7	222-S Laboratory Management Assessments	1	04/30/97
8.8	Corrective Action Management	1	07/14/97
8.9	*Management Assessment Program*	*1*	*09/09/97*
8.10	Standard Practice for Assessments	0	07/29/97
9.0	WORK CONTROL		
9.1	Material Control	2	04/10/97
9.2	Restricted Access Area Signage	1	06/30/97
9.4	222-S High Radiation and Very High Radiation Area Access Control	2	12/12/96
9.5	Access Control Entry System (ACES)	0	10/16/95
9.7	222-S Equipment and Piping Labeling	0	06/19/97
9.8	Notice of Construction Review	0	08/26/96
10.0	LABORATORY INSTRUMENTS		
10.1	Instrument Preventive Maintenance	1	01/08/96
11.0	RADIOLOGICAL CONTROL		
11.1	Policy and Management Commitment	0	12/22/95
11.2	Assignment of Responsibilities	0	12/22/95
11.3	Administrative Control Levels	0	12/22/95
11.4	Radiological and ALARA Performance Goals/Indicators	0	12/22/95
11.5	ALARA Training	0	12/22/95
11.6	Plans and Procedures	0	12/22/95

Section	Title	Revision	Effective Date
11.7	Internal ALARA Program Reviews and Work Practice Assessments	0	12/22/95
11.8	Optimization Methodology	0	12/22/95
11.9	ALARA Design Reviews	0	12/22/95
11.11	ALARA Program Records	0	12/22/95
12.0	**WASTE MANAGEMENT**		
12.1	Low-Level Waste Certification Plan for the 222-S Laboratory Facilities	0	TBI

Technical Verification of Analytical Laboratory Data Packages	Approved by J. E. Hyatt, Manager Hanford Analytical Services
Author: Organization:	K. N. Pool Sample Management

1.0 PURPOSE

This section identifies the technical verification methodology used by Hanford Analytical Services (HAS) to assure data package quality and completeness prior to transmittal of a data package to the validators. The technical verification process is performed to fulfill the requirements set forth in WHC-CM-3-5, *Document Control and Records Management Manual*, Section 9, "Quality Assurance Records."

NOTE: Laboratory data packages can be "stand alone" or "summary".

2.0 SCOPE

This section is applicable to data packages that are verified by the Sample Management organization of HAS.

3.0 RESPONSIBILITIES AND PROCEDURE

3.1 Data Management Clerk

3.1.1 Receive record copy of analytical laboratory data package from laboratory.

3.1.2 Perform receipt activities in accordance with WHC-CM-5-4, Section 3.16, "Data Package Control."

3.1.3 Forward data package to data verifier upon completion of the receipt/control activities.

3.2 Data Verifier

3.2.1 Receive data package.

3.2.2 Generate, as necessary:

- Daily Verification Summary and Missing Information Report: Radchem (DVS-MIR-R, Rev 0)

- Data Verification Summary and Missing Information Report: Chemistry (DVS-MIR-C, Rev 0)
- Chemical Data Package Verification Coversheet
- Radiochemical Data Package Verification Coversheet
- Data Verification Checklist(s). (See Appendix A for listing of checklists.)

NOTES: **Checklists applicable to a data package are dependent upon the analyses performed by the analytical laboratory.**

For each data package verified, the Daily Verification Summary and Missing Information Report will be completed.

3.2.3 Assign a unique technical verification number to each data package using the following numbering system:

T-XXXXX-XX

- Year
- Sequential Number
- Verification

NOTE: **A verification log will be maintained to track sequential numbers.**

3.2.4 Enter the following information on the Data Package Verification Coversheet:

- Technical Verification Number
- Case
- Project
- Sample Delivery Group
- Reviewer (Data Verifier)
- Data Package ID Number
- Technical Verification Date
- HEIS Sample Numbers
- Laboratory

3.2.5 Perform a page by page review (verification) of the analytical laboratory data package verifying the following items:

- Case Narrative
- Sample Data
- Chain of Custody
- Standards Data
- Laboratory Chain of Custody
- RAW QA Data

- QC Summary
- Additional Data

NOTE: **Each item listed in Step 3.2.5 is documented on the data package checklist(s) as being present or absent by checking "yes" or "no." Items not technically required are documented as "Not Applicable" in the appropriate checklist box.**

3.2.6 If a deficiency is found:

1. Document the deficiency on:

   a. Checklist(s)

   b. Daily Verification Summary/Missing Information Report.

2. Notify responsible laboratory by facsimile of the missing information.

3. Follow up by telephone if no response has been received within two working days.

4. The Analytical Laboratory will facsimile the missing information or other response within two working days.

3.2.7 The Data Verifer will perform the following actions.

1. Insert received information into data package.

2. Document the deficiency on transmittal form to validator if it is determined that the missing data cannot be provided by the laboratory (destroyed, never generated, and so forth).

3. If no deficiency is noted, complete appropriate information on:

   - Daily Verification Summary and Missing Information Report

   a. Generate the transmittal form to Validator.

   b. Place verification coversheet and verification checklist(s) in front of data package.

   c. Retain copies of verification coversheet and checklist(s).

   d. Forward technical verification documentation, transmittal and laboratory data package to file custodian.

3.3 File Custodian

3.3.1 Receive data package from verifier.

3.3.2 Assign unique transmittal number.

3.3.3 Prepare for release to validator.

NOTE: **The file custodian will maintain a transmittal log to track sequential numbers for all data packages transmitted to off-site validation contractors.**

4.0 RECORDS

Any records generated as a result of this activity will be handled in accordance with applicable Records Inventory and Disposition Schedules.

5.0 DESIGNATED REVIEWERS

Designated Reviewing Organizations	POC
Sample Management (champion)	K. N. Pool
Quality Systems	J. E. Hyatt

6.0 REFERENCES

WHC-CM-3-5, *Document Control and Records Management Manual.*

APPENDIX A

Figure 1. Chemical Data Package Verification Checklists.

The following checklists are available through the Sample Management organization:

Form Number	Verification Checklist Type
A-1	Volatile Organic
A-2	Semi-Volatile Organic Data
A-3	Pesticide/PCB
A-4	Gas Chromatograph (SW-846 Methods, EX. 8015M, 8080, etc.)
A-5	Dioxin/Furan Data
A-6	Inorganic Analysis Data
A-7	General Chemistry Data
	Radiochemical Data Package
	Beta and Gas Proportional Counting
	Alpha Spectroscopy
	Gamma Spectroscopy
	Alpha-Emitting Radium Isotopes Using Scintillation Counting Verification
	^{226}Radium Analysis Using Scintillation (Lucas Cell) Counting
	Liquid Scintillation Counting
	Uranium Analysis by Fluorometry
	Total Uranium Analysis by Kinetic Phosphorimetry
	Selected Radioisotope Analysis Using Inductively-Coupled Plasma/Mass Spectrometry

Figure 2. Chemical Data Package Verification Coversheet.

Verification No._____ Page __ of __

Project:	Reviewer:	Date:
Laboratory:	Case:	SDG:
Data Package ID:	Case Narrative Present? Yes No	

				Analyses Performed						
HEIS No.	Matrix	COC	SAR	VOA	Semi-VOA	Pest/PCB	Inorganic	General	Dioxim/ Furan	Special GC

Figure 3. Radiochemical Data Package Verification Cover Sheet.

RADIOCHEMICAL DATA PACKAGE VERIFICATION COVER SHEET

Verification No. _____ Page ___ of ___

Project: Reviewer: Date:

Laboratory: Case: SDG:

HASM Data Package ID:

	Beta and Gas Proportional Counting				Alpha Spectroscopy											
	GAB	Sr90	Tc99	Iso U	Iso Pu	Iso Am	GEA	Ra-226	LSC	Total U						
Analyses Performed:																
Case Narrative:																
Batch Sheet:																

HEIS NO.	Sample Matrix	WHC COC	WHC SAR																		

Figure 4. Daily Verification Summary and Missing Information Report: Chemistry (DVS-MIR-C).

Daily[1] Verification Summary and
Missing Information Report: Chemistry
(DVS-MIR-C)

1 Verification BOA _____

Verifier _____

Date _____

2 Project(s) _____ Or (OU) _____

Cognizant Engineer _____

3 Data packages verified this date (list by number or other identifier) | Analytical types contained in data package (indicate in box)

	Metals	Semi-VOA	Wet Chem	VOA	Pest/PCB	Dioxin/Furan	Herb
1. _____	☐	☐	☐	☐	☐	☐	☐
2. _____	☐	☐	☐	☐	☐	☐	☐
3. _____	☐	☐	☐	☐	☐	☐	☐
4. _____	☐	☐	☐	☐	☐	☐	☐
5. _____	☐	☐	☐	☐	☐	☐	☐
6. _____	☐	☐	☐	☐	☐	☐	☐
Total _____	—	—	—	—	—	—	—

4 Data packages and analytical groups with missing information. (circle above)

Total _____ — — — — — — —

5 % Data packages and analytical groups with missing information $\left(\frac{\text{Total 4} \times 100}{\text{Total 3}}\right)$

% _____ — — — — — — —

6 Confirmation: Every sample delivery group shaded in item 3 has checklist attached.

Verifiers initials _____

7 Confirmation: Every checklist for data package items circled above has been faxed to lab for 48 hour return of missing information to verifier.

Verifiers initials _____

8 _____
Verifier Signature

9 WHC Distribution
Per Current Distribution List

NOTES:

[1] Do not file daily report on days you do not complete any verification.

Figure 5. Daily Verification Summary and Missing Information Information Report: Radchem (DVS-MIR-R).

Daily[1] Verification Summary and
Missing Information Report: Radchem
(DVS-MIR-R)

1 Verification BOA _____

Verifier _____

Date _____

2 Project(s) _____ Or (OU) _____

Cognizant Engineer _____

3 Data packages verified this date (list by number or other identifier) | Analytical types contained in data package (indicate in box)

	Gas Count	Alpha-s ICP/MS	Gamma-s	Alpha-scint	Ra-226 LSC	Fluor. U	Laser U
1. _____	☐	☐	☐	☐	☐	☐	☐
2. _____	☐	☐	☐	☐	☐	☐	☐
3. _____	☐	☐	☐	☐	☐	☐	☐
4. _____	☐	☐	☐	☐	☐	☐	☐
5. _____	☐	☐	☐	☐	☐	☐	☐
6. _____	☐	☐	☐	☐	☐	☐	☐
Total _____							

4 Data packages and analytical groups with missing information. (circle above)

Total _____

5 % Data packages and analytical groups with missing information (Total 4 x 100 / Total 3)

% _____

6 Confirmation: Every sample delivery group shaded in item 3 has checklist attached.

Verifiers initials _____

7 Confirmation: Every checklist for data package items circled above has been faxed to lab for 48 hour return of missing information to verifier.

Verifiers initials _____

8 _____
Verifier Signature

9 WHC Distribution
Per Current Distribution List

NOTES:

[1] Do not file daily report on days you do not complete any verification.

Figure 6. Transmittal Form to Validator.

Transmittal Number _____

Transmittal Form to Validator

1 To Validator (BOA) _____

Project/OU _____

2 Data Packages Attached (list and attach) _____

_____

3 The attached data packages have been verified and (check one)

_____ All required checklist items are included

Checklist items circled on attached verification checklist forms cannot be provided and the decision has been made to proceed with validation anyway.

4 Certified by Verifier

_____
Signature

_____
Date

5 Received by Validator

_____
Signature

_____
Date

Package ID: _____

VOLATILE ORGANIC DATA VERIFICATION CHECKLIST - FORM A-1

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
Quality Control (QC) Summary				
*Surrogate Summary report		___	___	
*MS/MSD Summary report		___	___	
*Blank summary report	___	___		
GC/MS tuning report	___	___		
Sample Data				
*Sample reports	___	___		
*TIC reports for each sample		___	___	
Chromatograms for all samples		___	___	
Raw and corrected spectra for all detected results		___	___	
Raw and corrected library search data for all reported TIC		___	___	
Quantitation and calculation data for all TIC		___	___	
Standards Data				
Initial calibration report	___	___		
RIC and quantitation reports for initial calibration		___	___	
Continuing calibration reports		___	___	
RIC and quantitation reports for continuing calibrations		___	___	
Internal standards summary report		___	___	
Raw QC Data				
Tuning, spectra and mass lists		___	___	
Blank Data				
Blank analysis report		___	___	
TIC reports for all blanks	___	___		
RIC and quantitative reports for blanks		___	___	
Raw and corrected spectra for all detected results in blanks		___	___	
Raw and corrected library search data for all reported TIC		___	___	
Quantitation and calculation data for all TIC		___	___	
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Data				
MS/MSD Analysis Reports		___	___	
RIC and quantitative reports for MS/MSD		___	___	
Additional Data				
Moisture/% solids data sheets		___	___	
Sample preparation sheets	___	___	___	

Comments _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

SEMI-VOLATILE ORGANIC DATA VERIFICATION CHECKLIST - FORM A-2

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
Quality Control (QC) Summary				
*Surrogate Summary report				
*MS/MSD Summary report				
*Blank summary report				
GC/MS tuning report				
Sample Data				
*Sample reports				
*TIC reports for each sample				
RIC reports for all samples				
Raw and corrected spectra for all detected results				
Raw and corrected library search data for all reported TIC				
Quantitation and calculation data for all TIC				
Standards Data				
Initial calibration report				
RIC and quantitation reports for initial calibration				
Continuing calibration reports				
RIC and quantitation reports for cont. calibrations				
Internal standards summary report				
Raw QC Data				
Tuning, spectra and mass lists				
Blank Data				
Blank analysis report				
TIC reports for all blanks				
RIC and quantitative reports for blanks				
Raw and corrected spectra for all detected results in blanks				
Raw and corrected library search data for all reported TIC				
Quantitation and calculation data for all TIC				
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Data				
MS/MSD Analysis Reports				
RIC and quantitative reports for MS/MSD				
Additional Data				
Moisture/% solids data sheets				
Sample preparation sheets				

Comments _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

PESTICIDE/PCB DATA VERIFICATION CHECKLIST - FORM A-3

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
Quality Control (QC) Summary				
*Surrogate Summary report		—	—	
*MS/MSD Summary report		—	—	
*Blank summary report	—	—		
Sample Data				
*Sample reports	—	—		
Chromatograms		—	—	
GC integration reports		—	—	
UV traces from GPC				
Standards Data (2/88) △ N/A				
Pesticides Evaluation Standards Summary		—	—	
Pesticides/PCB Standards Summary				
Pesticides/PCB identification				
Pesticides standard chromatograms				
Standards Data (3/90) △ N/A				
Pesticide Initial Calibration of single component analytes (Retention Time Window)		—	—	
Pesticide Initial Calibration of single component analytes (Calibration Factors)				
Pesticide Initial Calibration of multicomponent analytes (PCB)				
Pesticide analyte resolution summary		—	—	
PEM pesticide calibration verification summary				
IND A and IND B pesticide calibration verification summary				
Pesticide analytical sequence				
Pesticide florisil cartridge check				
Pesticide GPC calibration				
Pesticide identification summary for single component analytes				
Pesticide identification summary for multicomponent analytes				
Pesticide standard chromatograms				
Raw QC Data				
Blank analysis reports, chromatograms, and GC integration reports		—	—	
MS/MSD report forms and chromatograms		—	—	
Additional Data				
Moisture/% solids data sheets		—	—	—
Sample preparation sheets		—	—	
GC/MS confirmation spectra		—	—	—

Comments _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

GAS CHROMATOGRAPHY DATA VERIFICATION CHECKLIST - FORM A-4 [SW-846 METHODS, EX. 8015-M, 8080, ETC.]

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present? Yes	No	N/A
Quality Control (QC) Summary			
*Surrogate recovery			
*MS/MSD recovery			
*Method blank summary			
Sample Data			
*Sample results			
Chromatograms for all samples/extracts			
Quantitation sheets for all samples/extracts			
Standards Data			
Initial calibration standard concentrations			
Initial calibration summary			
Chromatograms for all initial cal. standards			
Quantitation sheets for all initial cal. standards			
Continuing calibration standard concentrations			
Continuing calibration summary			
Chromatograms for all continuing cal. standards			
Quantitation sheets for all continuing cal. standards			
Raw QC Data			
Blanks			
Laboratory blank results			
Chromatograms for all laboratory blanks			
Quantitation reports for all laboratory blanks			
Matrix Spike/Matrix Spike Duplicates			
MS/MSD results			
Chromatograms for all MS/MSDs			
Quantitation reports for all MS/MSDs			
Additional Data			
Moisture/% solids data sheets			
Sample preparation sheets			

Examples of GC other methods: 8010, 8020, 8015-M, 601, 602, TPH-G, TPH-D

Comments _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

DIOXIN/FURAN DATA VERIFICATION CHECKLIST - FORM A-5

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
Quality Control (QC) Summary				
MS resolution check		___	___	
Window mixture summaries		___	___	
Internal standards recovery		___	___	
*MS/MSD recovery		___	___	
*Method blank summary		___	___	
Sample Data				
*Sample results	___	___		
Chromatograms (SICPs[1]) for all samples/extracts		___	___	
Quantitation sheets for all samples/extracts		___	___	
Extraction data sheets for all samples/extracts		___	___	
Instrument time/run logs all samples/extracts		___	___	
Standards Data				
Calibration standard concentrations	___	___		
Initial calibration summary of RRF/RSD data		___	___	
Initial calibration summary of isotope ratios	___	___		
Chromatograms (SICP[1]) for all initial cal. standards		___	___	
Quantitation sheets for all initial cal. standards		___	___	
Continuing calibration summary of RRF/%D data		___	___	
Continuing calibration summary of isotope ratios		___	___	
Chromatograms (SICP's[1]) for all continuing cal. standards		___	___	
Quantitation sheets for all continuing cal. standards		___	___	
Instrument time/run logs for all standards		___	___	
Calibration standard concentrations		___	___	
Raw QC Data				
Blanks				
Laboratory blank results	___	___		
Chromatograms for all laboratory blanks		___	___	
Quantitation reports for all laboratory blanks		___	___	
Matrix Spike/Matrix Spike Duplicates				
MS/MSD results	___	___		
Chromatograms (SICPs[1])	___	___		
Quantitation sheets		___	___	
Additional Data				
Sample preparation sheets	___	___	___	

[1]SICP = Selected Ion Current Profile

Comments: _____

OTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

INORGANIC ANALYSIS DATA VERIFICATION CHECKLIST - FORM A-6

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
Cover page (CLP only)				
Sample Data				
*Inorganic analysis data sheets				
Standards Data				
Initial and continuing calibration verification				
CRDL standard for AA and ICP (Detection limit verification)				
QC Summary				
*Blanks				
ICP interference check summary				
*Matrix spike				
*Matrix spike duplicate				
*Post-digestion spike sample recovery				
*Duplicates				
*Laboratory control sample				
Standard addition results				
ICP serial dilutions				
Instrument detection limits				
ICP interelement correction factors				
ICP linear ranges				
Preparation log				
Instrument run log				
Raw Data				
ICP raw data				
Furnace AA raw data				
Flame AA raw data				
Mercury raw data				
Cyanide raw data				
Additional Data				
Moisture/% solids data sheets				
Sample preparation sheets				

Comments _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

GENERAL CHEMISTRY DATA VERIFICATION CHECKLIST - FORM A-7

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal.

Data Package Item	Present?	Yes	No	N/A
☐ Anions by Ion Chromatography (Method 300.0)				
*Sample results	___	___		
Initial calibration data	___	___		
Continuing calibration verification	___	___		
Calibration standard concentrations	___	___		
*Blank analysis data or summary report format		___		
*Duplicate sample analysis report forms		___		
*Spike sample recovery data		___	___	
*Laboratory control sample data	___	___	___	
Raw data		___	___	
Analytical sequence			___	
Ion Chromatograms		___	___	
Quantitation report		___	___	
Additional data				
Moisture/% solids data sheets				
Sample preparation sheets (Soils, other only)				
☐ Colorimetric (NOTE: Identify by Name, Analyte and EPA Method) _____				
*Sample results	___	___		
Initial calibration data				
Continuing calibration verification	___	___		
Calibration standard concentrations	___	___		
*Blank analysis data or summary report forms				
*Duplicate sample analysis report forms		___	___	
*Spike sample recovery data		___	___	
*Laboratory control sample data	___	___	___	
Raw data		___		
Analytical sequence				
Lab Bench Sheets		___		
Instrument Printouts				
Additional data				
Moisture/% solids data sheets				
Sample preparation sheets (Soils, other only)		___	___	

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

Data Package Item	Present?	Yes	No	N/A
☐ Gravimetric (NOTE: Identify by Name, Analyte and EPA Method) _____				
*Sample results				
Balance check				
*Blank analysis data or summary report forms				
*Duplicate sample analysis report forms				
*Laboratory control sample report forms				
Raw data				
Additional data				
Moisture/% solids data sheets				
Sample preparation sheets (Soils, other only)				
☐ Ion Selective Electrode (NOTE: Identify by Name, Analyte and EPA Method) _____				
*Sample results				
Initial calibration data				
Continuing calibration verification				
*Blank analysis data or summary report format				
*Duplicate sample analysis report forms				
*Spike sample recovery data				
*Laboratory control sample data				
Raw data				
mV check				
Additional data				
Moisture/% solids data sheets				
Sample preparation sheets (Soils, other only)				
☐ Titrimetric (NOTE: Identify by Name, Analyte and EPA Method) _____				
*Sample results				
Initial calibration data (Auto)				
Continuing calibration verification (Auto)				
Titrant normality checks				
*Blank analysis data or summary report format				
*Duplicate sample analysis report forms				
*Laboratory control sample data				
*Spike Recovery				
Raw data				
Additional data				
Moisture/% solids data sheets				
Sample preparation sheets (Soils, other only)				

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

Data Package Item	Present?	Yes	No	N/A
☐ Total Petroleum Hydrocarbons (EPA Method 418.1)				
*Sample results	___	___		
Initial calibration data	___	___		
Continuing calibration verification	___	___		
Calibration standard concentrations (Dilution Log)		___	___	
*Blank analysis data or summary report forms		___	___	
*Duplicate sample RPD and results		___	___	
*Blank spike sample recovery and results		___	___	
*Laboratory control sample data	___	___	___	
Raw data		___	___	
IR spectra	___	___	___	
Laboratory bench sheets		___	___	
Additional data				
Moisture/% solids data sheets		___	___	___
Sample preparation sheets (Soils, other only)		___	___	___
☐ Other Analytes/Methods (NOTE: Identify by Name, Analyte and EPA Method) _____				
*Sample results	___	___		
Initial calibration data	___	___		
Continuing calibration verification	___	___		
Calibration standard concentrations (Dilution Log)		___	___	
*Blank analysis data or summary report forms		___	___	
*Duplicate sample RPD and results		___	___	
*Spike sample recovery data		___	___	
*Laboratory control sample data		___	___	
Raw data		___	___	
Analytical sequence		___	___	
Instrument printouts	___	___		
Laboratory bench sheets				
Additional data				
Moisture/% solids data sheets		___	___	___
Sample preparation sheets (Soils, other only)		___	___	___

Examples of methods of analysis for general chemistry parameters may be as follows:

Anions: chloride, fluoride, nitrate, sulfate, phosphate, bromide
Colorimetric: COD, cyanide, sulfate. chloride, phosphate, nitrate+nitrite, ammonia, phenols
Gravimetric: TDS, TSS, % solids, TOC, sulfate, oil and grease
Ion Selective Electrode: pH, ammonia, nitrate, fluoride, cyanide, sulfate
Titrimetric: alkalinity, acidity, COD, cyanide, chloride, hardness
TPH: Methods 418.1 or 413.2
Other: TOC/TOX, Hydrazine

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR BETA AND GAS PROPORTIONAL COUNTING

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses		☐	☐	
*for blank analyses, recounts and reanalyses		☐	☐	
*for duplicate analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identification	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies		☐	☐	
Dates of analysis		☐	☐	
Gravimetric/Chemical Yields				
Results report for chemical yields	☐	☐		
Raw data (printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identifications	☐	☐		
Chemical yield source identification, traceability and dilution log			☐	
Calculated recoveries	☐	☐		
Matrix Spike Recovery				
Results and MDA reports for matrix spike analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data		☐	☐	
Calculation sheets		☐	☐	
Matrix spike sample identifications	☐	☐		
Matrix spike source traceability and dilution log		☐		
Detector identifications	☐	☐		
Detector efficiencies		☐	☐	
Dates of analysis		☐	☐	
Calculated recoveries	☐	☐		
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data		☐	☐	
Calculation sheets		☐	☐	
LCS identification, activity and traceability		☐	☐	
Detector identifications	☐	☐		
Detector efficiencies		☐	☐	
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR ALPHA SPECTROSCOPY

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses	☐	☐		
*for blank analyses, recounts and reanalyses	☐	☐		
*for duplicate analyses, recounts and reanalyses	☐	☐		
Raw data (spectra or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Sample identification	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Matrix Spike Recovery				
Results and MDA reports for matrix spike analyses, recounts and reanalyses	☐	☐		
Raw data (spectra or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Matrix spike sample identifications	☐	☐		
Matrix spike source traceability and dilution log	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		
Tracer Recovery				
*Results report for tracer analyses	☐	☐		
Raw data (spectra or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Tracer identification, traceability and dilution log	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
LCS identification, activity and traceability	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR GAMMA SPECTROSCOPY

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses		☐	☐	
*for blank analyses, recounts and reanalyses		☐	☐	
*for duplicate analyses, recounts and reanalyses		☐	☐	
Raw data (spectra or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identification	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies		☐	☐	
Dates of analysis	☐	☐		
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
LCS identification, activity and traceability		☐	☐	
Detector identifications	☐	☐		
Detector efficiencies		☐	☐	
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

Comments: _____

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR ALPHA-EMITTING RADIUM ISOTOPES USING SCINTILLATION COUNTING

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses	☐	☐		
*for blank analyses, recounts and reanalyses	☐	☐		
*for duplicate analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Sample identification	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Gravimetric/Chemical Yields				
Results report for chemical yields	☐	☐		
Raw data (printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Sample identifications	☐	☐		
Chemical yield source identification, traceability and dilution log	☐	☐		
Dates of analysis	☐	☐		
Matrix Spike Recovery				
Results and MDA reports for matrix spike analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
Matrix spike sample identifications	☐	☐		
Matrix spike source traceability and dilution log	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries and internal laboratory control limits	☐	☐		
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐	☐		
Calculation sheets	☐	☐		
LCS identification, activity and traceability	☐	☐		
Detector identifications	☐	☐		
Detector efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR RADIUM-226 ANALYSIS USING SCINTILLATION (LUCAS CELL) COUNTING

Analysis: _____

Data Package Items	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses		☐	☐	
*for blank analyses, recounts and reanalyses		☐	☐	
*for duplicate analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identification	☐	☐		
Detector identifications	☐	☐		
Cell efficiencies	☐	☐		
Dates of analysis	☐	☐		
Gravimetric/Chemical Yields				
Results report for chemical yields	☐	☐		
Raw data (printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identifications	☐	☐		
Chemical yield source identification, traceability and dilution log		☐	☐	
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		
Matrix Spike Recovery				
Results and MDA reports for matrix spike analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Matrix spike sample identifications	☐	☐		
Matrix spike source traceability and dilution log		☐	☐	
Detector identifications and cell efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries and internal laboratory control limits		☐	☐	
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses		☐	☐	
Raw data (counting logs or printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
LCS identification, activity and traceability		☐	☐	
Detector identifications	☐	☐		
Cell efficiencies	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR LIQUID SCINTILLATION COUNTING

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Errors and Minimum Detectable Activity (MDA) report				
*for sample analyses, recounts and reanalyses	☐	☐		
*for blank analyses, recounts and reanalyses	☐	☐		
*for duplicate analyses, recounts and reanalyses	☐	☐		
Internal standard or quench monitoring results, activity or traceability	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
Sample identification	☐ ☐			
Instrument identifications	☐ ☐			
Dates of analysis	☐ ☐			
Continuing Calibration				
Instrument identification	☐ ☐			
Continuing calibration results report, control charts and control limits	☐	☐		
Calibration standard identification, traceability, activity, dilution log and expiration date	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Counting efficiency determination method and results		☐	☐	
Internal standard or quench monitoring values	☐	☐		
Matrix Spike Recovery				
Results and MDA reports for matrix spike analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
Matrix spike sample identifications	☐ ☐			
Matrix spike source traceability and dilution log	☐	☐		
Instrument identifications	☐ ☐			
Dates of analysis	☐ ☐			
Calculated recoveries	☐ ☐			
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses	☐	☐		
Raw data (counting logs or printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
LCS identification, activity and traceability	☐	☐		
Instrument identifications	☐ ☐			
Dates of analysis	☐ ☐			
Calculated recoveries	☐ ☐			

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR URANIUM ANALYSIS BY FLUOROMETRY

Analysis: _____

Data package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Error and Minimum Detectable Activity (MDA) report				
*for sample analyses, reruns and reanalyses				
*for blank analyses, reruns and reanalyses				
*for duplicate analyses, reruns and reanalyses				
Internal standard results, activity or traceability				
Raw data (fluorometer readings and printouts or notebook pages)				
Sample preparation data				
Calculation sheets				
Sample identification				
Fluorometer identifications				
Dates of analysis				
Initial Calibration				
Instrument identification				
Calibration results				
Calibration standard identification, traceability, activity, dilution log and expiration data				
Raw data (fluorometer readings and printouts or notebook pages)				
Fusion efficiency determination method and results				
Matrix Spike Recovery				
*Results and MDA reports for matrix spike analyses, recounts and reanalyses				
Raw data (fluorometer readings and printouts or notebook pages)				
Sample preparation data				
Calculation sheets				
Matrix spike sample identifications				
Matrix spike source traceability and dilution log				
Fluorometer identifications				
Dates of analysis				
Calculated recoveries				
Laboratory Control Samples (LCS)				
*Results and MDA reports for LCS analyses, recounts and reanalyses				
Raw data (fluorometer readings and printouts or notebook pages)				
Sample preparation data				
Calculation sheets				
LCS identification, activity and traceability				
Fluorometer identifications				
Dates of analysis				
Calculated recoveries				

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR TOTAL URANIUM ANALYSIS BY KINETIC PHOSPHORIMETRY

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results, Error and Minimum Detectable Activity (MDA) report				
*for sample analyses, reruns and reanalyses	☐ ☐			
*for blank analyses, reruns and reanalyses	☐	☐		
*for duplicate analyses, reruns and reanalyses	☐	☐		
Raw data (phosphorimeter readings and printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
Sample identification	☐ ☐			
Instrument identifications	☐ ☐			
Dates of analysis	☐ ☐			
Initial and Continuing Calibration				
Instrument identifications	☐ ☐			
Initial calibration results and linearity	☐	☐		
Initial and continuing calibration verification	☐	☐		
Calibration standard concentration, traceability and dilution log		☐	☐	
Raw data (phosphorimeter readings and printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Detection limit verification	☐	☐		
Matrix Spike Recovery		☐		
*Results reports for matrix spike analyses, reruns and reanalyses		☐	☐	
Raw data (phosphorimeter readings and printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
Matrix spike sample identifications	☐ ☐			
Matrix spike source traceability and dilution log	☐	☐		
Instrument identifications	☐ ☐			
Dates of analysis	☐ ☐			
Calculated recoveries	☐ ☐			
Laboratory Control Samples (LCS)				
*Results reports for LCS analyses, reruns and reanalyses	☐	☐		
Raw data (phosphorimeter readings or printouts or notebook pages)	☐	☐		
Sample preparation data	☐ ☐			
Calculation sheets	☐	☐		
LCS identification, concentration and traceability	☐	☐		
Instrument identifications	☐ ☐			
Dates of analysis	■ ☐			
Calculated recoveries	☐ ☐			

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

VERIFICATION CHECKLIST FOR SELECTED RADIOISOTOPE ANALYSIS USING INDUCTIVELY-COUPLED PLASMA/MASS SPECTROMETRY

Analysis: _____

Data Package Item	Present?	Yes	No	NA
Analysis Results				
*Results report				
*for sample analyses, reruns and reanalyses	☐	☐		
*for blank analyses, reruns and reanalyses		☐	☐	
*for duplicate analyses, reruns and reanalyses		☐	☐	
Raw data (printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Sample identification	☐	☐		
Instrument identifications	☐	☐		
Dates of analysis	☐	☐		
Initial and Continuing Calibration				
Instrument identifications	☐	☐		
Initial calibration results and linearity		☐		
Initial and continuing calibration verification		☐		
Calibration standard concentration, traceability and dilution log		☐	☐	
Mass spectrometer tuning/mass monitoring values		☐	☐	
Raw data (printouts or notebook pages)		☐	☐	
Detection limit verification		☐	☐	
Matrix Spike Recovery				
*Results reports for matrix spike analyses, reruns and reanalyses			☐	
Raw data (printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
Matrix spike sample identifications	☐	☐		
Matrix spike source traceability and dilution log		☐	☐	
Instrument identifications	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		
Laboratory Control Samples (LCS)				
*Results reports for LCS analyses, reruns and reanalyses		☐	☐	
Raw data (printouts or notebook pages)		☐	☐	
Sample preparation data	☐	☐		
Calculation sheets		☐	☐	
LCS identification, concentration and traceability		☐	☐	
Instrument identifications	☐	☐		
Dates of analysis	☐	☐		
Calculated recoveries	☐	☐		

NOTE: Checklist items required by "summary" data packages are identified by an asterisk(*) in front of the item.

Package ID: _____

Comments: _____

Training Programs	Approved by J. E. Hyatt, Manager Hanford Analytical Services
Author: Organization:	C. R. Nick Technical Support

1.0 PURPOSE

This section outlines training programs for Hanford Analytical Services (HAS) personnel.

2.0 SCOPE

This section applies to all HAS organizations. A list of general and facility specific required courses for various positions within HAS are available on the Training Matrix (TMX) system.

3.0 DEFINITIONS

See Section 4.1, "Training Responsibilities and Definitions," for a list of the definitions that may apply to this section.

4.0 DESCRIPTION

4.1 Training Matrix (TMX)

Managers use the TMX system as a tool to identify and track the training that employees need. The TMX also serves as the training plan for individuals and positions within each organization. TMX is linked to the Training Records Information System (TRI), which is the sitewide training records database and the source of an employee's training history.

4.1.1 Requesting Access to the Training Matrix

Managers take these steps to request access to the TMX.

a. Determine whether you or a designated training coordinator will be the user.

b. Request an *Application for Access to the Training Matrix* from the TMX staff by calling 376-8151 (cc:Mail Training Matrix).

* This procedure has been rewritten, therefore, no revision bars were used to denote changes.

c. Complete the application and return it to Training Matrix (G6-78). An access password will be assigned.

d. Once access is gained to the TMX system, the menu option entitled "User Instructions," will provide an in depth explanation of basic operation and special features of TMX. (Instructions are also on HLAN under Training)

5.0 POSITION QUALIFICATION RECORDS

In addition to the course requirements identified in the TMX, Position Qualification Records are required for some HAS operational positions such as chemists, engineers, power operators, maintenance, PICs, RCTs, chemical technologists. By 3/1/98 all personnel in these positions will have completed Qualification Records on file. These records document training and operational competencies specific to a job assignment. For information and examples of Position Qualification Records see Section 4.3, "Training Administration" of this manual.

6.0 PROCEDURE TRAINING

Hanford Analytical Services requires documentation of training on laboratory procedures per on-the-job training (OJT) Checklist for procedures identified in Qualification Records. LTS (LABCORE) will be used to track and update training on laboratory procedures. On-the-job training checklists are used in accordance with Section 4.4 of this manual.

7.0 SUBCONTRACTOR PERSONNEL TRAINING

The operating organization will assure that subcontractors or temporary personnel meet the qualification requirements for the job function to be performed or provides direct supervision by a qualified facility representative.

A vendor prework checklist is being developed as part of the associated work package. This will serve as a screening device for subcontractor training. An example is available from the Work Control Center.

8.0 MANAGEMENT REQUIREMENTS

8.1 Line management determines the required training for personnel.

This may be accomplished by comparing the existing TMX Position Description and associated courses with generic position training requirements found in WHC-IP-1184, *Training Requirements and Instructions*. (WHC-IP-1184 is on HLAN listed under Training.) The facility training scheduler will assist the manager in updating individual TMX reports to reflect current requirements.

8.2 Line management are responsible for maintaining position responsibilities, the entry level education/experience requirements, and course requirements in the TMX system. TMX revisions will be made by the facility training scheduler.

8.3 Line management is responsible for monthly reviews of personnel TMX training records to assure that initial and continuing training requirements are met. Whenever possible, the facility training scheduler will notify line management of requirement and course changes which may effect their personnel.

8.4 Line management is responsible for ensuring that employees are scheduled, notified, and attend required training courses.

When training is requested, employees will be enrolled in courses by the facility training scheduler.

8.5 TMX training records will serve as the individual's training plan.

Position responsibilities, and entry level education/experience, as indicated by the TMX Position Description/Training Plan Report, will serve as the training plan for positions and individuals within each organization.

8.6 Line managers shall initiate changes to TMX records.

Line management is responsible for notifying the facility training scheduler of changes to individual TMX reports. The facility training scheduler will update the TMX records and schedule any additional required training.

9.0 OVERSIGHT OF TRAINING PROGRAMS

Technical Support shall serve as the oversight organization for HAS training programs. This shall be accomplished by periodic audits of TMX reports, Qualification Records, Required Reading Records, and OJT Checklists. Technical Support will serve as point of contact for questions regarding training courses or TMX implementation.

10.0 RECORDS

Any records generated as a result of activities described in this section will be managed in accordance with applicable Records Inventory and Disposition Schedules.

11.0 DESIGNATED REVIEWERS

Designated Reviewing Organizations	POC
Technical Support	T. F. Dale
Environmental Compliance	K. S. Tollefson
Facility Support	S. J. Turner
RadCon	P. I. Linn
Core Process	J. R. Prilucik
WSCF Analytical Operations	G. E. Millward

12.0 REFERENCES

WHC-CM-2-15, *Training Administration Manual*.
Section 7.2, "Accessing and Using the Training Matrix."

WHC-CM-5-4, *Laboratories Administration*.
Section 4.1, "Training Responsibilities and Definitions."
Section 4.3, "Training Administration."
Section 4.4, "On-the-Job Training."

WHC-IP-1184, *Training Requirements and Instructions*

Management Assessment Program	Approved by J. E. Hyatt, Manager Hanford Analytical Services
Author: Organization:	T. F. Dale Operations Support

1.0 PURPOSE

The purpose of this procedure is to describe the Management Assessment Program for Hanford Analytical Services (HAS). This program is designed to foster continuous improvements in safety, quality, and operational efficiency throughout AS activities. The program will also integrate assessment schedules from programs, such as: Conduct of Operations and Conduct of Maintenance, management observations, surveillances and assessments to provide the means for effective trending analysis. This meets the requirements of 10 CFR 830.120 and DOE Order 5482.1B (DOE 1990).

2.0 SCOPE

This procedure applies to all personnel and organizations who perform activities, functions and operations within HAS facilities and organizations.

3.0 DEFINITIONS

Assessment

A planned and documented verification performed to determine compliance to and effectiveness of requirement implementation.

Assessor

Organizes, performs, and directs an assessment, reports assessment results, and evaluates related corrective actions.

Condition

An all-inclusive term applied to deviations, failures, malfunctions, deficiencies, defective items, nonconformances, and noncompliances in items or activities affecting quality, safety, health, operability, or the environment.

Evaluation Package

The performance objectives and criteria, assessment lines of inquiry, and any other related information provided for the performance of the assessment.

Functional Area Owner

Responsible for evaluating, defining, and justifying applicable requirements within their assigned functional area.

Functional Areas
Eight topical areas have been identified as a basis for this assessment program: Quality Assurance, Training and Qualification, Conduct of Operations and Maintenance, Radiation Protection, Environmental Management, Occupational Safety, and Laboratory Engineering (See Appendix A).

Lines of Inquiry
Series of questions, the answers to which establish compliance with a requirement and its performance objectives and criteria.

Management Assessment
An evaluation of management processes performed by the Functional manager to determine compliance to and effectiveness of implementation of program requirements.

Management Assessment Files
The designated document storage and processing locations for records generated by the Management Assessment Program.

Performance Objectives and Criteria
Broad statements of direction, purpose, or conditions for performing work (performance objectives), along with criteria that should be met in order to achieve those objectives.

Significant Condition
A condition that could have a serious effect on safety. These are to be reported immediately to Facility Management.

4.0 RESPONSIBILITIES

4.1 HAS Manager

4.1.1 Provides guidance, when necessary, to foster continuous improvement, and promote program consistency and implementation of excellence.

4.1.2 Ensures the appropriation of necessary funding, resources and personnel for proper development, implementation, and maintenance of the program.

4.1.3 Approves training activities for Management Assessment Program in compliance with WHC-CM-5-4, *Laboratories Administration*, Section 4.1, "Training Responsibilities and Definitions."

4.1.4 Review quarterly report for improvement opportunities.

4.2 Functional Area Managers

4.2.1 Provides input to Management Assessment Coordinator to identify an integrated assessment schedule that ensures continuous coverage and evaluation during a three-year cycle.

4.2.2 Supports the development of evaluation package to address performance objectives and criteria.

4.2.3 Ensures qualified assessors and points of contact are assigned for each assessment.

4.2.4 Performs the assessment or leads an assessment team, as scheduled.

4.2.5 Reviews and integrates assessment evaluations into a single assessment report.

4.2.6 Forwards assessment results to Management Assessment Coordinator.

4.2.7 Attends training as required.

4.3 Assessors

4.3.1 Reviews evaluation package with Functional Area Manager and incorporates developing issues.

4.3.2 Conducts and evaluates the assessment.

4.3.3 Documents observations and summarizes assessment results and submits to Functional Area Manager.

4.3.4 Attends training as required.

4.4 Management Assessment Coordinator

4.4.1 Coordinates the HAS administrative functions for the development, implementation, and maintenance of the program.

4.4.2 Integrates assessments identified in this procedure with external assessments.

4.4.3 Maintains the completed evaluation packages and reports in accordance with WHC-CM-3-5, *Document Control and Records Management Manual*.

4.4.4 Provides quarterly reports of assessment activity and trending to AS manager and senior staff.

4.4.5 Develops the integrated assessment schedule with the input of the Functional Area Owners.

4.4.6 Determines training requirements for Assessment programs.

4.5 HAS Quality Systems

4.5.1 Provides oversight of Management Systems, including HAS Management Assessment Program.

4.5.2 Performs verification prior to closure for Priority Planning Grid (PPG) values of 25 or higher.

4.5.3 Assists Management Assessment Coordinator in ensuring duplication of assessments is eliminated.

4.5.4 Performs annual audit of Management Assessment Program.

5.0 PROGRAM IMPLEMENTATION

5.1 Prepare for the Assessment

5.1.1 Functional Area Manager reviews the annual assessment schedule (see Appendix B) and verifies qualified personnel are available to perform the assessment.

5.1.2 Functional Area Managers obtain from the Management Assessment Coordinator the necessary lines of inquiry (the performance objectives and criteria for the specific assessment).

NOTE: **Projected facility work should be considered when developing a plan to perform assessments, ensuring work interruption is minimized and applicable work is to be performed.**

5.1.3 Functional Area Manager assigns qualified (verified by TMX) assessor(s) to complete assessment in accordance with schedules.

5.1.4 Functional Area Manager and assessor(s) discuss any issues concerning the performance objectives and criteria that will be assessed.

5.2 Perform Assessment

5.2.1 Assessors perform assessment, using any or all of the following methods:

- Document process with a simple flowchart to help identify barriers.

- Checklist
- Investigate processes
- Review appropriate procedures, documents, and records
- Interviews of personnel and customers
- Directly observe a process or performance of work.

5.2.2 Assessors shall immediately report any significant conditions, or potential safety violations to the responsible Functional Area Manager. Observed unsafe acts will be stopped and the responsible managers notified.

5.2.3 Assessor documents their observations and identifies strengths, weaknesses and conditions of the assessed program.

a. Consider evidence affecting quality, safety, health, operability, or the environment, such as: ineffective programs, deficiencies, nonconformance and/or noncompliances.

5.2.4 Assessor submits the completed assessment documentation to the responsible Functional Area manager for comments and concurrence.

5.2.5 Functional Area Manager forwards the original assessment documentation to the Management Assessment Coordinator in accordance with WHC-CM-3-5.

5.2.6 Functional Area Manager prepares any lessons learned from the assessment, and submits them to the Management Assessment Coordinator for distribution to the AS organization.

5.2.7 Following each calendar quarter the Management Assessment Coordinator will conduct a meeting with the Functional Area Managers to discuss the prior quarter's findings. Findings determined to be actual noncompliances will be handled in accordance with WHC-CM-5-4, Section 8.8, "Corrective Action Management," and entered into the Hanford Action Tracking System (HATS) by the HATS administrator. Areas for opportunity to improve will be implemented at the discretion of the Facility Manager.

6.0 RECORDS

6.1 The completed assessment documentation is considered a Quality Assurance document and shall be retained as a permanent record.

6.2 Any records generated as a result of activities described in this section will be managed in accordance with applicable Records Inventory and Disposition Schedules, WHC-CM-3-5.

7.0 DESIGNATED REVIEWERS

Designated Reviewing Organizations	POC
Operations Support (Champion)	T. F. Dale
Quality Systems	R. B. Millward
222-S Analytical Operations	L. F. Perkins
Maintenance & Work Control	J. L. Heinemann
Radiological Control	P. I. Linn
Environmental Compliance	K. S. Tollefson
Laboratory Engineering	S. L. Brey
WSCF	G. E. Millward

8.0 REFERENCES

10 CFR 830.120, *Quality Assurance*

DOE Order 5482.1B, *Environment, Safety and Health Appraisal Program*

WHC-CM-3-5, *Document Control and Records Management Manual*

WHC-CM-5-4, *Laboratories Administration*
Section 4.1, "Training Responsibilites and Definitions"
Section 8.8, "Corrective Action Management"

Appendix A

Sections of Each Functional Area

ENGINEERING SERVICES

Engineering Program:
- 3.1 Design Input
- 3.2 Design Output
- 3.3 Design Change Control
- 3.4 Design Verifications
- 3.5 Design Functional Acceptance Criteria

Configuration Management:
- 3.1 Configuration Management Integration
- 3.2 Configuration Definition
- 3.3 Configuration Control
- 3.4 Configuration Management Information Management
- 3.5 Configuration Assessments

Fire Protection:
- 3.1 Programmatic Elements
- 3.2 Physical Feature of the Program
- 3.3 Administrative Features

Nuclear Safety:
- 3.1 Safety Analysis
- 3.2 Operational and Administrative Controls
- 3.3 Changes/Unreviewed Safety Questions
- 3.4 Operation Within Limits
- 3.5 Basis for Interim Operation (BIO)
- 3.6 Organization and Administration
- 3.7 Use of Nuclear Criticality Safety Control Principles and Parameters
- 3.8 Nuclear Criticality Safety Evaluations and Associated Implementation Documentation
- 3.9 Operating Procedures and Operational Aids (Posting and Labeling)
- 3.10 Criticality Alarm System and Emergency Procedures
- 3.11 Criticality Safety Training
- 3.12 Criticality Safety Precautions for Firefighting
- 3.13 Fissionable Material Storage
- 3.14 Fissionable Material On Site Transfers and Off Site Shipments

QUALITY ASSURANCE:
- 3.1 Management - Program
- 3.2 Managemnt - Personnel Training and Qualification
- 3.3 Management - Quality Improvement
- 3.4 Management - Documents and Records

3.5 Performance - Work Processes
3.6 Performance - Design
3.7 Performance - Procurement
3.8 Performance - Inspection and Acceptance Testing
3.9 Assessment - Management Assessment
3.10 Assessment - Independent Assessment

Management Systems:
3.1 Organization Staffing
3.2 Management Objectives
3.3 Management Assessment
3.4 Facility Compliance Assurance
3.5 Issue Identification
3.6 Issue Reporting (Notification)
3.7 Issue Evaluation
3.8 Training
3.9 Trending and Analysis
3.10 Work Processes
3.11 Records Management

ENVIRONMENTAL

Packaging and Transportation:
3.1 Administration and Organization
3.2 Training
3.3 Quality Assurance
3.4 Operations
3.5 On-Site Transfers
3.6 Off-Site Shipments

Air Quality:
1-8 Radiological Air Emissions - Notification
9-15 Radiological Air Emissions - Operations
16-18 Radiological Air Emissions - Standards
19-32 Radiological Air Emissions - Monitoring
33-34 Radiological Air Emissions - Continuing Air Monitoring (CAM)
35-36 Radiological Air Emissions - Filters
37-41 Radiological Air Emissions - Records
42-46 Radiological Air Emissions - Reporting
47-48 Radiological Air Emissions - Training
49-60 Hazardous Air Emissions - Notification
61-74 Hazardous Air Emissions - Operations
75-87 Hazardous Air Emissions - Monitoring

Cultural:
1-3 Plant and Wildlife Species Preservation
4-16 Historical and Archaeological Preservation

EPCRA:

1-11 EPCRA

Groundwater:

1-24	Data Management and Reporting/Notification
25-43	Facility Groundwater Management
44-78	Groundwater Monitoring System/Groundwater Protection Plan
79-89	Permitting
90-95	Sampling/Characterization
96-105	Injection Wells
106-149	Well Development/Abandonment
149-152	Well Remediation

Hanford RCRA Permit:

1-36	Part I
37-106	Part II
107-108	Part III - Unit-Specific Conditions for Final Status Operations
109-115	Part IV

NEPA

1-14 NEPA

PCBs:

1-45 PCBs

Pollution:

1-9 Pollution Prevention

Solid Waste Management:

1-3	High-Level Radioactive Waste
4	Transuranic (TRU) Waste
5	Low-Level Radioactive Waste
6-7	Waste Designation
8-9	Land Disposal Restrictions
10-16	Mixed Waste
17-20	Storage of Mixed Waste
21	Lead
22-25	General Requirements for Generators Including Both Satellite Accumulation Areas and 90-Day Accumulation Areas
26	Waste Minimization - Unknown Waste
27-28	Generator Record Keeping
29	Satellite Accumulation Area Requirements
30-41	Container Management Requirements
42-47	Generator Preparedness and Prevention
48-92	Transporters
93	Land Disposal Restrictions

Storage Tanks:

1-51 Storage Tanks

Water Quality:

1-10	Non-Radioactive Liquid Discharges - Waste Generating Facility Management
11-43	Non-Radioactive Liquid Discharges - Discharges to Columbia River/NPDES
44-45	Non-Radioactive Liquid Discharges - Releases to Columbia River
46-63	Non-Radioactive Liquid Discharges - Stormwater Runoff/Discharges
64-71	Non-Radioactive Liquid Discharges - Surface Discharges
72-78	Non-Radioactive Liquid Discharges - Sampling Requirements
79-91	Radioactive Liquid Discharges - Releases to Environment
92-95	Radioactive Liquid Discharges - Releases to Columbia River
96-98	Radioactive Liquid Discharges - Releases to the Soil (pond/ditch/crib)
99-102	Radioactive Liquid Discharges - Interim Concentration Values
103-104	Radioactive Liquid Discharges - Record Effluent Monitoring Requirements
105-121	Radioactive Liquid Discharges - Monitoring/Sampling/ Notification
122-126	Radioactive Liquid Discharges - Calibration Requirements
127-133	Radioactive Liquid Discharges - New or Modified Facilities

OCCUPATIONAL SAFETY AND HEALTH:

3.1	Organization and Administration
3.2	Procedures and Documentation
3.3	Occupational Safety and Health Concerns
3.4	Surveillance Programs
3.5	Training
3.6	Industrial Hygiene Hazard Identification
3.7	Industrial Hygiene Exposure Assessment
3.8	Industrial Hygiene Hazard Prevention/Abatement
3.9	Chemical, Physical, Biological, and Ergonomic Hazards
3.10	OSHA Standards
3.11	Industrial Hygiene Workplace Safety
3.12	Medical Surveillance Program

TRAINING AND QUALIFICATION:

3.1	Administration and Organization
3.2	Qualifying Instructional Staff
3.3	Qualification Programs
3.4	Analyzing Training Requirements
3.5	Development and Evaluation - Training Programs
3.6	Implementing Training
3.7	Evaluating Training - Trainees
3.8	Training Effectiveness

CONDUCT OF OPERATIONS:

3.1 Operations Organization and Administration
3.2 Shift Routine and Operating Practices
3.3 Control Area Activities
3.4 Communications
3.5 Control of On-shift Training
3.6 Investigation of Abnormal Events
3.7 Notifications
3.8 Control of Equipment and System Status
3.9 Lockouts and Tagouts
3.10 Independent Verification
3.11 Logkeeping
3.12 Operations Turnover
3.13 Operations Aspects of Facility Chemistry and Unique Processes
3.14 Required Reading
3.15 Timely Orders to Operators
3.16 Technical Procedures
3.17 Operator Aid Postings
3.18 Equipment and Piping Labeling

Emergency Management:

3.1 Administration and Organization
3.2 Building Emergency Plan
3.3 Emergency Response Training
3.4 Emergency Preparedness Drills
3.5 Emergency Facilities, Equipment, and Resources
3.6 Emergency Assessment and Notification
3.7 Personnel Protection

MAINTENANCE:

4.2 Maintenance Organization and Administration
4.3 Training and Qualification of Maintenance Personnel
4.4 Maintenance Facilities, Equipment and Tools
4.5 Types of Maintenance
4.6 Maintenance Procedures
4.7 Planning, Scheduling, and Coordinating of Maintenance
4.8 Control of Maintenance Activities
4.10 Procurement of Parts, Materials, and Services
4.11 Material Receipt, Inspection, Handling, Storage, Retrieval, and Issuance
4.12 Control and Calibration of Measuring and Test Equipment
4.13 Maintenance Tools and Equipment Control
4.14 Facility Condition Inspections
4.15 Management Involvement
4.16 Maintenance History (and Trending)
4.17 Analysis of Maintenance Problems
4.18 Modification Work

RADIATION PROTECTION:

3.1 Organization and Administration
3.2 Standards for Internal and External Exposure and...
3.3 Workplace Monitoring and Contamination Control
3.4 Entry Control
3.5 Posting and Labeling
3.6 Radiological Records
3.7 Radiological Reports
3.8 Radiological Safety Training
3.9 Design and Control and ALARA
3.10 Release of Materials and Equipment
3.11 Accidents and Emergencies
3.12 Radioactive Material and Source Control
3.13 Conduct of Radiological Operations

Appendix B

MANAGEMENT ASSESSMENT PROGRAM SCHEDULE
FY 1997

FUNCTIONAL AREA	FIRST QUARTER			SECOND QUARTER			THIRD QUARTER			FOURTH QUARTER		
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
ENGINEERING SERVICES	During the first quarter, all but maintenance performed the assessment based on TWRS S/RIDS and FEB criteria. However these criteria exceed our needs; nor do they incorporate laboratory specific requirements and criteria.			During the second quarter, the laboratory focused on the Ecology Recovery activities and assessments in that area. Meanwhile efforts were made based on a formative evaluation of the program to modify criteria to just FEB generic criteria instead of TWRS, and to plan to incorporate laboratory specific criteria assessments to the schedule starting in FY2000.**								
CONFIGURATION MANAGEMENT							3.1*			3.1*		
FIRE PROTECTION								3.1*			3.1*	
NUCLEAR SAFETY									3.1*			3.1*
QUALITY ASSURANCE							3.1*			3.2		
MANAGEMENT SYSTEMS								3.1*			3.2	
ENVIRONMENTAL												
PACKAGING & TRANSPORTATION									3.1*			3.1*
AIR QUALITY										1-8	9-18	
CULTURAL											1-3	
EPCRA											1-3	
GROUNDWATER										1-24		25-43
RCRA										1-10	11-23	
NEPA												1-3
PCBs										1-3	4-6	
POLLUTION												1-2
SOLID WASTE MANAGEMENT										1-9		10-20
STORAGE TANK										1-5	6-10	
WATER QUALITY										2-16		17-30
OCCUPATIONAL HEALTH/SAFETY							3.1*			3.2		
TRAINING & QUALIFICATION								3.1*			3.1*	
OPERATIONS								3.2			3.3	3.4
EMERGENCY MANAGEMENT							3.1*			3.1*		
MAINTENANCE (MIP SCHEDULE)			4.2			4.5			4.10 4.11			4.12 4.13
RADIATION PROTECTION								3.1*	3.2		3.3*	

* = Performance Objectives that are covered by more than one month.
Division is based on trying to average # of Criteria per quarter--schedules can be modified.

** = The first six-months will in FY 2000 be used for laboratory specific regulations, not expressed by FEB criteria, e.g. 29CFR1450. Functional Area Managers will need to determine what regulations and criteria would be applicable.

Appendix B

MANAGEMENT ASSESSMENT PROGRAM SCHEDULE
FY 1998

FUNCTIONAL AREA	FIRST QUARTER			SECOND QUARTER			THIRD QUARTER			FOURTH QUARTER		
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
ENGINEERING SERVICES												
CONFIGURATION MANAGEMENT	3.1*			3.2*			3.2*			3.2*		
FIRE PROTECTION		3.2*			3.2*			3.2*			3.3*	
NUCLEAR SAFETY			3.1*			3.2*			3.2*			3.2*
	3.2*			3.2*			3.4	3.5		3.6	3.7	
QUALITY ASSURANCE												
MANAGEMENT SYSTEMS	3.3			3.4			3.5			3.6		
		3.3	3.4		3.5			3.6			3.7	
ENVIRONMENTAL												
PACKAGING & TRANSPORTATION			3.2			3.3*			3.3*			3.4*
AIR QUALITY	19-29			30-36			37-46			47-53		
CULTURAL		4-6						7-9				
EPCRA					4-6						7-9	
GROUNDWATER			44-60			61-78			79-89			90-105
RCRA	24-35			36-48			49-61			62-71		
NEPA			4-6						7-9			
PCBs		7-11			12-14			15-18			19-24	
POLLUTION						3-4						5-6
SOLID WASTE MANAGEMENT			21-29			30-41			42-47			48-56
STORAGE TANK	11-15			16-20			21-25			26-30		
WATER QUALITY		31-43			44-55			56-63			64-78	
OCCUPATIONAL HEALTH/SAFETY	3.3*			3.3*			3.3*		3.4	3.5		3.6
TRAINING & QUALIFICATION		3.2			3.3			3.4			3.5	
OPERATIONS	3.8	3.9	3.10		3.11	3.12	3.13	3.14	3.15		3.16*	
EMERGENCY MANAGEMENT	3.2			3.3			3.4*			3.4*		
MAINTENANCE (MIP SCHEDULE)			4.14			4.16 4.17			4.3			4.4
RADIATION PROTECTION		3.3*			3.3*	3.4		3.5	3.7		3.6	

Appendix B

MANAGEMENT ASSESSMENT PROGRAM SCHEDULE
FY 1999

FUNCTIONAL AREA	FIRST QUARTER			SECOND QUARTER			THIRD QUARTER			FOURTH QUARTER		
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
ENGINEERING SERVICES	3.3			3.4			3.5*			3.5*		
CONFIGURATION MANAGEMENT		3.3*			3.3*			3.4			3.5	
FIRE PROTECTION			3.2*			3.2*			3.3*			3.3*
NUCLEAR SAFETY	3.8	3.9*		3.9*			3.10	3.11		3.12	3.13	3.14
QUALITY ASSURANCE	3.7			3.8			3.9			3.10		
MANAGEMENT SYSTEMS		3.8			3.9			3.10			3.11	
ENVIRONMENTAL												
PACKAGING & TRANSPORTATION			3.4*			3.5			3.6*			3.6*
AIR QUALITY	54-60			61-70			71-80			81-87		
CULTURAL		10-12						13-16				
EPCRA					10-11							
GROUNDWATER			106-120			121-138			139-149			150-152
RCRA	72-84			85-96			97-107			108-115		
NEPA												
PCBs		25-30	10-12		31-34			35-39	13-14		40-45	
POLLUTION												
SOLID WASTE MANAGEMENT						7-8						9
STORAGE TANK	31-35		57-65	36-40		66-74	41-45		75-83			84-93
WATER QUALITY		80-91			92-104			105-121		46-51	122-133	
OCCUPATIONAL HEALTH/SAFETY	3.7			3.8		3.9		3.10		3.11		3.12
TRAINING & QUALIFICATION		3.6			3.7			3.8*			3.8*	
OPERATIONS		3.16*			3.16*			3.16*		3.17		3.18
EMERGENCY MANAGEMENT	3.5*			3.5*			3.6		3.7*		3.7*	
MAINTENANCE (MIP SCHEDULE)			4.6			4.7 4.8			4.15			4.18
RADIATION PROTECTION		3.8			3.9		3.10	3.11	3.12		3.13	

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