1100-EM-1 Operable Unit

Pre-Unit Manager's Meeting with
DOE-RL, USACE, SNP
1330, December 12, 1991
Conference Room 1, SNP Facility

FROM/APPROVAL: Robert K. Stewart DATE: 1/24/92
Robert K. Stewart, 1100-EM-1 Operable Unit Manager (DOE-RL)

APPROVAL: John T. Stewart DATE: 21 Jan 92
John T. Stewart, 1100-EM-1 Operable Unit Proj. Mgr. (USACE)

APPROVAL: Chuck Malody DATE: Jan 25, 1992
Chuck Malody, 1100-EM-1 Operable Unit Proj. Mgr. (SNP)

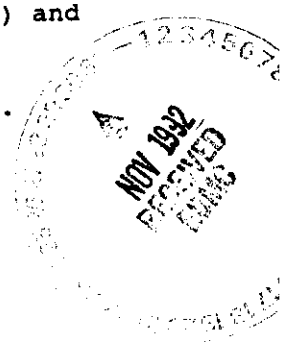
ATTENDEES:

See Enclosure 1.

DISCUSSION and AGREEMENTS:

The U.S. Department of Energy Field Office, Richland (DOE-RL), the U.S. Army Corps of Engineers, Walla Walla District (USACE), and Siemens Nuclear Power Corporation (SNP) met to discuss the status of the Remedial Investigation/ Feasibility Study (RI/FS) activities on the 1100-EM-1 Operable Unit and adjoining SNP property. The general agenda included the following topics:

(1) SNP involvement in DOE-RL RI/FS activities.
(2) DOE-RL Phase II RI Supplemental Work Plan (Revision 1) and response to SNP comments.
(3) DOE-RL response to SNP Phase I Groundwater Study.
(4) SNP comments on proposed USACE groundwater monitoring.
(5) Update on each other's activities.



(1) SNP involvement in DOE-RL RI/FS activities.

At an earlier meeting DOE-RL requested SNP review the schedule presented in the Remedial Investigation Phase 2 Supplemental Work Plan for the Hanford Site 1100-EM-1 Operable Unit, Revision 1 and identify those DOE-RL RI/FS activities SNP wanted to be involved in, and to specify the type of involvement. SNP's December 9, 1991 letter to DOE-RL (Enclosure 2) answers that request in general.

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USACE proposed the primary mode of interaction be a pre-unit manager's meeting, similar to today's, where each party would present what they have accomplished, what they are currently doing, and what they are planning. Specific subjects would be addressed on a case-by-case basis, and could often result in offline meetings between technical experts.

All parties agreed to the general concept.

SNP and their environmental contractor Geraghty & Miller, Incorporated (GM) may call the USACE technical manager Wendell Greenwald on technical issues, or the USACE project manager John Stewart on general and policy issues. Similarly, USACE may call GM's Susan Keith on technical issues and SNP's Chuck Malody on general and policy issues.

The primary deliverables the remaining for the 1100-EM-1 Operable Unit are the Final RI/FS Report and the Proposed Plan. In addition, there is a "sub-deliverable"; the revised baseline risk assessment. It was agreed these packages will be reviewed by SNP concurrently with DOE-RL prior to going to EPA and Ecology.

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(2) DOE-RL Phase II RI Supplemental Work Plan (Revision 1) and response to SNP comments.

USACE reviewed the disposition of SNP Comments.

SNP/GM agreed they do not need to see the Supplemental Work Plan (Revision 2) prior to publication.

(3) DOE-RL response to SNP Phase I Groundwater Study.

USACE reviewed several comments and concerns on the SNP Phase I Groundwater Study.

GM will send to Wendell Greenwald the description of the methodology and the deliverables for laboratory analysis data validation.

(4) SNP comments on proposed USACE groundwater monitoring.

USACE proposed a plan for continued groundwater sampling through the Record of Decision (Enclosure 3). SNP comments on this proposal (Enclosure 4) were reviewed.

USACE will hand-carry previously distributed information on technetium and speciation laboratory analysis methodologies to Chuck Malody at SNP.

GM chemist will contact Dr. Suzanne Clarke with respect to gross β and iron analysis. USACE will perform analysis of ammonia, alkalinity, acidity, and other inorganics being analyzed for in the SNP Phase I Groundwater Work Plan.

For Monitoring Well 19 - samples will be taken as per USACE proposal for now. The data will be reviewed after the May annual sampling and after SNP

analytical data becomes available to review the appropiateness of the proposal.

(5) Update on each other's activities.

Past, current, and planned activities. The groundwater was sampled by both DOE-RL and SNP in November 1991. DOE-RL and SNP plan to measure groundwater surface levels next week.

USACE is in the process of submitting necessary documentation to perform the February 1992 groundwater monitoring. This documentation will be reviewed by DOE-RL, EPA, and Ecology. These reviews, including satisfactory resolution of comments, may require the scheduled February sampling be moved to early March. USACE is proposing the sampling activity scheduled for February remain as scheduled for now, but that "float" be added to that schedule to allow slippage to early March if necessary. SNP/GM agreed.

All DOE-RL RI Phase II field activities are complete except the disposition of the medical-like wastes encountered during the recent test-pit explorations. USACE recommends leaving the materials in place. The material was a very local and unique discovery in approximately 20 square feet at a 2.4 million square feet landfill. USACE has requested clarification/direction from EPA and Ecology concerning this issue, and will do so again.

SNP sampled surface soils in November 1991.

A Scope of Work for the remainder of the SNP RI/FS activities has been prepared by GM and submitted to SNP for internal review. More detailed work plans for specific activities will be developed as necessary.

The next Unit Manager's Meeting is scheduled for January 22 and 23, 1992. The next pre-Unit Manager's meeting is tentatively scheduled for January 21, 1992, same location and time.

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Meeting Attendance			
Date 12/12/91	Place Siemens		
Purpose General Discussion			
Name Last - First	Representing	Title	Phone
STEWART, JOHN T	USACE	PM	509-376-9101
LIIAS, RAIMO A	USACE	Chief Environmental Eng. Br.	509-522-6929
CANNON, DENNIS J.	USACE	HANFORD PROGRAM MANAGER	509-376-4487
ANDERSON, JOHN E	USACE	Sr. Hydrogeologist	509-522-6831
Greenwald Wendell	USACE	TM	509 376-1252
Suzanne Clarke	USACE	CHEMIST	509-522-6836
Stewart, Bob	DOE-RL	Phy Scientist	509-376-6192
Susan Keith	G&M for SNP	PM	(206)869-6324
Doris Miner	for SNP	Min. Engineer	(206)633-3208
Malody, C.W. Jr	SNP	Mgr Reg. Comp	(509)375-8537

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Encl 1

SIEMENS

December 9, 1991

U. S. Department of Energy
Attn: Robert K. Stewart, Unit Manager
Environmental Restoration Division
P.O. Box 550, A6-95
Richland WA 99352

Re: Siemens Nuclear Power Corporation (SNP) Involvement in U.S. Department of Energy (USDOE) Remedial Investigation/Feasibility Study (RI/FS) Activities

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Dear Bob:

You recently requested SNP to identify those USDOE RI/FS activities that SNP wished to be involved in and the type of involvement. In response to your request, SNP would like to be involved in all USDOE RI/FS activities remaining to be completed. These include, but are not limited to, remaining field investigations, development of a conceptual groundwater model, fate and transport analysis, risk assessment, identification of contaminants of concern, development of remedial action objectives, development and evaluation of alternatives, selection of the preferred remedial action alternative, and preparation of the final RI/FS report.

SNP would like to be as involved as possible in these activities, including participating in planning meetings, developing work plans, interpreting data, and reviewing and commenting on draft written materials and the RI/FS report. This level of involvement reflects SNP's intent to assist USDOE in producing a high-quality RI/FS report and to ensure a sound remedy selection process.

We look forward to discussing this further with you at the December 12, 1991 meeting to be held at 1:30 p.m. in Conference Room 1 at the SNP Horn Rapids Road facility. At that point in time, I hope we can come to an agreement as to SNP's involvement in the RI/FS activities. In particular, I would like to agree on specific measures to ensure that SNP is involved fully in each step of the RI/FS process.

Very truly yours,

C. W. Malody, Manager
Regulatory Compliance

CWM:clp

cc: John Stewart - USACE

C.W. Malody
Manager
Regulatory Compliance

Siemens Nuclear Power Corporation
Engineering and Manufacturing Facility
2101 Horn Rapids Road, PO Box 130, Richland, WA 99352-0130
Tel: (509) 375-8100 Fax: (509) 375-8402

Encl 2

DON'T SAY IT --- *Write It!*

DATE: November 25, 1991

TO: Bob Stewart, DOE-RL
Dave Einan, EPA
Rich Hibbard, Ecology
Chuck Malody, SNP
Billie Maus,

FROM: John Stewart, USACE
Telephone: 509-376-9101

CC:

SUBJECT: 1100-EM-1 Operable Unit Groundwater Monitoring Proposal

Groundwater sampling at the 1100-EM-1 Operable Unit has been completed as outlined in the Remedial Investigation Phase 2 Supplemental Work Plan for the Hanford Site 1100-EM-1 Operable Unit (DOE/RL-90-37).

Future groundwater monitoring sample results can not be incorporated into the Final Remedial Investigation/Feasibility Study Report because of time limitations on the approved baseline schedule. The USACE is proposing a plan for sampling in the interim through the Record of Decision for this operable unit. The enclosed tables define this proposal and are provided for your review and comment. Distribution to the U.S. Environmental Protection Agency, Washington State Department of Ecology, and Siemens Nuclear Power Corporation has been made under separate cover as discussed at the November Unit Manager's meeting.

Table I indicates the frequency of analysis for wells which will continue to be monitored under the 1100-EM-1 Operable Unit. Wells which have been monitored in the past, but do not appear on this table, will be monitored by the Site Wide Monitoring group at a standard frequency and for a standard list of analytes consistant with the Site Wide Monitoring program. Table II and Table III list the analytes and discuss the analysis methods proposed for well monitoring under the 1100-EM-1 Operable Unit.

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Encl 3

FACSIMILE TRANSMITTAL HEADER SHEET

Walla Walla District

CORPS OF ENGINEERS
COMMUNICATIONS
CENTER

TO:

TELE. NO. OF PERSON: FAX NO.:

FROM: JOHN STEWART

NUMBER OF PAGES(NOT INCLUDING HEADER SHEET): 4

FAX NO. (509)522-6433
CONFIRMATION TELE. NO. (509)522-6432

DATE SENT: 26 NOV 91 TIME SENT:

MESSAGE:

AS PER THE NOVEMBER UNIT MANAGER'S MEETING THE ENCLOSED DSI AND TABLES OUTLINE IN DETAIL THE USACE PROPOSAL FOR THE CONTINUING GROUNDWATER MONITORING ACTIVITY.

PLEASE REVIEW THIS MATERIAL AND RETURN ANY COMMENTS ASAP.

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TABLE I
Specific Wells with Monitoring Frequency and Chemical Analyses

Well	Nearest Operable Unit	Frequency of Monitoring	Corresponding Table
MW-1	1100-1 & Ephemeral Pool	Annual	2
MW-3	1100-4 & UN-1100-5	Annual	2
MW-4	1100-2	Annual	2
MW-6	1100-3	Annual	2
MW-7	None; samples used as blanks.	whenever needed	as appropriate
MW-8	HRL	quarterly	3
MW-10	HRL	quarterly	3
MW-11	HRL	quarterly	3
MW-12	HRL	quarterly	3
MW-14	HRL	quarterly	3
MW-15	HRL	quarterly	3
MW-20	downgradient from HRL	quarterly	3
MW-22	downgradient from HRL	quarterly	3
6-S29-E12	HRL	quarterly	3

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TABLE II
Annual Groundwater Monitoring
Precision, Accuracy, and Completeness Objectives

MEASUREMENT PARAMETER	DETECTION/ QUANTITATION LIMITS[o]	ACCURACY[♦]	PRECISION[♦]	CONTAINER/PRESERVATION/HOLDING TIMES[o]	COMPLETENESS[o]	REFERENCE[•]
VOLATILE ORGANICS TCE (trichloroethene) 1,1,1-trichloroethane	.....5 µg/L..... .....5 µg/L.....	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	2, 40 mL glass vials with Teflon-lined septa; cooled to 4°C and analyzed within 14 days of sampling.	95%	EPA method 8240: GC/MS-packed column (purge-and-trap)
ORGANOCHLORINE PESTICIDES/ POLYCHLORINATED BIPHENYLS aroclor-1248 (PCB)..... α-chlordane, γ-chlordane..... 4,4'-DDD..... 4,4'-DDE..... 4,4'-DDT..... endosulfan II..... heptachlor.....	.....0.65 µg/L..... .....0.14 µg/L..... .....0.11 µg/L..... .....0.04 µg/L..... .....0.12 µg/L..... .....0.04 µg/L..... .....0.03 µg/L.....	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	2 X 1 L amber glass, Teflon-lined cap, cooled to 4°C. 7 days to extraction, 40 days to analysis.	95%	EPA Method 3510/8080 or 3520/8080 clean-up via method 3620 GC
INORGANICS barium..... beryllium..... cadmium..... chromium..... copper..... nickel..... silver.....	.....2 µg/L..... .....0.3 µg/L..... .....4 µg/L..... .....7 µg/L..... .....6 µg/L..... .....15 µg/L..... .....7 µg/L.....	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	1, 1L double-strength polyethylene bottle, metal-free HNO_3 to pH<2: unfiltered samples only, 6 months maximum holding time.	95%	EPA Method 6010 (ICP): Digestion via 3010 (total metals).
INORGANICS antimony..... arsenic..... chromium..... beryllium..... cadmium..... lead..... thallium..... mercury.....	.....3 µg/L..... .....1 µg/L..... .....1 µg/L..... .....0.2 µg/L..... .....0.1 µg/L..... .....1 µg/L..... .....1 µg/L..... .....0.2 µg/L.....	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	1, 1 L double-strength polyethylene container adjusted to pH < 2 with metal-free HNO_3. Unfiltered samples only, 6 months maximum holding time.	95%	EPA Method 3020/(GF-AA) .....7041..... .....7060..... .....7191..... .....7091..... .....7131..... .....7421..... .....7841..... .....7470 cold-vapor
PROPERTIES Specific conductance..... Temperature, pH..... water-level.....	..... ± 10% ..... ± 0.1 °C, ± 0.1 pH units	NA	NA	Specific conductance, temperature and pH are performed immediately, (log environmental conditions).	95%	EPA Method .....9050..... .....9040..... .....methodology in SAP....

[o] Values from ER-1110-1-263, Appendix D: metals are reported as nominal instrument detection limits (for SW-846), for organics the values are practical quantitation limits.

[♦] Values for precision and accuracy are specific to media, analyte, and analyte concentration. Attention must be given to analytes close to or above applicable MCL's as described in this document; for these analytes, laboratories must demonstrate that the precision and accuracy of the data is within the limits defined in the specific methodology utilized (i.e. Tables of "Method Accuracy and Precision as a Function of Concentration"), this is a contract requirement.

[•] Method described in "Test Methods for Evaluating Solid Waste", 3rd Edition, EPA-SW-846, Revision 0, September 1986.

GC/MS: gas chromatography/mass spectrometry.
ICP: inductively coupled plasma atomic emission spectroscopy
GF-AA: graphite furnace atomic absorption spectrometry

TABLE III
Quarterly Monitoring
Precision, Accuracy, and Completeness Objectives

MEASUREMENT PARAMETER	DETECTION/ QUANTITATION LIMITS[o]	ACCURACY[♦]	PRECISION[♦]	CONTAINER/PRESERVATION/HOLDING TIMES[□]	COMPLETENESS[o]	REFERENCE[*]
VOLATILE ORGANICS TCE (trichloroethene) 1,1,1-trichloroethane	.....5 µg/L..... .....5 µg/L.....	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	2 X 40 mL glass vials with Teflon-lined septa; cooled to 4°C and analyzed within 14 days of sampling.	95%	EPA method 8240: GC/MS-packed column (purge-and-trap)
COMMON ANIONS Floride Chloride Nitrite Phosphate Nitrate Sulfate	As specified in methodology.	Accuracy confirmed via spikes and blank spikes.	Precision confirmed via field duplicates (sampling and lab error) and replicates (analysis error).	1 X 1 L Glass containers, pH adjusted to < 2 with H_2SO_4 and cooled to 4°C. Analyze within 28 days.	95%	EPA Method 300.0 or 300 series.
PROPERTIES Specific conductance, Temperature, pH..... water-level.....	..... ± 10% ..... ± 0.1 °C, ± 0.1 pH units	NA	NA	Specific conductance, temperature and pH are to be performed immediately, (log environmental conditions).	95%	EPA Method .....9050..... .....9040..... methodology in attached SAP
99Tc: Special analytical services will be used for samples obtained from MW-11 and MW-12. The specific methodology will be determined after results are obtained from the current radiochemical analyses being performed by Pacific Northwest Laboratories (PNL).						

[o] Values from ER-1110-1-263, Appendix D: metals are reported as nominal instrument detection limits (for SW-846), for organics the values are practical quantitation limits.

[□] Method described in "Test Methods for Evaluating Solid Waste", 3rd Edition, EPA-SW846, Proposed Update 2. ** SW-846, Table 2-29.

♦ Values for precision and accuracy are specific to media, analyte, and analyte concentration. Attention must be given to analytes close to or above applicable MCL's as described in this document; for these analytes, laboratories must demonstrate that the precision and accuracy of the data is within the limits defined in the specific methodology utilized (i.e. Tables of "Method Accuracy and Precision as a Function of Concentration"), this is a contract requirement.

GC/MS: gas chromatography/mass spectrometry.

GERAGHTY & MILLER, INC.
Environmental Services

Ground Water *Engineering* *Hydrocarbon* *Remediation* *Education*

~~*FAXED AND REGULAR MAIL*~~

November 28, 1991

Mr. John Stewart
United States Department of the Army Corps of Engineers
Post Office Box 550, MSIN: A5-20
Richland, Washington 99352

RE: U.S. Department of Energy (USDOE) Ground-Water Quality Sampling at the Horn Rapids Landfill (HRL) November 26, 1991 Proposal

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Dear John:

On behalf of Siemens Nuclear Power Corporation (SNP), this letter is in response to your request for feedback on the above-referenced proposal which was faxed to me on November 26, 1991. It is our understanding that U.S. Environmental Protection Agency (EPA) is requiring continued quarterly ground-water sampling and monthly depth-to water measurements at least through the Record of Decision (ROD). Your November 26, 1991 proposal reduces the number of wells sampled and the constituents analyzed and appears to provide for quarterly, as opposed to monthly, depth-to-water measurements.

SNP has no intent to interfere in USEPA's jurisdiction to make decisions regarding changes in ground-water monitoring. However, to respond to your request for feedback on the proposed changes, SNP feels that, at a minimum, the following monitoring program should be maintained at the HRL:

- Monthly depth-to-water measurements through 1992, coinciding with SNP measurements.
- Quarterly ground-water quality sampling through 1993 and possibly longer, depending on the results.
- Field parameters should be the same as in SNP's study (temperature, electrical conductivity, pH).
- Constituents to be analyzed should be the same as SNP's study.
- Wells to be sampled and measured for water levels: MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-19, MW-20, MW-22, 6S-29-E12. This list is the same as proposed by USDOE with the exception that it includes MW-19.

8330 154th Avenue N.E. • Redmond, Washington 98052-3864 • (206) 869-6321 • FAX (206) 869-6369

Encl 4

We hope this feedback is helpful to you.

Unless we hear otherwise from you, we will assume that you are continuing with the quarterly ground-water sampling and monthly ground-water measurements as required by USEPA. Please advise us if this changes.

We appreciate the opportunity for input and look forward to working with you.

Sincerely,

GERAGHTY & MILLER, INC.

Susan Keith

Susan J. Keith
Principal Scientist and Associate/
Project Manager and Officer

SJK/kkj

Attachment

cc: Chuck Malody, SNP
Gerard Welch, SNP
Don Myers, Esq., Stoel Rives Boley Jones & Grey
David Einan, USEPA
Bob Stewart, USDOE

TABLE B-1. SUMMARY OF ANALYTES, METHODS, AND DATA QUALITY OBJECTIVES FOR GROUND-WATER MONITORING
PHASE I GROUND-WATER STUDY WORK PLAN
SIEMENS NUCLEAR POWER CORPORATION, RICHLAND, WASHINGTON

ANALYTE	METHOD	CRQL (1)	G&M QA LEVEL (2)	PRECISION CRITERIA (3)	ACCURACY CRITERIA (3)
Volatile Organics	624 (4)	2 ug/l	IV	25	75-125
Ammonia as Nitrogen	350.3 (5)	50 ug/l	III	20	75-125
Barium	200.7 (5)	200 ug/l	IV	20	75-125
Calcium	200.7 (6)	5000 ug/l	IV	20	75-125
Iron	200.7 (6)	100 ug/l	IV	20	75-125
Magnesium	200.7 (6)	5000 ug/l	IV	20	75-125
Manganese	200.7 (6)	15 ug/l	IV	20	75-125
Potassium	200.7 (6)	5000 ug/l	IV	20	75-125
Sodium	200.7 (6)	5000 ug/l	IV	20	75-125
Chloride	300.0 (7)	10000 ug/l	III	20	75-125
Fluoride	340.2 (8)	100 ug/l	III	20	75-125
Nitrate as Nitrogen	300.0 (7)	100 ug/l	III	20	75-125
Phosphate	300.0 (7)	500 ug/l	III	20	75-125
Sulfate	300.0 (7)	2000 ug/l	III	20	75-125
Alkalinity	310.1 (5)	10000 ug/l	III	20	75-125
Acidity	305.1 (5)	10000 ug/l	III	20	75-125
Gross alpha	900.0 (9)	7.5 pCi/l	III	20	75-125
Gross beta	900.0 (9)	25 pCi/l	III	20	75-125
Temperature	(10)	NA	NA	NA	NA
pH	(10)	NA	NA	NA	NA
Specific conductance	(10)	NA	NA	NA	NA

(1) CRQL is the contract-required quantitation limit; values are to be considered requirements in the absence of known or suspected analytical interferences.
(2) Level IV reporting includes a full laboratory report as required by the USEPA Contract Laboratory Program (CLP). Level III reporting includes a full CLP data package except for raw spectra and laboratory bench data sheets used to prepare quality assurance documents.
(3) Precision is expressed as a relative percent difference between results of duplicate or replicate analyses; accuracy is expressed as percent recovery of an analyte. These limits apply to sample results greater than five times the CRQL and are to be considered requirements in the absence of known or suspected analytical interferences.
(4) Method described in 40 CFR 136, Appendix A.
(5) Method described in Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1979.
(6) Method described in 40 CFR 136, Appendix C.
(7) Method described in Determination of Inorganic Anions in Aqueous and Solid Samples of Ion Ion Chromatography, EPA-600/4-84-017, 1984.
(8) Method described in Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1979, Revised 1983.
(9) Method described in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, 1980.
(10) Measured in the field according to instrument manufacturer's instructions.
ug/l Micrograms per liter
pCi/l Picocuries per liter
NA Not applicable

APPENDIX B