START

ENGINEERING CHANGE NOTICE

1. ECN 193253

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental ■ Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	William E. Davis/16410/S6-70/2-0014		03/26/93
	5. Project Title/No./Work Order No. D6T11	6. Bldg./Sys./Fac. No. N/A	7. Impact Level 3EQ
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-PLN-037, Rev 2	9. Related ECN No(s).	10. Related PO No.

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[] Yes (fill out Blk. 11b) [X] No (NA Blks. 11b, 11c, 11d)	N/A	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

I. Page 7 Change Sampling Site from 207-B to 207-BA
Page 8 Change Sampling Site from 207-B to 207-BA
Page 18 Change Sampling Site from 207-B to 207-BA
Page 14 Change Sampling Site from 207-B to 207-BA
II. Page 14 Correct typos in Table 2. Change 221-BA to 221-BG and 221-BG to 221-BA
III. Page 17 Change method for Nitrogen and Nitrite from 354.1 to 300.0
IV. Page 17 Delete Acidity from Analyte list
V. Page 17 Add statement to Table 3 "Listed Below or in QAPP (WHC 1992b)"
VI. Page 17 Add Nitrate with method 300.0 to Table 3

Impact Level 3EQ was chosen because the changes are Impact level 3 to an engineering document and the changes need to be reviewed by Effluent Emission Monitoring and QA.

13a. Justification (mark one)							
Criteria Change	[]	Design Improvement	[X]	Environmental	[]	As-Found	[]
Facilitate Const.	[]	Const. Error/Omission	[]	Design Error/Omission	[]		

13b. Justification Details

I. Change in sample point to outside a radiation zone for ALARA. Sample point change is <25' from 207-B to 207-BA with no additional sources added to the effluent between the previous and new sample point. II. Type correction in Table 2. III. Method 354.1 is unavailable. Method 300.0 will yield the desired analysis. IV. Since alkalinity is already being analyzed, acidity is a duplication and is being removed. V. Allows methods listed in QAPP to be used. VI. Need Nitrate analysis.

14. Distribution (name, MSIN, and no. of copies)

S. A. Brisbin	H4-16	(1)	C. L. Morrison-Beyer	S0-61	(1)
W. W. Bowen	S6-65	(1)	M. S. Hendrix	H4-23	(1)
S. A. Burris	T1-30	(1)	D. R. Speer	R1-48	(1)
L. P. Diediker	T1-30	(1)			
D. L. Halgren	S6-70	(1)			
J. E. Hyatt	S0-61	(1)			

RELEASE STAMP

OFFICIAL DOCUMENT (12)
APR 20 1993
Sta. # 2

FEB 1994 RECEIVED EPIC

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 193253

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[] Yes	Additional	[] N/A	Additional	[] N/A	Improvement	[] N/A
[X] No	Savings	[]	Savings	[]	Delay	[]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	None	[X]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog Engineer	3/26/93	PE	
Cog. Mgr	3/27/93	QA	
QA D. D. McAfee	3/31/93	Safety	
Safety N/A		Design	
Security N/A		Environ.	
Environ. ~~N/A~~ WED 3/24/93 T.P. Frazier EEM	3-29-93	Other	
Projects/Programs N/A			
Tank Waste Remediation System N/A			
Facilities Operations N/A		DEPARTMENT OF ENERGY	
Restoration & Remediation N/A		Signature or Letter No.	
Operations & Support Services N/A			
IRM N/A	3-31-93	ADDITIONAL	
Other Informal Review C. D. Morrison-Beyer			
M. S. Hendrix M. Hendrix	3/29/93		
~~D. R. Speer~~ 3/29/93			

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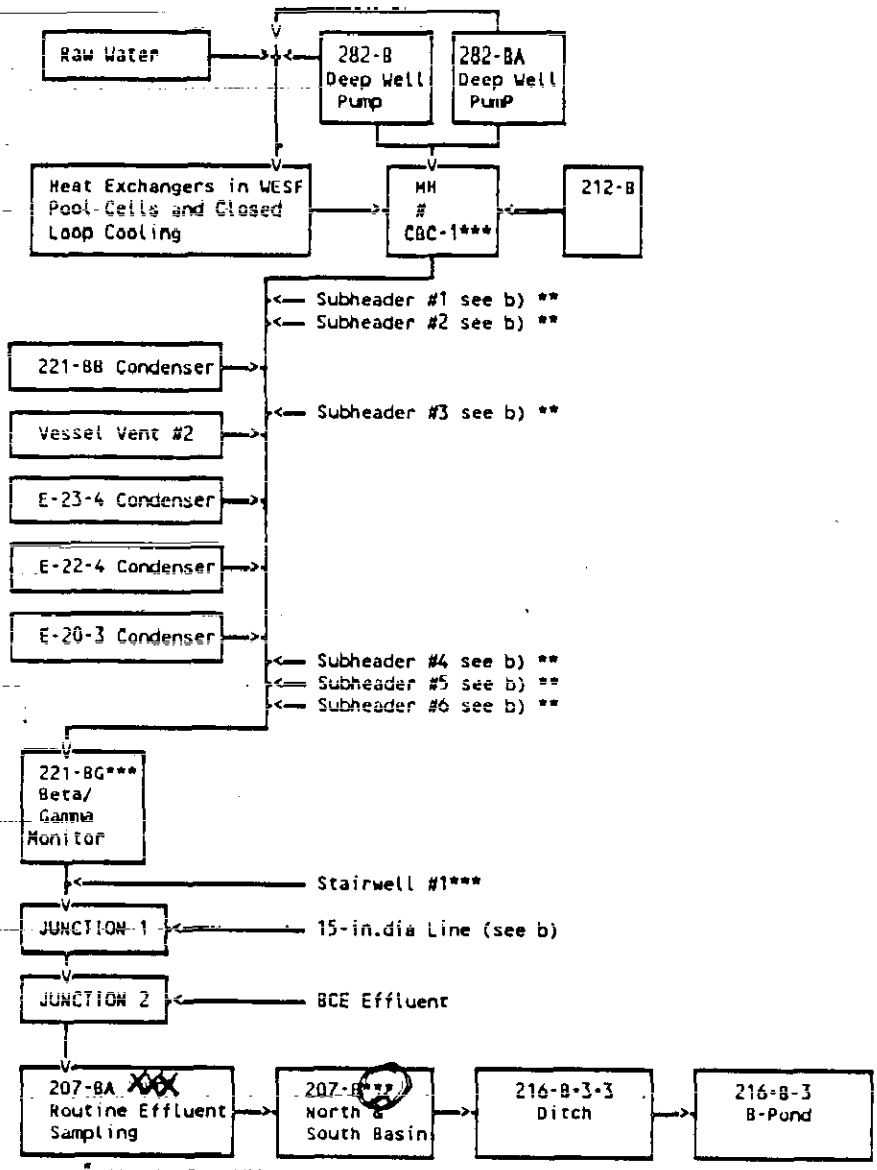
Figure 2. CBC Stream Flow Schematic

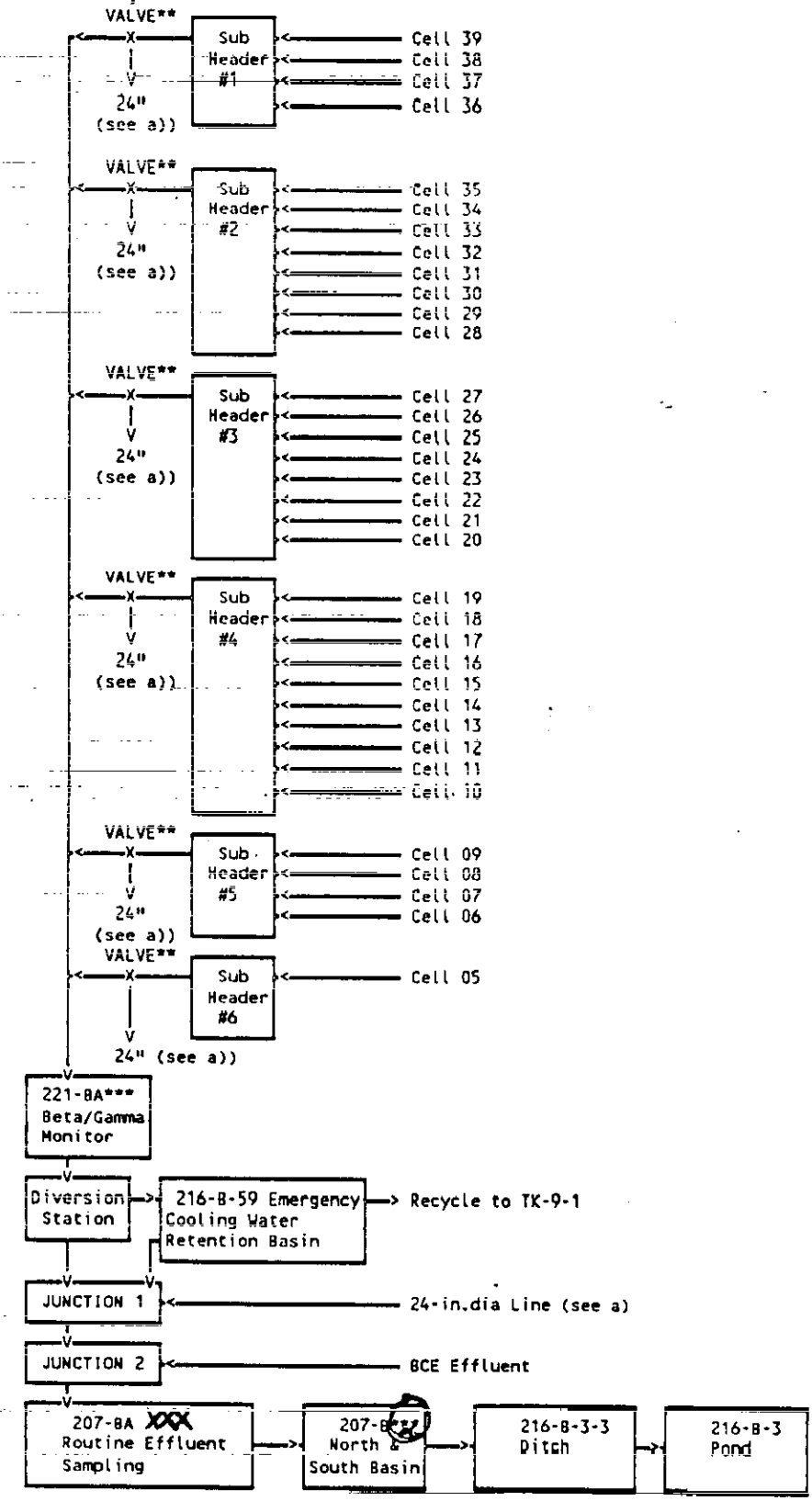
a) 24-in.-dia Line



* Manhole-MH
** Normally diverted to the 15-in-dia. line
*** Sampling Site

Figure 2 continued on next page

b) 15-in.-dia Header



** Normally diverted to 15-in-dia. line
*** Sampling Site

Office of Sampling Management will:

- Identify and approve the contracted laboratory to perform analysis of samples.
- Monitor the contracted laboratory for quality performance.
- Act as interface between the Sampling Task Leader and the contracted laboratory.
- Verify that all laboratory results are received.
- Validate contracted laboratory data packages.

Sampling and Mobile Laboratories will:

- Provide one sampler with a WHC Certificate of Qualification from the Sampling and Mobile Laboratories Organization. The certified sampler shall direct liquid effluent characterization sampling, packaging, and shipping.
- Prepare the Plant liquid effluent characterization sampling procedure.
- Document sampling activities in a log book.
- Transport liquid effluent characterization samples to laboratory or shipping center.
- Initiate "Chain-of-Custody" documentation for liquid effluent characterization samples.
- Package liquid effluent characterization samples for shipping.
- Ensure copies of field logs and other sampling data sheets are filed with Sampling Task Leader.

D. SAMPLING LOCATION AND FREQUENCY

This section describes sampling location and frequency of characterization sampling for the CBC effluent stream.

D.1 Sampling Location

The characterization grab sampling of the combined BCE and CBC effluent will be performed at ~~the~~ 207-B~~basin~~, since this location is downstream from all contributors. In addition, two samples are necessary to document the 24-in-dia. effluent and the 15-in-dia. effluent. A sample representative of the 24-in-dia. effluent will be taken at 221-BG or manhole CBC-1 (see Figure 1, page 4, and appendix A, page 23-26) while a sample taken at 221-BA will represent the 15-in-dia. effluent. The alternate sampling location for the 24-in-dia. effluent at manhole CBC-1 can be used only when the condensers E-23-4, E-22-4, E-20-3 and the condenser in 221-BB are not operating. Since a sampling position of the combined 24-in-dia. line does not exist downstream of where Stairwell #1 effluent enters the line, a sample will be taken of the Stairwell #1 steam condensate where it enters the drain. However, if no steam condensate is present during the time of sample collection, the stairwell #1 sample will be omitted.

The raw water background characterization grab sample will represent the input raw water stream to B Plant. This characterization grab sample (shown in Table 2) will be taken at 294-B. Since characterization sampling will also be performed for the BCE effluent stream (WHC 1992a) at the same time as the CBC sampling, the raw water background characterization grab sample will represent both streams.

Table 2. Characterization Sampling Locations

Sample	Sample Location	Description
1.	207-B~~A~~	Combined CBC and BCE effluent stream*
2.*	294-B	Raw Water Supply to B Plant
3.	221-B~~X~~ or CBC-1	24-in-dia. effluent
4.	221-B~~G~~A	15-in-dia. effluent
5.**	Stairwell #1	Steam Condensate in Stairwell #1

* The BCE samples specified in B Plant Chemical Sewer Sampling and Analysis Plan (WHC 1992a) will be taken at the same time as CBC samples.

** Flowrate from steam heating is less than 0.1 gpm during winter and essentially 0 gpm in summer.

D.2 Frequency

The set of characterization samples listed in Table 2 will be taken to characterize the effluent stream. Additional characterization samples will be collected, as determined by the CBC cognizant engineer, to obtain data representative of changes in the process operational conditions.

Following the initial characterization of the CBC stream, the additional characterization samples of the inflow raw water at 294-B, at Stairwell #1, 221-BA, and 221-BG will not be performed unless dilution of a source stream is suspected. The characterization sample characterizing the CBC and BCE combined effluent will be taken at the same time twice annually. This twice annual sampling will continue for the BCE and CBC until the effluents are separated in 1995.

Characterization sampling will be initiated within 3 months after the regulators (Environmental Protection Agency/Washington State Department of Ecology) approve this plan.

Weekly routine samples to document total beta, total alpha, and pH of the combined CBC and BCE effluent are taken at 207-BA by a flow proportional sampler.

G. SAMPLE HANDLING AND ANALYSIS

Characterization samples will be initially analyzed for analytes listed in 40 CFR 264 Appendix IX (EPA 1991) using analytical method, precision and accuracy listed in the QAPP Appendix A, Table A-1 (WHC 1992b). The list of analytes are noted in Table 3.

Table 3. Analytical Methods

is Listed Below or in QAPP (WHC 1992b)

Analyte	Method of Analysis
Sulfides	9030
Semivolatile Organics	8270
Volatile Organics	8240
Chlorinated herbicides	8150
Organophosphorus Pesticides	8140
Organochlorine Pesticides and PCBs	8080
Tin	7870
Thallium	7841
Selenium	7740
Mercury	7470
Lead	7421
Chromium	7196
Arsenic	7060
Antimony	7041
Inductively Coupled Plasma	6010
Phenolics	420.1/9065/9066/9067
Total Organic Carbon	415.2/9060
Oil and Grease, total recoverable	413.2/9070/9071
Chemical Oxygen Demand	410.1
Biochemical Oxygen Demand	405.1
Sulfate	375.4
Phosphorus, all forms	365.2
Nitrogen and Nitrite	~~354.1~~ 300.0
Nitrogen, Nitrate, Nitrite	353.3
Nitrate Ammonia	300.0 350.1
Fluoride	300.0
Total Cyanide	335.2
Chloride	300.0
Bromide	300.0
Alkalinity	310.1/310.2
~~Acidity~~	~~305.2~~

Date Received: 4/19/93 KMB

INFORMATION RELEASE REQUEST

Reference: WHC-CM-3-4

Complete for all Types of Release

Purpose

[] Speech or Presentation (Check only one suffix)
- [] Full Paper
- [] Summary
- [] Abstract
- [] Visual Aid

[] Speakers Bureau
[] Poster Session
[] Videotape

[] Reference
[X] Technical Report
[] Thesis or Dissertation
[] Manual
[] Brochure/Flier
[] Software/Database
[] Controlled Document
[] Other

ID Number (include revision, volume, etc.) ~~WHC-SD-WM-PLN-037 Rev. 2~~

List attachments. ECN 193253

Date Release Required 4/12/93

Title B Plant Cooling Water Sampling and Analysis Plan

Unclassified Category UC-

Impact Level 3F Q

New or novel (patentable) subject matter? [X] No [] Yes
If "Yes", has disclosure been submitted by WHC or other company?
[X] No [] Yes Disclosure No(s).

Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions?
[X] No [] Yes (Identify)

Copyrights? [X] No [] Yes
If "Yes", has written permission been granted?
[] No [] Yes (Attach Permission)

Trademarks?
[X] No [] Yes (Identify)

Complete for Speech or Presentation

Title of Conference or Meeting

Group or Society Sponsoring

Date(s) of Conference or Meeting

City/State

Will proceedings be published? [] Yes [] No
Will material be handed out? [] Yes [] No

Title of Journal

CHECKLIST FOR SIGNATORIES

Review Required per WHC-CM-3-4	Yes	No	Reviewer - Signature Indicates Approval: Name (printed)	Signature	Date
Classification/Unclassified Controlled Nuclear Information	[]	[X]			
Patent - General Counsel	[]	[X]	OGC Memo		2/4/93
Legal - General Counsel	[]	[X]	OGC Memo		2/4/93
Applied Technology/Export Controlled Information or International Program	[]	[X]			
WHC Program/Project	[X]	[]	D. R. Speer R1-48		4-19-93
Communications	[]	[X]			
RL Program/Project	[]	[X]			
Publication Services	[X]	[]	MR WACHICK		4/19/93
Other Program/Project	[]	[X]			

Information conforms to all applicable requirements. The above information is certified to be correct.

	Yes	No
References Available to Intended Audience	[X]	[]
Transmit to DOE HQ/Office of Scientific and Technical Information	[]	[X]

Author/Requestor (Printed/Signature) W. E. Davis Date 4/12/93

Intended Audience
[] Internal [] Sponsor [X] External

Responsible Manager (Printed/Signature) D. L. Halgren Date 4/12/93

INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP

Stamp is required before release. Release is contingent upon resolution of mandatory comments.

APPROVED FOR RELEASE KMB 4/19/93

Date Cancelled

Date Disapproved

BD-7600-062 (08/91) WEF074

Part 1