Tony 60

10CFR50.75 (g) LEAK/SPILL RECORD

NOP-OP-4705-01 Rev. 01

PART 1 – Location/Source

Event Date:	Plant Name:	
10 / 22 / 2008	☐ BV ☒ DB ☐ PY	Check one: ☒ Leak? ☐ Spill?
Volume (gallons)	Location of Spill/Leak	Source of spill/leak
Unknown,>100gallons	East side of plant, inside protected area	Break in Condensate Demineralizer Backwash to Settling Basin, water from condensor pit sumps

Duration of leak/spill: Unknown

Gamma Activity (μCi/cc)	Tritium Activity (μCi/cc)	Total Area Impacted (ft^2)
2.10E-07 μCi/g (highest)	**3.90 E-5 μCi/cc (highest)**	**Approximately 2500 ft2**

PART 2 – Event Description

Outside of Protected Area? ☐ Yes ☒ No ☐ Unknown

If unknown, what actions needed to determine?

Description of event/issue

At 1855 on the 22nd of October 08, while excavating to investigate a fireline leak, Tritium was discovered during a water sample from an excavation site inside of the Protected Area. The source revealed a Tritium level of 37,500 pCi/l in contrast to the limit of 2,000 pCi/l. Two leaks were identified in the 3" buried piping, Condensate Demineralizer Backwash to the Collection Box. Both condenser pit sumps and the Water Treatment Sump discharge to this line. Tritium is present in the condensate due to Steam Generator Tube Leakage. The initial priority was to isolate the sources of water, particularly any water containing tritium, to the 3" line that is leaking. Water and soil samples were collected during the investigation, repair, and refill of the excavation. The total volume of the leak could not be determined. The highest gamma and tritium activities were 2.10E-7 microCuries/gram and 3.90E-05 microCuries/cc respectively. A comparison of previous ground water sampling results to post leak results indicate no appreciable change in ground water tritium levels, indicating that the radioactivity from the leak does not have an affect on offsite dose or impact public safety.

Actions Taken to Stop Spill or Leak

Flow through condensate demin backwash line was isolated until repairs were completed.

Actions Taken to Clean-up Spill or Leak and Long Term Monitoring

Post sampling, concurrent with documentation of a previous leak in the same general area (CR# 90-0404), no clean up is planned until decommissioning of this area which is already being tracked in accordance with 10CFR50.75g. Long term monitoring will occur via the Ground Water Monitoring program.

PART 3 - Communications

Condition Report Number:	08-48288, 08-48354
State Agency Notification: (Describe what agency, when, and who)	Notifications performed in accordance with 10CFR 50.72(b)(2)(xi). The NRC was notified at 11:59 on October 23, 2008. The State of Ohio, Lucas County, and Ottawa County agencies were notified at 0900 on October 23, 2008.
NRC Notification: (when and who)	Eric Horvath (Shift Manager) contacted NRC Operation 10/23/09 at 11:59, using form DB-0095-01 as guidance.

6

N-25

Site: G201

CONDITION REPORT

CR Number 08-48288

TITLE: LEAKING PIPE FOUND

ORIGINATION

DISCOVERY DATE	TIME	EVENT DATE	TIME	SYSTEM / ASSET#
10/22/2008	N/A	10/22/2008	N/A	

EQUIPMENT DESCRIPTION Leaking pipe found

System	FLOC	AP-913:

DESCRIPTION OF CONDITION and PROBABLE CAUSE (If known) Summarize any attachments. Identify what, when, where, why, how.

While excavating to investigate a fireline leak, found a 3" with a leak spraying water. Line is shown on Civil Drawing C-52 as 3" Condensate Demin Backwash.

IMMEDIATE ACTIONS TAKEN / SUPV COMMENTS (Discuss CORRECTIVE ACTIONS completed, basis for closure.)

Notified Shift Manager of finding. Notification 600500223 was written for repairs.

10/27/2008 - MRB COMMENTS: THE MRB HAS REQUESTED THAT AN EFFECTIVENESS REVIEW BE PERFORMED ON THIS CR. CSM

QUALITY ORGANIZATION USE ONLY	IDENTIFIED BY (Check one)		ATTACHMENTS
Quality Org. Initiated ☐ Yes	☑ Individual/Work Group	☐ Self-Revealed	☑ Yes ☐ No
Quality Org. Follow-up ☐ Yes ☐ No	☐ Supervision/Management	☐ Internal Oversight ☐ External Oversight	

ORIGINATOR	ORGANIZATION	DATE	SUPERVISOR	DATE	PHONE EXT.
KOVACH, J	DBSV	10/22/2008	KOVACH, J	10/22/2008	7654

CONDITION REPORT

CR Number 08-48288

TITLE: LEAKING PIPE FOUND

PLANT OPERATIONS

SRO REVIEW	EQUIPMENT OPERABLE	OPERABILITY ASSESSMENT REQUIRED	ORG. NOTIFIED	IMMEDIATE INVESTIGATION REQUIRED	ORG. NOTIFIED	MODE CHANGE RESTRAINT
☑ Yes ☐ No	☐ Yes ☐ No ☑ N/A	☐ Yes ☑ No		☐ Yes ☑ No		☐ Yes ☑ No

MODE	ASSOCIATED TECH SPEC NUMBER(S)	ASSOCIATED LCO ACTION STATEMENT(S)
N/A	N/A	#1 N/A
		#2
		#3

DECLARED INOPERABLE (Date / Time)	REPORTABLE?		APPLICABLE UNIT(S)
N/A	☐ Yes ☑ No ☐ Eval Required	One Hour N/A Four Hour N/A Eight Hour N/A Other N/A	☑ U1 ☐ U2 ☐ Both

COMMENTS

Notified by the Maintenance Services Supervisor, Jim Kovach, of a discovery of the following issue while excavating the area downstream of FP53 for leak location:
"While excavating to investigate a fireline leak, found a 3" with a leak spraying water. Line is shown on Civil Drawing C-52 as 3" Condensate Demin Backwash."

The system location - 3" Condensate Demin Backwash Line - was checked using Civil Drawing C-52 by Rapid Response Engineering. Condition Report 08-48288 was submitted to document the leakage.
The following actions have been and will be taken regarding the leakage on the 3" Condensate Demin Backwash Line:
A. Notified the Duty Team at the 1530 Plant Status Call.
B. Radiation Protection will continue to monitor the excavation site. Earlier monitoring of "solids - stone etc.." of the excavation fill showed no detectable activity.
C. Chemistry will obtain a liquid sample and perform analysis.
D. Operations will formulate a isolation plan based on a review of the operations schematics and P&ID's.

A visual inspection of the 3" piping - which is located south of the fire protection piping downstream of FP53 - shows the leakage has lowered to ~ 1 to 2 drops per second. The leakage is suspected to be on the line from the East and West Condenser Pit sumps to the Settling Basin. The Turbine Bldg. Sump Pump system is not T.S. Equipment therefore Equipment Operable is marked "N/A" and Reportable is marked "No".

Current Mode - Unit 1	Power Level - Unit 1	Current Mode - Unit 2	Power Level - Unit 2
1	100	N/A	N/A

SRO - UNIT 1	SRO - UNIT 2	DATE
Williams, DA	Gillig, C	10/23/2008

CRPA / SUPV / MRB

CATEGORY / EVAL	ASSIGNED ORGANIZATION	DUE DATE
AR	DBPE	12/16/2008

REGULATORY

REPORTABLE? ☑ Yes ☐ No ☐ LER No. _____

REPORTABILITY REVIEWER: Wolf, G

DATE: 11/05/08

TREND CODES Process / Activity / Cause Code(s)			Comp Type / ID (If Cause T or W)		Cause Org
HDW	0575	T19	M	63	NONE
	0575	Q05			DBPE
	0575	Q06			DBPE

INVESTIGATION OPTIONS
☐ Maint.Rule ☑ OE Evaluation ☐ Generic Implications ☐ Part 21

CLOSED BY: DATE:

Attachment

Site: G201

CONDITION REPORT

CR Number

08-48288

REPORTABILITY DETERMINATION:

As documented in CR 08-48354, samples taken of soil/gravel and water related to the leak documented by CR 08-48288 indicate the presence of low levels of radioactivity. A water sample taken directly from the stream of the leaking Condensate Demineralizer Backwash pipe indicated 37,500 pCi/L of Tritium. Because this activity was higher than the industry specified reporting limits, it was determined that this constituted a situation related to the protection of the environment, for which a notification to other government agencies is being made, as described in 10 CFR 50.72(b)(2)(xi).

As noted in the Reactor Plant Event Notification Worksheet attached to CR 08-48288, the State of Ohio, Lucas County and Ottawa County government agencies were contacted regarding the leak at 0900 on October 23, 2008. The Nuclear Regulatory Commission was notified of the event at 1159 on October 23, 2008, fulfilling the four hour reporting requirements of 10 CFR 50.72(b)(2)(xi) (Event Notification #44596).

There are no corresponding written reporting requirements in 10 CFR 50.73 for events reported under 10 CFR 50.72(b)(2)(xi); therefore, no further regulatory reports are required. Any reporting required under the Offsite Dose Calculation Manual (ODCM) or site procedures will be determined during the course of the Condition Report evaluations.

Reportability determination peer-checked by J. Sturdavant. JCS 12-30-08

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	1

Corrective Action Type:	Cause Code:	Resp Org:
(ES) Evaluation Support	(NA) Not a Deficiency	DBPE

Description:

1. Determine if Davis-Besse should issue an Operating Experience (OE) Report according to NOP-LP-2100 step 4.8.1. (The Station OE coordinator can provide assistance.)
2. If no OE report should be issued, document the reasons why in the CAF Implementation Response section.
3. If an OE report should be issued, generate a notification for the CR Evaluator to ensure a report was issued to the industry according to NOP-LP-2100 step 4.8.2 within 50 days of the origination date of the associated Condition Report.

This assignment was made by the Management Review Board (MRB). The 50-day target is NOP-LP-2100 Step 4.8.3 requirement from an INPO recommendation. If an OE report should be issued, the draft, written by the CR evaluator, should be submitted to the Station Operating Experience Coordinator within 30 days.

Completed By:	Organization:	Date:	Phone:	Attachments:
MEYERS, C	DBRC	10/27/2008	7802	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	11/21/2008

Approval: (Enter Name and Sign)	Section:	Date:
MEYERS, C	DBPE	10/27/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

An OE report should be issued based on NOP-LP-2100 Attachment 6 Criteria b (radioactivity release). Notification 600504262 has been generated to ensure that an OE report is issued within 50 days of initiation of this CR.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 11/11/2008

☑ Signature indicates Corrective Action complete:
Completed By: CUNNINGS, J Date: 11/11/2008

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: PLYMALE, S Date: 11/11/2008

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	2

Corrective Action Type:	Cause Code:	Resp Org:
(ER) Effectiveness Review	(NA) Not a Deficiency	DBPE

Description:

Perform an Effectiveness Review in accordance with NOBP-LP-2007, Condition Report Process Effectiveness Review. If a Root Cause Analysis was performed, utilize the Effectiveness Review Plan documented in the Root Cause Report. Notify the Corrective Action Process Administrator when the Effectiveness Review is complete to have it submitted to the CARB.

Completed By:	Organization:	Date:	Phone:	Attachments:
MEYERS, C	DBRC	10/27/2008	7802	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	12/31/2011

Approval: (Enter Name and Sign)	Section:	Date:
MEYERS, C	DBPE	10/27/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

Signature indicates Corrective Action complete:
Completed By: Date:

Signature indicates verification for SCAQ CRs:
Verified By: Date:

Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	3

Corrective Action Type:	Cause Code:	Resp Org:
(ES) Evaluation Support	(NA) Not a Deficiency	DBPE

Description:

Condition Report 08-48354 is being rolled over to Condition Report 08-48288. Please ensure that all issues specific to Condition Report 08-48354 are addressed in the response/corrective actions to Condition Report 08-48288.

Completed By:	Organization:	Date:	Phone:	Attachments:
MELSSEN, B	DBRP	11/11/2008	321-7875	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	11/21/2008

Approval: (Enter Name and Sign)	Section:	Date:
PLYMALE, S	DBPE	11/11/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

This corrective action was to ensure all issues specific to Condition Report 08-48354 are addressed in the response/corrective actions to Condition Report 08-48288.

Alll issues have been addressed. Specific issues concerning the release itself are documenting the release per 10CFR50.75g and including the release in the Annual Radioactive Effluent Release Report.

Two corrective actions were written Corrective Action 08-48288-09 will complete and file 50.75g paperwork and associated records in accordance with NOP- OP- 4705, Response to Contaminated Spills/Leaks.

Corrective Action 08-48288-10 will track including this event in the Annual Radioactive Effluent Release Report in accordance with NOP-OP-4705, Response to Contaminated Spills/Leaks.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 11/21/2008

☑ Signature indicates Corrective Action complete:
Completed By: STEPHENSON, D Date: 11/21/2008

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: PLYMALE, S Date: 11/21/2008

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(N) Procedure - New / Revision	(C) Long Term Corrective Action (LTCA)	4

Corrective Action Type:	Cause Code:	Resp Org:
(PR) Preventive Action	(T19) Corrosion	DBTS

Description:

Establish a buried piping integrity program to mitigate or prevent through wall leakage within piping systems which are buried. This is a corrective action to address the less than adequate Corrective Action for the unknown status of underground components. Implementing NOP-ER-2007, Buried Piping Integrity Program will meet this corrective action.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	12/1/2009

Approval: (Enter Name and Sign)	Section:	Date:
WISE, A	DBTS	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

☑ Signature indicates Corrective Action complete:
Completed By: Date:

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(M) Work Order	(B) IAW Work Management Program	5

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(Q05) In-House Experience	DBPE

Description:

Corrective action 08-48288-05 will track implementation of the Underground Piping Protection Action Plan action 2 to verify integrity of the 3 inch Condensate Demin Backwash line (SAP Order 200284545). This is a corrective action to ensure the integrity of buried radwaste effluent piping in a timely manner.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	200284545	12/31/2008

Approval: (Enter Name and Sign)	Section:	Date:
PLYMALE, S	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ ***Completed as written*** ○ **Revised/Alternate Solution** ○ **Not Performed**

The 3 inch Condensate Demin Backwash line was repaired under order 200343305. The portion of the piping underneath the old office building was inspected to verify integrity and then internally lined with an epoxy liner. The remaining portion was replaced with HDPE piping under ECP 08-0631-001. Post maintenance testing verified the integrity of the complete line.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 12/8/2008

☑ **Signature indicates Corrective Action complete:**
Completed By: SWOPE, S **Date:** 12/15/2008

☑ **Signature indicates verification for SCAQ CRs:**
Verified By: **Date:**

☑ **Enter Name and Sign:**
Implementing Organization Approval: CUNNINGS, J **Date:** 12/15/2008

QUALITY VERIFIER

Comments:

Approval: **Date:**

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(G) Engineering Evaluation	(A) Owner Assigned/Controlled	6

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(Q05) In-House Experience	DBPE

Description:

Implement the Underground Piping Protection Action Plan action 2 to verify integrity of the 3 inch stainless steel Radwaste line (SAP Order 200284544). This is corrective action to ensure the integrity of buried radwaste effluent piping is timely.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	200284544	1/30/2009

Approval: (Enter Name and Sign)	Section:	Date:
PLYMALE, S	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

☑ Signature indicates Corrective Action complete:
Completed By: Date:

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	7

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(T19) Corrosion	DBPE

Description:

Document the lab analysis results for the degraded pipe sections and assess needed changes to this root cause evaluation report. The response to CA 7 and the revised Root Cause report are to be brought back to CARB if the lab analysis results affect the causes or corrective actions.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☑ Yes ☐ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	12/31/2008

Approval: (Enter Name and Sign)	Section:	Date:
PLYMALE, S	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Exelon PowerLabs report FIR-21460, Laboratory Examination of a 3" Carbon Steel Buried Pipe for Davis-Besse, is attached. Analysis results do not affect the root cause analysis report or corrective actions.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 12/23/2008

Signature indicates Corrective Action complete:
Completed By: SWOPE, S Date: 12/23/2008

Signature indicates verification for SCAQ CRs:
Verified By: Date:

Enter Name and Sign:
Implementing Organization Approval: CUNNINGS, J Date: 12/23/2008

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(E) Modifications Implementation	(A) Owner Assigned/Controlled	8

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(T19) Corrosion	DBPE

Description:

Complete ECP 08-0631 (SAP Order 200344014) for replacement of the 3 inch Condensate Demin. Backwash line between the 10 inch line and the Old Office Building and internal epoxy lining of the pipe underneath the Old Office Building.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	200344014	12/31/2008

Approval: (Enter Name and Sign)	Section:	Date:
PLYMALE, S	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ ***Completed as written*** ○ **Revised/Alternate Solution** ○ **Not Performed**

ECP 08-0631 for replacement of the 3 inch Condensate Demin. Backwash line between the 10 inch line and the Old Office Building and internal epoxy lining of the pipe underneath the Old Office Building was implemented under order 200343305.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 12/8/2008

☑ **Signature indicates Corrective Action complete:**
Completed By: SWOPE, S **Date:** 12/15/2008

☑ **Signature indicates verification for SCAQ CRs:**
Verified By: **Date:**

☑ **Enter Name and Sign:**
Implementing Organization Approval: CUNNINGS, J **Date:** 12/15/2008

QUALITY VERIFIER

Comments:

Approval: **Date:**

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	9

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(T19) Corrosion	DBRP

Description:

Complete and file 50.75g paperwork and associated records in accordance with NOP- OP- 4705, Response to Contaminated Spills/Leaks.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	2/1/2009

Approval: (Enter Name and Sign)	Section:	Date:
TRICKETT, S	DBRP	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

☑ Signature indicates Corrective Action complete:
Completed By: Date:

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	10

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(T19) Corrosion	DBCH

Description:

Include this event in the Annual Radioactive Effluent Release Report in accordance with NOP-OP-4705, Response to Contaminated Spills/Leaks.

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	4/20/2009

Approval: (Enter Name and Sign)	Section:	Date:
CAPOZZIELLO, V	DBCH	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

☑ Signature indicates Corrective Action complete:
Completed By: Date:

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(E) Modifications Implementation	(D) Long Term Mods	11

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(Q05) In-House Experience	DBPE

Description:

Replace Circulating Water Cathodic Protection System (Phase II described in the Underground Piping Protection Action Plan).

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	9/30/2011

Approval: (Enter Name and Sign)	Section:	Date:
MOUL, D	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

Signature indicates Corrective Action complete:
Completed By: Date:

Signature indicates verification for SCAQ CRs:
Verified By: Date:

Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(E) Modifications Implementation	(D) Long Term Mods	12

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(Q05) In-House Experience	DBPE

Description:

Replace remaining plant underground piping (except Circ Water and EDG DFO) Cathodic Protection Systems (both Impressed current and sacrificial anode systems) (Phase III described in the Underground Piping Protection Action Plan).

Completed By:	Organization:	Date:	Phone:	Attachments:
STEPHENSON, D	DBPE	11/21/2008	7267	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	9/30/2010

Approval: (Enter Name and Sign)	Section:	Date:
MOUL, D	DBPE	11/21/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: _____

☑ Signature indicates Corrective Action complete:
Completed By: Date:

☑ Signature indicates verification for SCAQ CRs:
Verified By: Date:

☑ Enter Name and Sign:
Implementing Organization Approval: Date:

QUALITY VERIFIER

Comments:

Approval: Date:

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

ORIGINATOR

CR Category:	Action Type:	Schedule Type:	CA Number:
AR	(S) Other	(A) Owner Assigned/Controlled	13

Corrective Action Type:	Cause Code:	Resp Org:
(CA) Corrective Action	(NA) Not a Deficiency	DBPE

Description:

Address the following CARB coments from their 12/8/08 meeting. Resolution of comments will be brought back to the full CARB.

1) Provide additional discussion regarding the evaluation of programmatic controls on the use of the drain line given the known tritium concentration present. Provide clarification regarding the significance of the tritium concentration.
2) Address and clarify the basis for indentifying less than adequate corrective action (Q06) as a contributing cause and develop a corresponding corrective action(s).
3) Change the hardware disposition from scrap to repair.
4) On page 1 of 2 of the cause analysis define (first use) the abbreviation for Cathodic Protection System.
5) On page 2 in the last paragraph change WANO "identified" to WANO "documented".
6) On page 11 in the second paragraph add PII "technique".
7) On page 11 in the third paragraph, last sentence add a period at the end of the sentence.
8) On page 17 in the first paragraph change "sever" to "severe".
9) On page 22 under the extent of cause the third sentence add the word "been" after has.
10 On page 26 and on CA 08-48288-04 strike the word "remedial".
11) Add to CA 08-48288-07 that the response to corrective action 7 and the revised root cause report are to be brought back to CARB if the lab analysis results affect the causes or corrective actions.
12) Change "Including" to "Include" in CA 08-48288-10.

Completed By:	Organization:	Date:	Phone:	Attachments:
ACKERMAN, C	DBRC	12/9/2008	8395	☐ Yes ☑ No

ACCEPT

If a Refueling Outage is required, Enter the Refueling Outage number:	Other Tracking #	Corrective Action Due Date:
N/A	N/A	12/16/2008

Approval: (Enter Name and Sign)	Section:	Date:
ACKERMAN, C	DBPE	12/9/2008

QUALITY

Quality Organization Approval:	Date:

IMPLEMENTING ORG

Response: ◉ *Completed as written* ○ Revised/Alternate Solution ○ Not Performed

This Corrective Action was to address the following CARB coments from their 12/8/08 meeting.

1) Provide additional discussion regarding the evaluation of programmatic controls on the use of the drain line given the known tritium concentration present. Provide clarification regarding the significance of the tritium concentration.
2) Address and clarify the basis for indentifying less than adequate corrective action (Q06) as a contributing cause and develop a corresponding corrective action(s).
3) Change the hardware disposition from scrap to repair.
4) On page 1 of 2 of the cause analysis define (first use) the abbreviation for Cathodic Protection System.
5) On page 2 in the last paragraph change WANO "identified" to WANO "documented".
6) On page 11 in the second paragraph add PII "technique".
7) On page 11 in the third paragraph, last sentence add a period at the end of the sentence.
8) On page 17 in the first paragraph change "sever" to "severe".
9) On page 22 under the extent of cause the third sentence add the word "been" after has.
10 On page 26 and on CA 08-48288-04 strike the word "remedial".

Site: G201

CORRECTIVE ACTION

NOP-LP-2001-05

CR Number: 08-48288

11) Add to CA 08-48288-07 that the response to corrective action 7 and the revised root cause report are to be brought back to CARB if the lab analysis results affect the causes or corrective actions.
12) Change "Including" to "Include" in CA 08-48288-10.

These actions have been completed in the RCE dated 12/12/2008 and in CREST as appropriate.

Alternate Corrective Action or Justification if Corrective Action not performed:

Corrective Action Implementation Date: 12/12/2008

☑ **Signature indicates Corrective Action complete:**
Completed By: STEPHENSON, D **Date:** 12/12/2008

☑ **Signature indicates verification for SCAQ CRs:**
Verified By: **Date:**

☑ **Enter Name and Sign:**
Implementing Organization Approval: CUNNINGS, J **Date:** 12/12/2008

QUALITY VERIFIER

Comments:

Approval: **Date:**

Site: G201

CAUSE ANALYSIS

NOP-LP-2001-03

CR Number 08-48288

Category / Eval Code: AR

Condition Description and Cause Basis:

Hardware / Degraded Condition Resolution Required? ☑ Yes ☐ No

If Yes, select one: ☑ Repair ☐ Scrap ☐ Rework ☐ Use-As-Is

The intent of this root cause investigation is to determine root cause for the unexpected degradation of the Turbine Building/ Water Treatment Backwash sump line to the Settling Basin. The investigation will evaluate programmatic controls on the use of this drain line given the known tritium concentrations present. The investigation will also evaluate organizational controls for system monitoring and whether the degraded pipe was considered as a potential tritium source as part of our Groundwater Monitoring Program. Actions resulting from CR 08-48354, Tritium Detected in Sample Taken from Leak Documented in CR 08-48288, are also addressed by the investigation.

On October 22, 2008, an excavation crew working to uncover a Fire Protection System pipe leak observed a small pencil sized leak on the bottom of a 3 inch pipe. Analysis of the water leaking from the pipe indicated the presence of tritium at a concentration of approximately 37,500 pCi/L. Further investigation determined that the leaking pipe was the 3 inch Condensate Demineralizer Backwash line. Approximately 20 foot west of the original observed leak, the pipe was observed to be separated with several large pieces of what appeared to be scale from rusted pieces. Based on this investigation, it is unknown how long the degradation existed or how much water leaked from the degraded pipe.

The 3 inch pipe is carbon steel. Along with being cathodically protected (non-functional), the 3 inch pipe is wrapped for corrosion resistance. The function of the 3 inch line was originally to allow transfer of non-radioactive resin slurry from the Backwash Receiving Tank (BWRT) to the Settling Basin or could also be used for East and West Condenser Pit Sump pumps and Flood pumps' discharge. The Condenser Pit Sumps pumps and Flood pumps' discharge is the only remaining use for the 3 inch pipe. The majority of the Condensate Pit sump water comes from the Secondary System (Condensate, Feedwater). The 3 inch line ties into a 10 inch Water Treatment Backwash sump line that terminates in the Settling Basin. Nothing in the investigation indicated unacceptability in using this pathway for sump water containing tritium.

In 1990, the 10 inch Water Treatment Backwash sump line failed where the 3 inch Condensate Demin Backwash line connected. It was unknown how long the failure had existed. Inspection of the pipe revealed that general corrosion was accelerated by the acidic nature of the water that flows through the 10 inch line. The 10 inch line and connections to the 3 inch line were replaced with high molecular weight polyethylene plastic pipe. Only about 10 feet of the 3 inch line was replaced.

In 2007, as a result of Nuclear Energy Institute (NEI) voluntary policy to enhance detection, management, and communication about inadvertent radiological releases (tritium), monitoring well samples were taken and indicated elevated tritium levels in the east yard area.

In 2007, WANO documented that cathodic protection was non-functional and that the condition of buried piping including radwaste effluent piping was unknown. An Underground Piping Protection Action Plan was developed to determine the condition of underground piping, including the 3 inch Condensate Demin. Backwash line and the 3 inch Radwaste Line and to re-establish cathodic protection. However, the leak in the 3 inch Condensate Demin. Backwash line was discovered on October 22, 2008 prior to implementing Action Plan steps to address it.
Engineering Change Package (ECP) 08-0631 has been approved to replace the 3 inch Condensate Demin. Backwash Line between the 10 inch line and the Old Office Building with HDPE High Density Polyethylene plastic piping. ECP 08-0631 also installs an epoxy coating liner inside the inaccessible 3 inch line under the Old Office Building. This work is being implemented by SAP Order 200344014.

CAUSE ANALYSIS

NOP-LP-2001-03

CR Number 08-48288

Root Cause

Based on Failure Mode Analysis the most Probable Cause for the degradation in the 3 inch line was due to General Corrosion (T19) due to coating damage and non-functional Cathodic Protection System (CPS). The line was removed prior to starting this investigation. Observations from the pipe pieces and photos were used to gain as much information as possible. Pipe samples have been sent to a lab for analysis.

Contributing Cause:

Less than Adequate Corrective Action in that actions to:
1) address the known partially effective/non-functioning CPS at DBNPS since 1990 were not taken,
2) address the unknown status of underground components, including the radwaste effluent systems, were not completed. (Q05)

Contributing Cause:

Less than Adequate Corrective Action in that corrective actions for background tritium concentrations found in monitoring wells and unknown integrity of radwaste effluent systems was untimely. Although it was required to verify the condition of the 3 inch Condensate Demin. Backwash line and 3 inch stainless steel Radwaste line to ensure its integrity, it has taken more than a year to do so. It is recognized that earlier detection of this leak would not have prevented the leak. Timeliness is identified as a contributing cause because earlier identification would have shortened the duration of this leak. (Q06)

Corrective Action

Preventive

Corrective action CA 08-48288-04 will establish a buried piping integrity program to mitigate or prevent through wall leakage within piping systems which are buried. This is a preventive action to address the less than adequate Corrective Action for the unknown status of underground components. Implementing NOP-ER-2007, Buried Piping Integrity Program will meet this corrective action.

Corrective Action

Contributing causes Q05 and Q06 resulted from the relatively low priority previously placed on these problems (CPS and buried piping). Actions have already been taken that address the aspect of LTA Corrective Action. These actions include tracking the CPS in the Plant Health Report and revision to NOP-WM-1003, Nuclear Maintenance Notification Initiation, Screening, and Minor Deficiency Monitoring Process, to increase the priority of 'System Health Color Change Related' orders. This action addresses the contributing cause of LTA corrective action for both Q05 and Q06. Additionally, the status of Davis-Besse Plant Health Red/Yellow Actions is reported out each Monday during the "Management Alignment and Ownership Meeting" as part of the Operations Focus Items update. Finally, NOP-LP-2001 "Corrective Action Program" was revised effective 10/29/08 to require that any CR categorized as "AF" or higher by the Management Review Board has actions tracked to completion in CREST. These actions have collectively increased management attention to ensure timely completion of corrective actions. Therefore no further corrective actions are recommended related to the programmatic aspects of the LTA Corrective Action causes.

Corrective action 08-48288-05 will track implementation of the Underground Piping Protection Action Plan action 2 to verify integrity of the 3 inch Condensate Demin Backwash line (SAP Order 200284545). This is a corrective action to ensure the integrity of buried radwaste effluent piping in a timely manner.

CAUSE ANALYSIS

NOP-LP-2001-03

CR Number 08-48288

Corrective action 08-48288-06 will track implementation of the Underground Piping Protection Action Plan action 2 to verify integrity of the 3 inch stainless steel Radwaste line (SAP Order 200284544). This is corrective action to ensure the integrity of buried radwaste effluent piping is timely.

Corrective Action 08-48288-07 will document the lab analysis and assess needed changes to this root cause evaluation report. The response to CA 08-48288-07 and the revised root cause report are to be brought back to CARB if the lab analysis results affect the causes or corrective actions.

Corrective Action 08-48288-08 will track completion of ECP 08-0631 (SAP Order 200344014) for replacement of the 3 inch Condensate Demin. Backwash line between the 10 inch line and the Old Office Building and internal lining of the pipe underneath the Old Office Building. ECP 08-0631 also installs an epoxy coating liner inside the inaccessible 3 inch line under the Old Office Building.

Corrective Action 08-48288-09 will complete and file 10CFR50.75g paperwork and associated records in accordance with NOP- OP- 4705, Response to Contaminated Spills/Leaks. This addresses needed corrective action for CR 08-48354.

Corrective Action 08-48288-10 will track including this event in the Annual Radioactive Effluent Release Report in accordance with NOP-OP-4705, Response to Contaminated Spills/Leaks. This addresses needed corrective action for CR 08-48354.

Corrective Action 08-48288-11 will replace Circulating Water Cathodic Protection System (Phase II described in the Underground Piping Protection Action Plan).

Corrective Action 08-48288-12 will replace remaining plant (except for Emergency Diesel Generator Diesel Fuel Oil and Circulation Water) underground piping Cathodic Protection Systems (both Impressed current and sacrificial anode systems) (Phase III described in the Underground Piping Protection Action Plan).

Process Code	Trend Codes						
HDW	(If cause is T or W)						
				Component Code			
Activity Code		Cause Code		Type	ID#	Cause Org	
0575	Primary	T19	Corrosion	M	63	NONE	None
0575	Secondary	Q05	In-House Experience			DBPE	DB Manager Plant & Equip Re
0575	Tertiary	Q06	Untimely			DBPE	DB Manager Plant & Equip Re

Completed By: STEPHENSON, D

Date: 12/12/2008

Site: G201

GENERIC IMPLICATIONS

NOP-LP-2001-02

CR Number 08-48288

Past occurrences of the issue at the site.

Document Number:	Description:	Previous Response:
PCAQR 90-0404	Leak in 3 inch Pipe	See Below
DB CR 07-26481	WANO AFI ER3.2	See Below
DB CR 07-23488	High Tritium Results	See Below

☑ continued on attached

Past occurrences of the issue in the industry.

Document Number:	Description:	Previous Response:
OED 2007-09	OE Digest Buried Piping External De	No Applicable
See RCE	See RCE	See RCE

☑ continued on attached

Experience Review Questions:

1. **Do past occurrences of similar conditions (as identified above) indicate a generic or broader scope issue?**

   The experience review indicates that integrity of buried piping and unmonitored releases of radioactive effluents is a site and an industry concern. DBNPS has taken extensive action to implement industry guidance for providing a groundwater monitoring program to meet the NEI Industry Initiative for groundwater monitoring. NOP-OP-2012, Groundwater Monitoring, has been adopted at Davis-Besse. Increased levels of tritium detected during groundwater monitoring was the reason SAP Orders were in place to verify the integrity of the radwaste effluent piping. Unfortunately, the pipe degradation was discovered prior to implementing the SAP Orders. Status of underground piping is being addressed by the Underground Piping Action Plan as required by Corrective Action 07-26481-04 and by CPS Yellow System Health Action Plan. Both the Groundwater Monitoring program and the Underground Piping Action Plan are broad and extensive programs taken in response to site and industry issues. No generic or broader scope issue exists requiring another condition report.

2. **Discuss the effectiveness of prior corrective actions for similar identified conditions (if applicable). How are currently proposed preventive action(s) different so as to be more effective (if applicable)?**

   At Davis-Besse as well as the industry are commensing monitoring programs where there were no programs before.

Extent Of Condition Questions:

3. **Based on your knowledge and the results of the database review, is the condition present in other identical or similar equipment, processes, programs or applications?**

   See RCE

4. **Was a new CR initiated?** No

5. **Why / Why Not?**

   No conditions outside the scope of the original issue was identified.

Completed By:	DATE:
STEPHENSON, D	11/21/2008

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GENERIC IMPLICATIONS

NOP-LP-2001-02

CR Number 08-48288

Past Site Occurrences (Continuation Sheet)

Potential Condition Adverse to Quality Report (PCAQR 90-0404) documented that dye from a condenser dye test was pumped from the Turbine Building (Condensate Pit) sumps to Settling Basin #1. Several days later, dye was observed in the Intake area proposed for Units 2 and 3. This suggested a failure of the 3 inch or 10 inch lines and ultimate leakage of station discharges to this area. Excavation and subsequent inspection of the pipe revealed the pipe (10"-HBD-281) had corroded/eroded away at the point where the 3" Demineralizer Condensate Backwash line taps in. Pipe 10-HBD-281 was carbon steel. Inspection of the pipe revealed that general corrosion was accelerated by the acidic nature of the water that flows through 10 inch HBD-281. Also, this joint was subjected to the highest stress and flow which was a contributing factor to the subsequent failure of this joint. The 10 inch line and connections to the 3 inch line were replaced with high molecular weight polyethylene plastic pipe (the line now designated as (HFD-1). Only about 10 feet of the 3 inch line was replaced.

Condition Report (CR 07-23488) documented higher than background tritium results from monitoring wells being used as part of a Nuclear Energy Institute (NEI) voluntary policy to enhance detection, management, and communication about inadvertent radiological releases (tritium) in groundwater at nuclear power plants. This CR resulted in additional monitoring and enhancement actions to verify the integrity of radwaste effluent lines. The enhancement actions had not been completed prior to discovery of the 3 inch Condensate Demin. Backwash line break.

Condition Report (CR 07-26481) was written to assess WANO issued AFI ER3.2 that stated in part that the "material Condition of radiation waste piping is not known." The Limited Apparent Cause Evaluation (LACE) focused on the non-functional Cathodic Protection System (CPS) and concluded that cathodic protection had reached its end of life. Contributing Cause was identifiey as LTA management methods in that adequate resources were not provided to resolve a long standing material condition issue (H01). Corrective action from this LACE included developing and implementing an action plan detailing the necessary steps to increase protection of DNBPS underground piping. The Action Plan was approved on 12/04/07. The Action Plan was not implemented prior to discovery of the 3 inch Condensate Demin. Backwash line break.

Past Industry Occurrences (Continuation Sheet)

Operating Experience Digest 2007-09 Buried Piping External Degradation of Buried Piping OED 2007-09 April 2007. This OE Digest summarizes areas for improvement (AFIs) written because of weaknesses noted in protecting buried piping. Plant evaluations identified that monitoring, inspections, and processes that control the environment around the exterior of piping systems are not being implemented well, which increases the station's vulnerability to pipe degradation. The following is a summary of 2006 AFIs.

Problems
- Pipe degradation was not being monitored for some important buried piping.
- Portions of the cathodic protection system were inoperable for an extended time.
- The cathodic protection system did not operate within the desired impressed current and voltage ranges.
- No strategy had been implemented for long-term asset preservation of buried piping.

Causes
- Managers were not aware of the extent of degradation.
- System health reports did not provide sufficient details, or there were no health reports for the cathodic protection system.
- Because no pipe failures have occurred, there is overconfidence that coatings will not degrade.
- No actions have been taken to improve cathodic protection system performance because the system was considered a backup to pipe wraps and coating.
  - o rectifiers have become obsolete, reducing the availability of replacement parts.
  - o Acceptance criteria for rectifier output current and voltage are not specified.
  - o Equipment failures (for example, blown fuses) are not repaired.
  - o Engineers receive little or no formal training of operation of the cathodic protection system.
  - o No dedicated engineer or cognizant maintenance contact is assigned to the cathodic protection system.

NRC Liquid Radioactive Release Lessons Learned Task Force Final Report, September 1, 2006.
The task force did identify that under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected. The following elements collectively contribute to this conclusion:
- Some of the power plant components that contain radioactive fluids that have leaked were constructed to commercial standards, in contrast to plant safety systems that are typically fabricated to more stringent requirements. The result is a lower level of assurance that these types of components will be leak proof over the life of the plant.
- Some of the components that have leaked were not subject to surveillance, maintenance, or inspection activities by NRC requirements. This increases the likelihood that leakage in such components can go undetected. Additionally, relatively low leakage rates may not be detected by plant operators, even over an extended period of time.
- Portions of some components or structures are physically not visible to operators, thereby reducing the likelihood that leakage will be identified. Examples of such components include buried pipes and spent fuel pool.
- Leakage that enters the ground below the plant may be undetected because there are generally no NRC requirements to monitor

GENERIC IMPLICATIONS

NOP-LP-2001-02

CR Number

08-48288

the groundwater onsite for radioactive contamination.

• Contamination in groundwater onsite may migrate offsite undetected. Although the power plant operator is required by NRC regulations to perform offsite environmental monitoring, the sampling locations are typically mostly in the vicinity of the point of release of the normal discharge flow path. For example, at Braidwood, most of the environment water samples were being taken near where the discharge pipe empties into the river, a distance of about 5 miles from the plant.

Furthermore, if groundwater contamination is detected, it may be difficult to monitor and to predict the movement of the contamination in the groundwater. The flow of groundwater can be influenced by a variety of factors and can be quite complex.

Site: G201

10CFR21 Decision Applicability Checklist

NOP-LP-2001-04

CR Number 08-48288

Does the Condition Report involve:

Information obtained or an observation made of a BASIC COMPONENT that could compromise safety. ☐ Yes ☑ No

(See logic flow diagram defining terms and applicability information on the next page.)

If the answer is No, Stop here (sign and date on the Originator Signature Tab)

If the answer is Yes, Items A & B must be answered. (Parts A & B tab)

A. Does the Condition Report involve a:

BASIC COMPONENT of a plant structure, system, component, or part thereof necessary to assure:

1. The Integrity of the reactor coolant pressure boundary. ☐ Yes ☐ No
2. The capability to shutdown the reactor and maintain it in safe shutdown condition. ☐ Yes ☐ No
3. The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10CFR100.11. ☐ Yes ☐ No

B. Does the potential issue or defect involve:

1. A deviation in a delivered component? ☐ Yes ☐ No
2. Deviation in a portion of a facility offered for acceptance? ☐ Yes ☐ No
3. Design installation test, use, or operation of a defective structure, system or component? ☐ Yes ☐ No
4. A condition or circumstance that could contribute to exceeding a Technical Specification safety limit? ☐ Yes ☐ No

If any items in A are marked 'Yes' AND any items in B are marked 'Yes', contact Regulatory Personnel immediately to discuss and determine if a SUBSTANTIAL SAFETY HAZARD may exist, or if the issue is reportable.

Based on discussions with Regulatory Personnel that a SUBSTANTIAL SAFETY HAZARD or reportability issue does not exist, provide explanation / justification below:

Based on the determination that a SUBSTANTIAL SAFETY HAZARD or reportability issue may exist, draft a Corrective Action Form (CAF) to be accepted by the Regulatory Personnel to complete the 10CFR Part 21 requirements for the CR.

CAF Generated? ☐ Yes ☐ No **(If no, provide explanation / justification above)**

If Yes, CAF# _____

Completed By: STEPHENSON, D

DATE: 11/19/2008

Site: G201

INVESTIGATION SUMMARY

CR Number: 08-48288

NOP-LP-2001-06

Category / Eval: AR **Assigned Organization:** DBPE **Quality Followup Req'd:** ☐ Yes ☑ No

For Fix Investigations Only:

Hardware / Degraded Condition Resolution Required? ☐ Yes ☐ No If Yes: ☐ Repair ☐ Scrap ☐ Rework ☐ Use-As-Is

Acceptance of the CR Investigation signifies acceptance of the following items, as applicable:

	Originator Identification	Date
Corrective Actions (listed below)	(listed below, if any)	(listed below, if any)
Cause Analysis	STEPHENSON, D	12/12/2008
Generic Implications	STEPHENSON, D	11/21/2008
10 CFR 21 Decision Checklist	STEPHENSON, D	11/19/2008

Acceptance of Investigation: Moul, Donald A **Date:** 11/21/2008 **Quality Approval:** **Date:**

Site-VP Acceptance: **Date:**

Closure Comments:

Quality Comments:

CORRECTIVE ACTIONS

CA Number:	Sched Type:	CA Type:	Cause Code:	Resp Org. Codes:	CA Acceptance:	Accept Date:	Due Date:	Completed Date:

Site: G201

INVESTIGATION SUMMARY

CR Number: 08-48288

NOP-LP-2001-06

1	A	ES	NA	DBPE	MEYERS, C	10/27/08	11/21/2008	11/11/2008
2	A	ER	NA	DBPE	MEYERS, C	10/27/08	12/31/2011	
3	A	ES	NA	DBPE	PLYMALE, S	11/11/08	11/21/2008	11/21/2008
4	C	PR	T19	DBTS	WISE, A	11/21/08	12/1/2009	
5	B	CA	Q05	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/8/2008
6	A	CA	Q05	DBPE	PLYMALE, S	11/21/08	1/30/2009	
7	A	CA	T19	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/23/2008
8	A	CA	T19	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/8/2008
9	A	CA	T19	DBRP	TRICKETT, S	11/21/08	2/1/2009	
10	A	CA	T19	DBCH	CAPOZZIELLO, V	11/21/08	4/20/2009	
11	D	CA	Q05	DBPE	MOUL, D	11/21/08	9/30/2011	
12	D	CA	Q05	DBPE	MOUL, D	11/21/08	9/30/2010	
13	A	CA	NA	DBPE	ACKERMAN, C	12/9/08	12/16/2008	12/12/2008

Site: G201

INVESTIGATION SUMMARY

CR Number: 08-48288

NOP-LP-2001-06

Category / Eval: AR **Assigned Organization:** DBPE **Quality Followup Req'd:** ☐ Yes ☑ No

For Fix Investigations Only:

Hardware / Degraded Condition Resolution Required? ☐ Yes ☐ No If Yes: ☐ Repair ☐ Scrap ☐ Rework ☐ Use-As-Is

Acceptance of the CR Investigation signifies acceptance of the following items, as applicable:

	Originator Identification	Date
Corrective Actions (listed below)	(listed below, if any)	(listed below, if any)
Cause Analysis	STEPHENSON, D	12/12/2008
Generic Implications	STEPHENSON, D	11/21/2008
10 CFR 21 Decision Checklist	STEPHENSON, D	11/19/2008

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Acceptance of Investigation:	Date:	Quality Approval:	Date:
Plymale, S	12/12/2008		

Site-VP Acceptance:	Date:

Closure Comments:

Quality Comments:

CORRECTIVE ACTIONS

CA Number:	Sched Type:	CA Type:	Cause Code:	Resp Org. Codes:	CA Acceptance:	Accept Date:	Due Date:	Completed Date:

Site: G201

INVESTIGATION SUMMARY

CR Number: 08-48288

NOP-LP-2001-06

1	A	ES	NA	DBPE	MEYERS, C	10/27/08	11/21/2008	11/11/2008
2	A	ER	NA	DBPE	MEYERS, C	10/27/08	12/31/2011	
3	A	ES	NA	DBPE	PLYMALE, S	11/11/08	11/21/2008	11/21/2008
4	C	PR	T19	DBTS	WISE, A	11/21/08	12/1/2009	
5	B	CA	Q05	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/8/2008
6	A	CA	Q05	DBPE	PLYMALE, S	11/21/08	1/30/2009	
7	A	CA	T19	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/23/2008
8	A	CA	T19	DBPE	PLYMALE, S	11/21/08	12/31/2008	12/8/2008
9	A	CA	T19	DBRP	TRICKETT, S	11/21/08	2/1/2009	
10	A	CA	T19	DBCH	CAPOZZIELLO, V	11/21/08	4/20/2009	
11	D	CA	Q05	DBPE	MOUL, D	11/21/08	9/30/2011	
12	D	CA	Q05	DBPE	MOUL, D	11/21/08	9/30/2010	
13	A	CA	NA	DBPE	ACKERMAN, C	12/9/08	12/16/2008	12/12/2008

NOP-LP-2001-09	**Corrective Action Due Date Extension**	Site: G201

CR #: 08-48288	**CA #:** 4	**Requested Due Date:** 12/1/2009
Extension Number: 1		**Category:** AR

Reason for Extension:

Corrective Action:
Establish a buried piping integrity program to mitigate or prevent through wall leakage within piping systems which are buried. This is a corrective action to address the less than adequate Corrective Action for the unknown status of underground components. Implementing NOP-ER-2007, Buried Piping Integrity Program will meet this corrective action.

Current Status:
CSI technologies is assisting Davis-Besse in creating and implenteingt a corrosion control, monitoring, and mitigation program for buried piping. This is being coordinated by Steven Swope (supervisor is John Cunnings). The fleet coordinator is Chris Burton.

NOP-ER-2007 was made effective 11/25/08. But, due to the large scope of the program, the program will not be implemented by the prior due date.

Justification:

This is a long term corrective action.

The Buried Piping Integrity Program is being developed with assistance from CSI Technologies. A plan is in place for the implementation of this program and the plan is currently on track, so no interim action is required.

Requestor: KEMP, J	**Requestor Date:** 1/14/2009

QA Comments:

QA Acceptance*:	**Acceptance Date:**	☑ **Accept** ☐ **Reject**
Approver: Allen, Barry	**Approver Date:** 1/15/2009	☑ **Accept** ☐ **Reject**

*NA if CR is not identified for QA follow-up

Tuesday, January 20, 2009

NOP-LP-2001-09	**Corrective Action Due Date Extension**	Site: G201

CR #: 08-48288	**CA #:** 6	**Requested Due Date:** 1/30/2009
Extension Number: 1		**Category:** AR

Reason for Extension:

ECDA of 3" radwaste buried pipe has progressed but is not complete. The pre-assessment, indirect inspections and one of two direct examinations are complete. The remaining direct examination requires a second excavation near the protected area fence. Additional time is required to coordinate this work activity. Maintenance, Site Protection and DBPE have agreed to coordinate this work to start the week of January 5, 2009.

Justification:

The ECDA activities completed to date, including a direct examination of a portion of this piping, have resulted in no concerns with the integrity of this line. Therefore, the risk of not completing this action until the revised due date are considered LOW. No interim actions are warranted based on the acceptable condition of the piping as identified by ECDA activities completed to date.

Requestor: CUNNINGS, J	**Requestor Date:** 12/17/2008

QA Comments:

QA Acceptance*:	**Acceptance Date:**	☑ Accept ☐ Reject
Approver: Plymale, S	**Approver Date:** 12/17/2008	☑ Accept ☐ Reject

*NA if CR is not identified for QA follow-up

Tuesday, January 20, 2009

CONDITION REPORT

CR Number 08-48354

TITLE: TRITIUM DETECTED IN SAMPLE TAKEN FROM LEAK DOCUMENTED IN CR 08-48288

ORIGINATION

DISCOVERY DATE	TIME	EVENT DATE	TIME	SYSTEM / ASSET#
10/22/2008	2000	1022/08	1530	

EQUIPMENT DESCRIPTION n/a

System	FLOC	AP-913:

DESCRIPTION OF CONDITION and PROBABLE CAUSE (if known) Summarize any attachments. Identify what, when, where, why, how.

Chemistry Samples taken of soil/gravel and water related to the leak identified and documented by CR 08-48288, indicate the presence of low levels of radioactivity. The leak was identified during excavating to investigate a fireline leak, found a 3" with a leak spraying water. The line is shown on Civil Drawing C-52 as a 3" Condensate Demin Backwash line.

Sample results are as follows:
(1) Water sample taken directly from stream of leaking pipe indicated 37,500 pCi/L of Tritium
(2) Gravel taken from inside the hole, directly under the leak, indicated 1.01E-7 uCi of Cs-137.
(3) Gravel taken from a gravel pile reported as most recently removed from the excavation, indicated no detected activity.

A Radiological survey was performed. Dose rates were at background levels.

IMMEDIATE ACTIONS TAKEN / SUPV COMMENTS (Discuss CORRECTIVE ACTIONS completed, basis for closure.)

(1) Follow up surveys were performed
(2) The duty team was updated
(3) Actions were initiated in accordance with NOP-OP-4705, Response to Contaminated Spills/Leaks
(4) The NRC Resident was notified.
(5) Radiation Protection established control over the area, and all radioactive material
(6) It was verified that no radioactive material had been removed from the area, through discussions with the work crew (including vehicles)

QUALITY ORGANIZATION USE ONLY	IDENTIFIED BY (Check one)		ATTACHMENTS
Quality Org. Initiated ☐ Yes	☐ Individual/Work Group	☐ Self-Revealed	
Quality Org. Follow-up ☐ Yes ☐ No	☑ Supervision/Management	☐ Internal Oversight ☐ External Oversight	☑ Yes ☐ No

ORIGINATOR	ORGANIZATION	DATE	SUPERVISOR	DATE	PHONE EXT.
TRICKETT, S	DBRP	10/23/2008	KAMINSKAS, V	10/23/2008	8300

CONDITION REPORT

CR Number 08-48354

TITLE: TRITIUM DETECTED IN SAMPLE TAKEN FROM LEAK DOCUMENTED IN CR 08-48288

PLANT OPERATIONS

SRO REVIEW	EQUIPMENT OPERABLE	OPERABILITY ASSESSMENT REQUIRED	ORG. NOTIFIED	IMMEDIATE INVESTIGATION REQUIRED	ORG. NOTIFIED	MODE CHANGE RESTRAINT
☑ Yes ☐ No	☐ Yes ☐ No ☑ N/A	☐ Yes ☑ No		☐ Yes ☑ No		☐ Yes ☑ No

MODE	ASSOCIATED TECH SPEC NUMBER(S)	ASSOCIATED LCO ACTION STATEMENT(S)
N/A	N/A	#1 N/A
		#2
		#3

DECLARED INOPERABLE (Date / Time)	REPORTABLE?	One Hour N/A	APPLICABLE UNIT(S)
N/A	☑ Yes ☐ No	Four Hour N/A	☑ U1 ☐ U2 ☐ Both
	☐ Eval Required	Eight Hour N/A	
		Other N/A	

COMMENTS

This issue does not impact technical specification plant equipment. Therefore, Equipment Operable has been marked N/A. The leakage from the 3" piping was isolated / stopped by realigning the East and West Condenser Pit sumps to the settling basin per a temporary discharge hose per an Operations Evolution Order (OEO). The Water Treatment Building Backwash sump was also placed in a lineup where temporary sump pumps were placed in service to realign the drains to the screen wash catch basin per the same OEO. All other actions taken were noted above.

Regarding the reportability of this CR, the following is copied from the 10/23/08 Unit log.

"Completed the following 4 hour notification to the NRC Operations Center for the following:

"This is a report of a situation, related to the protection of the environment, for which a notification to other government agencies is being made, as described in 10 CFR 50.72(b)(2)(xi).
On October 22, 2008, excavation within the Protected Area was ongoing to identify a leak in the Fire Protection System. At approximately 1600 hours, the Turbine and Water Treatment Building sump discharge line was identified as leaking. This three-inch carbon steel pipe routes the sump discharge to the settling basins, where it is eventually discharged via a monitored outfall to the environment.
The cause of the leakage is unknown, but due to the condition of the piping, it is believed to have existed prior to the excavation activities. The amount of leakage is therefore conservatively assumed to be more than 100 gallons, but this cannot be quantified at this time. Analysis of a water sample from the sump discharge line leak determined that the water leaking from the pipe contains approximately 37,500 picocuries per liter (pCI/l) tritium. These tritium levels are consistent with tritium levels in the Condensate/ Feedwater Systems in the Turbine Building.
Actions are underway to remove the piping from service and re-route the sump pump discharge. Analysis of routine groundwater well samples taken earlier this month is being expedited, and additional well samples are being planned. Radiological controls have been established at the excavation area within the Protected Area.
The State of Ohio, Lucas County and Ottawa County government agencies were contacted regarding the above information at 0900 on October 23, 2008. The Resident Inspector has also been briefed on the issue."

The notification #EN 44596 was made to the NRC Operations Center (Howie Crouch) at time 1159 EDT on 10/23/2008.

Notifed the ELT and Duty Team of the notification per Lotus Notes Pager." Therefore Reportable has been marked "Yes".

Site: G201

CONDITION REPORT

CR Number 08-48354

TITLE: TRITIUM DETECTED IN SAMPLE TAKEN FROM LEAK DOCUMENTED IN CR 08-48288

Current Mode - Unit 1	Power Level - Unit 1	Current Mode - Unit 2	Power Level - Unit 2
1	100	N/A	N/A

SRO - UNIT 1	SRO - UNIT 2	DATE
Horvath, E	Cobbledick, T	10/24/2008

CRPA / SUPV / MRB

CATEGORY / EVAL	ASSIGNED ORGANIZATION	DUE DATE
AC	DBRP	11/22/2008

REGULATORY

REPORTABLE? ☑ Yes ☐ No ☐ LER No.

REPORTABILITY REVIEWER: Wolf, G

DATE: 11/05/08

TREND CODES

Process / Activity / Cause Code(s)			Comp Type / ID (If Cause T or W)		Cause Org
OP2	4500				

INVESTIGATION OPTIONS

☐ Maint.Rule ☐ OE Evaluation ☐ Generic Implications ☐ Part 21

CLOSED BY

DATE 11/13/2008

Condensate Demineralizer Backwash Line Break Investigation

Chronological Radiological Survey and Sample Results

Date Sample Taken	Sample Type	Tritium Results (pCi/L)	MCA Results (uCi of Cs-137)	Survey Results	Survey Number	Gamma Isotopic Sample ID	Comments
10/22/2008	n/a	n/a	n/a	0.00 mRem/hr	Survey 08-01235	n/a	Dose rate survey upon discovery of leak
10/22/2008	Water	37500	no peaks	n/a	n/a	2008102341018	Water directly from condensate line break
10/22/2008	Water	38900	no peaks	n/a	n/a	2008102341021	Water from leak west of FP53 (ground)
10/22/2008	Soil (1000mL)	n/a	2.10E-07	Activity Detected	n/a	200810221015	Soil below leak near FP53
10/22/2008	Water	3630	n/a	No Detectable Activity	n/a	n/a	Water squeezed from dirt spoils pile immediately after leak identification
10/22/2008	Soil (1000mL)	n/a	no peaks	No Detectable Activity	n/a	200810221016	Dirt last removed from hold before leak found
10/23/2008	Water	<MDA	n/a	No Detectable Activity	n/a	n/a	Surface water location #1
10/22/2008	Soil (1000mL)	n/a	3.62E-08	Activity Detected	n/a	200810221013	Soil sample location #2
10/22/2008	Soil (1000mL)	n/a	3.98E-08	Activity Detected	n/a	200810221014	Soil sample location #3
10/22/2008	Soil (1000mL)	n/a	no peaks	No Detectable Activity	n/a	200810221016	Soil sample location #4
10/23/2008	Water	4360	n/a	No Detectable Activity	n/a	n/a	Surface water location #5
10/24/2008		n/a	n/a	No Detectable Activity	Survey 08-01249	n/a	Removal of cut out section of condensate line
10/27/2008	Soil (1000mL)	n/a	no peaks	No Detectable Activity	Survey 08-01279	200810271010	Clean Pile near forebay, West Side
10/27/2008	Soil (1000mL)	n/a	no peaks	No Detectable Activity	Survey 08-01279	200810271011	Clean Pile near forebay, East Side
10/27/2008	Water	19400	n/a	No Detectable Activity	n/a	n/a	Suction Truck (full)
10/27/2008	Soil (1000mL)	n/a	no peaks	No Detectable Activity	Survey 08-01279	200810291028	Covered Pile, East Side
10/27/2008	Soil (1000mL)	n/a	1.76E-08	Activity Detected	Survey 08-01279	200810291029	Covered Pile, North West Side
10/27/2008	Soil (1000mL)	n/a	4.96E-08	Activity Detected	Survey 08-01279	200810291030	Covered Pile, South West Side
10/27/2008	n/a	n/a	n/a	No Detectable Activity	Survey 08-01258	n/a	Survey of suction truck exterior and boroscope into condensate line
10/29/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01273	n/a	Survey of the days excavation
10/31/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01284	n/a	Survey of the days excavation
11/1/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01285	n/a	Survey of the days excavation
11/7/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01337	n/a	Excavation and soil samples from RW line inspection and trench box
11/6/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01317	n/a	Excavation direct frisk
11/6/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01318	n/a	JLG Truck release
11/7/2008	Water	<MDA	no peaks	No Detectable Activity	Survey 08-01325	n/a	Suction Truck sample and surface survey of spoils pile
11/10/2008	Water	<MDA	no peaks	No Detectable Activity	Survey 08-01353	200811111008	Suction truck sample
11/14/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01360	n/a	Excavation direct frisk
11/17/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01395	n/a	Release of Suction Truck
11/26/2008	Soil (1000mL)	n/a	1.08E-08	Activity Detected	Survey 08-01432	Various *	Backfill of Gravel - Various Gamma Spec results for Decommisioning
12/2/2008	Soil (1000mL)	n/a	1.88E-07	No Detectable Activity	Survey 08-01475	Various *	Backfill of Gravel - Various Gamma Spec results for Decommisioning
12/8/2008	Direct Frisk	n/a	n/a	No Detectable Activity	Survey 08-01455	n/a	Completion of backfill and clean up (removal of Radiological Postings)

Various * Numerous gamma isotopic analysis samples performed, see related Survey for list of gamma isotopic analysis Sample numbers

RADIOLOGICAL SURVEY FORM

P-OP-4701-01 Rev. 00

SURVEY NUMBER	MAP #	RWP NUMBER
08-0123S	N/A	08-1000

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
N/A	585	3" CONDENSATE DEMIN BACKWASH LINE	10/22/08	1715

PURPOSE	% POWER
OPS REQUEST FOR SURVEY OF EXCAVATED LINE EAST OF OLD ADMIN BUILDING (SMOK SHACK EXCAVATION)	

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX- Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, ≠ - Direct Frisk.

COPY

3" CONDENSATE DEMIN.
BACK WASH LINE
≈ 10 feet DOWN IN EXCAVATION
* 0.00/ 0.00 @ 30cm

BACKGROUND
0.00 - 0.007

NDA ABOVE BACK GROUND

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2	n			6	n			10	n		
3		a		7		a		11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
TPole	2.7.343	3/29/09	N/A
A			

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	10/22/08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE
10835	[signature]	10/23/08

PAGE 1 OF 1

RADIOLOGICAL SURVEY FORM

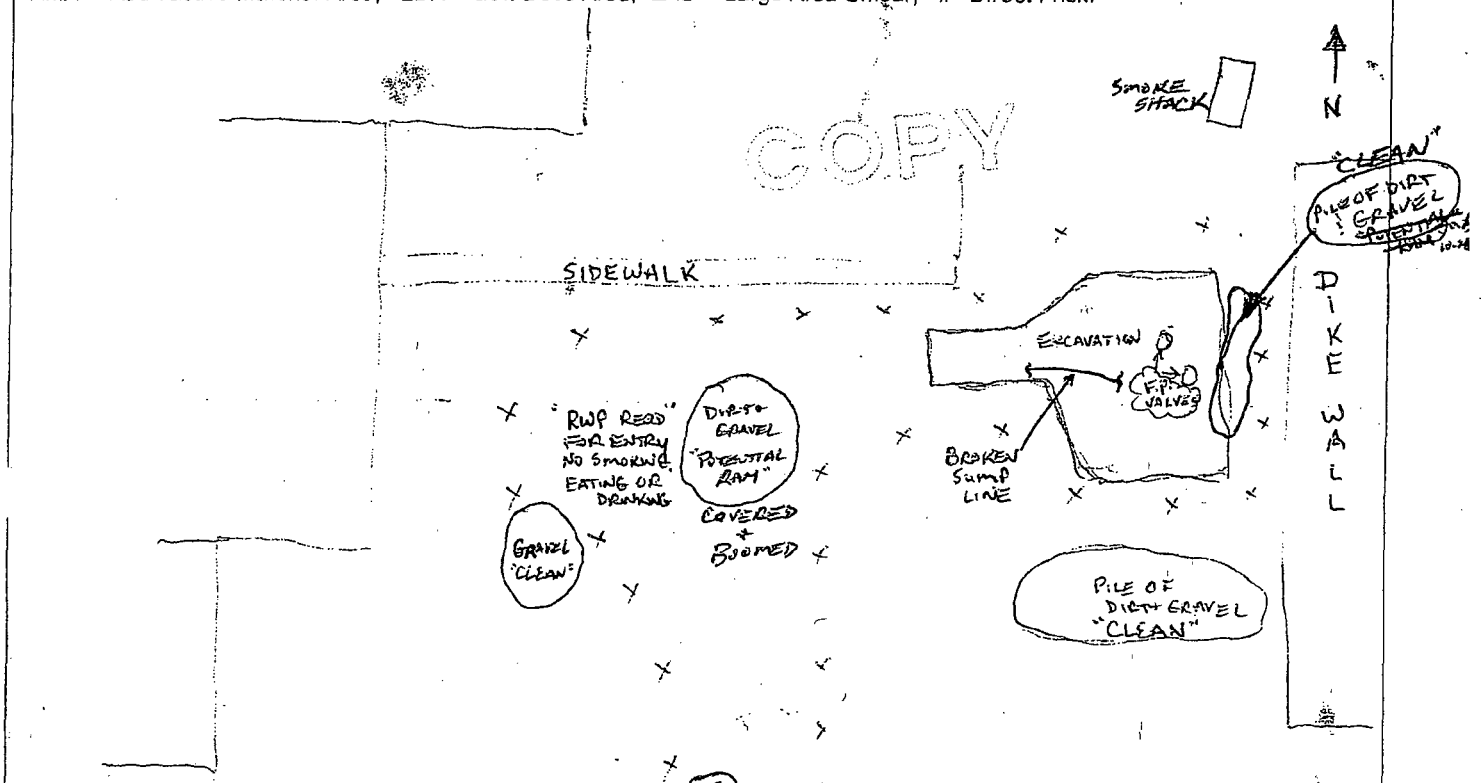
SURVEY NUMBER	MAP #	RWP NUMBER
08-01249	N/A	08-7000-3

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
OUTSIDE	585'		10-24-08	1300

PURPOSE	% POWER
REMOVE BROKEN COND. SUMP DRAIN LINE ~15 FEET	100%

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



UP TO 30cpm ABOVE BKGD. DIRECT FRISK ON REMOVED SUMP DRAIN LINE "INTERIOR" } LINE IN LLRWSF

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α
1				5				9			
2	SEE ATTACHED			6	RESULTS			10	N/A		
3				7				11			
4				8					MDA		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2-7-379	10-29-08	60 cpm
XLB-5	2-12-56	9-11-09	18α/20β
IPG	2-12-19	DAILY	N/A

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10586	[signature]	10-24-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

Davis Besse Nuclear Power Station
Smear Report

Batch ID:	Smears Alpha Beta Simultaneous -200810241344	Count Date:	10/24/08
Group:	A	Count Minutes:	0.8
Device:	LI 2.12.56 CAL DUE 9/11/09	Count Mode:	Simultaneous
Batch Key:	16,335	Operating Volts:	1380
Selected Geometry:	1/4" Stainless Steel		

	Background (cpm)			Efficiency (%)			
Alpha Rate:	0.18	±	0.06	Alpha:	26.78	±	0.40	18
Beta Rate:	2.22	±	0.21	Beta:	43.47	±	0.43	20

Smear Number	Alpha (dpm)	Beta (dpm)	Location
1	<MDA	<MDA	

Performed by: [signature] Date: 10-24-08

Reviewed by: Date:

REPORT NAME : SMEAR (V1.0)
REPORT DATE : 24-OCT-2008 13:07
REQUESTOR : DBS

FENOC
DAVIS BESSE

SMEAR REPORT

TITLE : RAD PRO - INSIDE OF BROKEN COND. BAY SUMP LINE

SAMPLE No.	: 200810242001	OPERATOR NAME	: DBS
SAMPLE TYPE	: RP	SAMPLE GEOMETRY	: 50MMFILTER
COUNT TIME	: 24-OCT-2008 12:56:43	SAMPLE QUANTITY	: 1.00000E+00
SAMPLE TIME	: 24-OCT-2008 12:56:00	DETECTOR	: Detector 3
LIBRARY	: 105		

NUCLIDE	UCI/SMEAR	DPM/100CM**2

NO NUCLIDES IDENTIFIED IN SAMPLE

Unidentified Energy Lines
Sample ID : 200810242001 Acquisition date : 24-OCT-2008 12:56:41

None

Flags: "T" = Tentatively associated

Summary of Nuclide Activity
Sample ID : 200810242001 Acquisition date : 24-OCT-2008 12:56:13

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

****
24-OCT-2008 13:07:48.74
CAS
DAVIS-BESSE STATION
****

SAMPLE TITLE : RAD PRO - INSIDE OF BROKEN COND. BAY SUMP LINE
SAMPLE ID : 200810242001 * SAMPLE TIME : 24-OCT-2008 12:56
SAMPLE GEOMETRY : 50MMFILTER * SHELF HEIGHT : ABS
SAMPLE TYPE : RP * SAMPLE QUANTITY : 1.00000E+00 SMEAR
****

ACQ DATE & TIME : 24-OCT-2008 12:56 * DEADTIME (%) : 7.3%
PRESET LIVE TIME : 0 00:10:00 * DETECTOR : Detector 3
ELAPSED REAL TIME : 647.46 Secs * DECAY TIME : 0 00:00:43.56
ELAPSED LIVE TIME : 600.00 Secs * LIBRARY : 105
QC CHECK DATE/TIME: 24-OCT-2008 00:44
****

COLLECTED BY : BOBETICH
COUNTED BY : DBS
REVIEWED BY : JAB / 10-24-08
COMMENTS :

****

Nuclide Line Activity Report

Pl : "*" = Keyline

RADIOLOGICAL SURVEY FORM

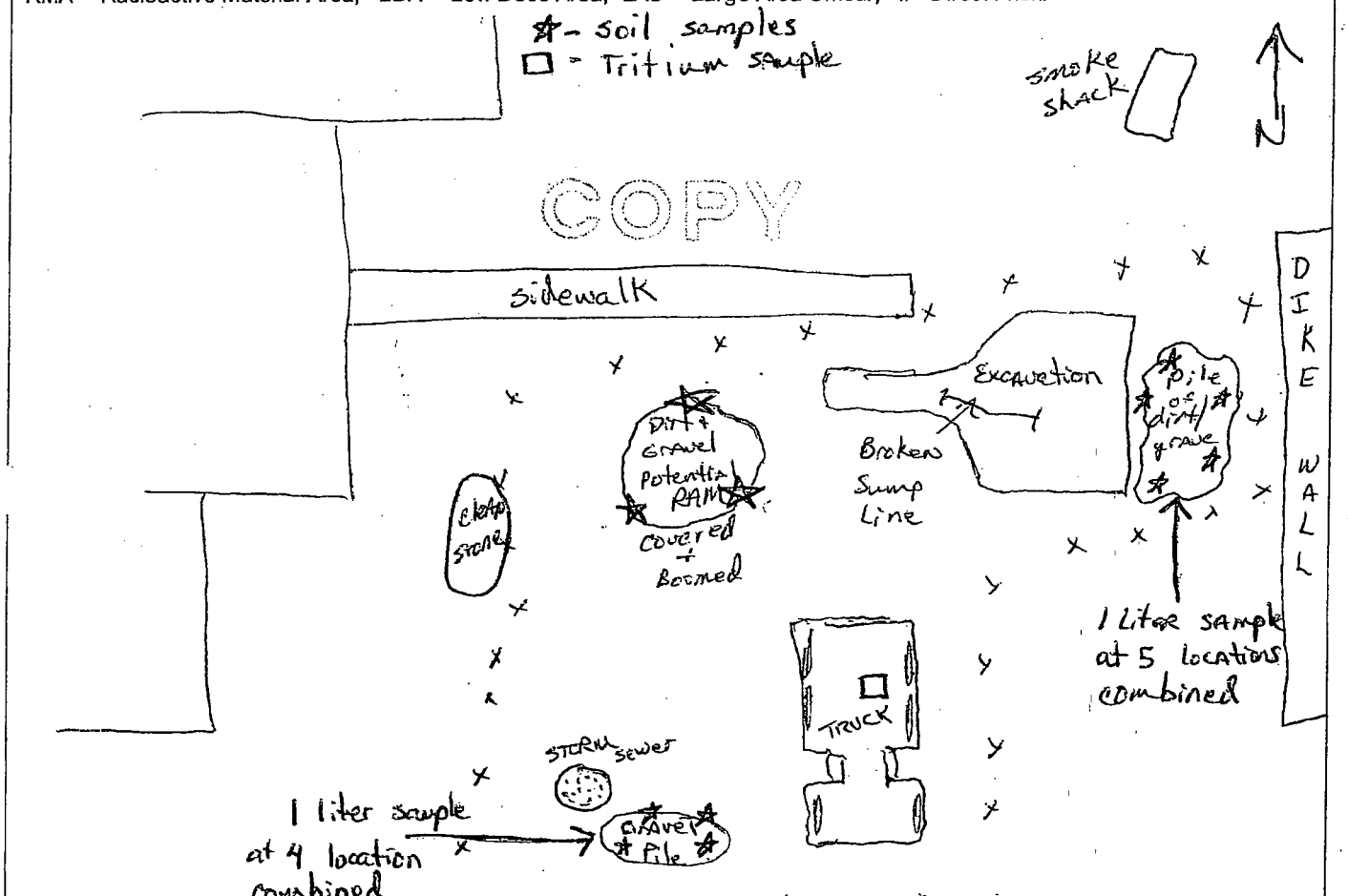
SURVEY NUMBER	MAP #	RWP NUMBER
08-01279	N/A	08-7000-3

NOP-OP-4701-01 Rev. 00

BUIEDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
N/A	585	Forebay	10-27-08	0830-1350

PURPOSE	% POWER
obtain and ana samples.	100

Legend: – Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N- Neutron, α- Alpha, β- Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX- Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

See Attached Result

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
HPGe	2.1.67	daily	NA
HPGe	2.1.63	daily	NA
	N/A		

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10602	[signature]	10-30-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

PAGE 1 OF 1

RADIOLOGICAL SURVEY FORM

SURVEY NUMBER	MAP #	RWP NUMBER
08-01258	N/A	N/A

OP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
YARD	585	C&W PUMP TRAILER	10/27/08	1400

PURPOSE	% POWER
RELEASE C&W PUMP TRAILER FROM EAST EXCAVATION SITE	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */- Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, #.- Direct Frisk.

COPY

- C&W PUMP TRAILER
- ALL GROSS MASSLINNS NDA
  ALL DIRECT FRISK LOCATIONS NDA
  ALL MICROREM READINGS <0.005mr/hr
- BOROSCOPE USED INSIDE 4" EFFLUENTS LINE FROM EAST/WEST CONDENSER PIT SUMP TO SETTLING BASIN
  - ALL GROSS MASSLINNS NDA
  - ALL DIRECT FRISK LOCATIONS NDA

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
MICROR	27363	11/14/09	N/A
ANALYST	27379	10/29/08	80

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	10/27/8

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

SURVEY NUMBER	MAP #	RWP NUMBER
08-01273	N/A	N/A

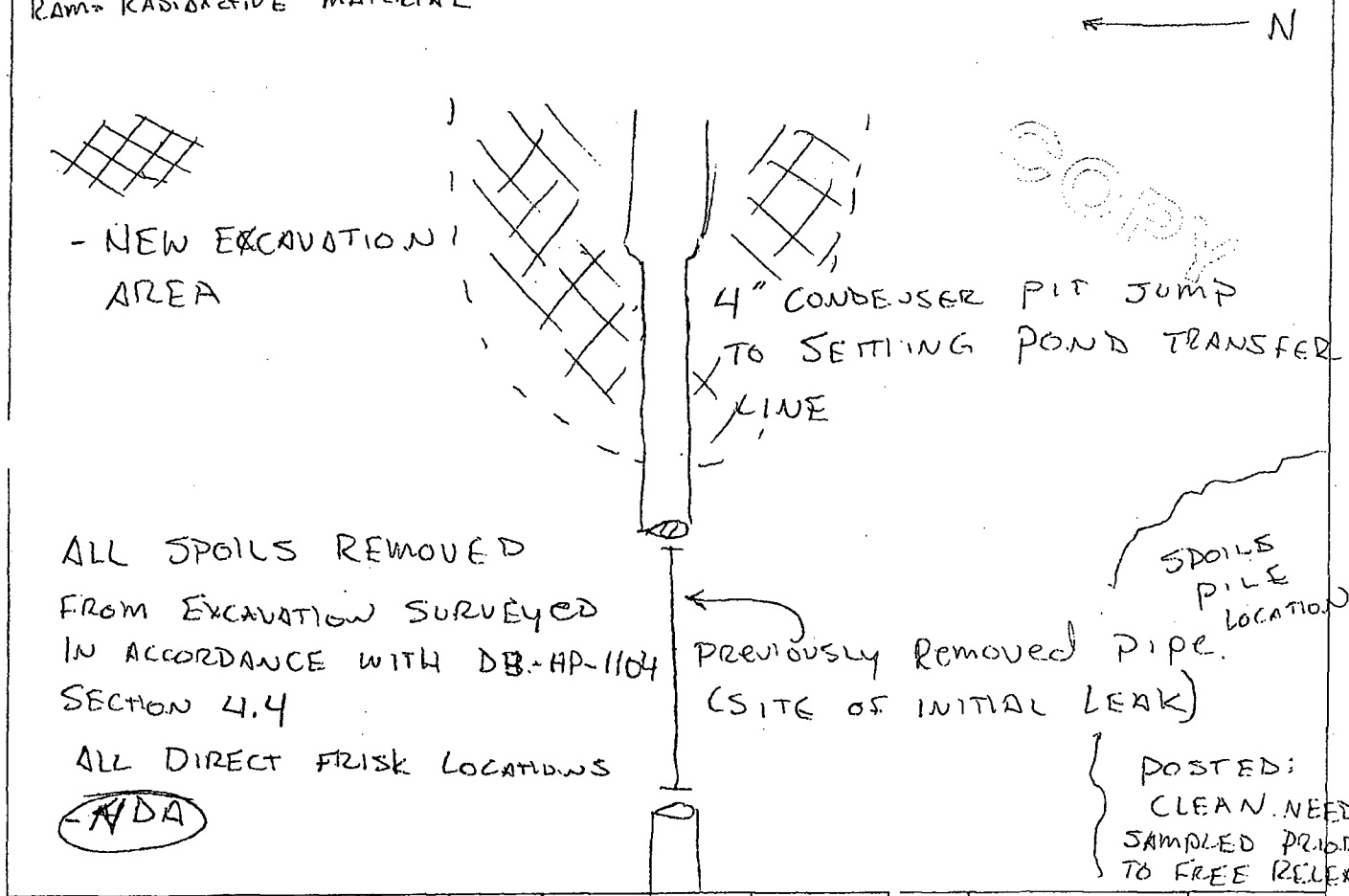
NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
EAST YARD	585	Condenser pit to Settling Pond transfer line	10/29/08	1300 - 1500

PURPOSE	% POWER
VERIFY SPOILS pile free of RAM	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.

RAM= RADIOACTIVE MATERIAL



Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1	A			5				9	A		
2				6	A			10			
3		<		7		<		11		<	
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST-	2.7476	12/8/8	40
A			
			a

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	10/29/8

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

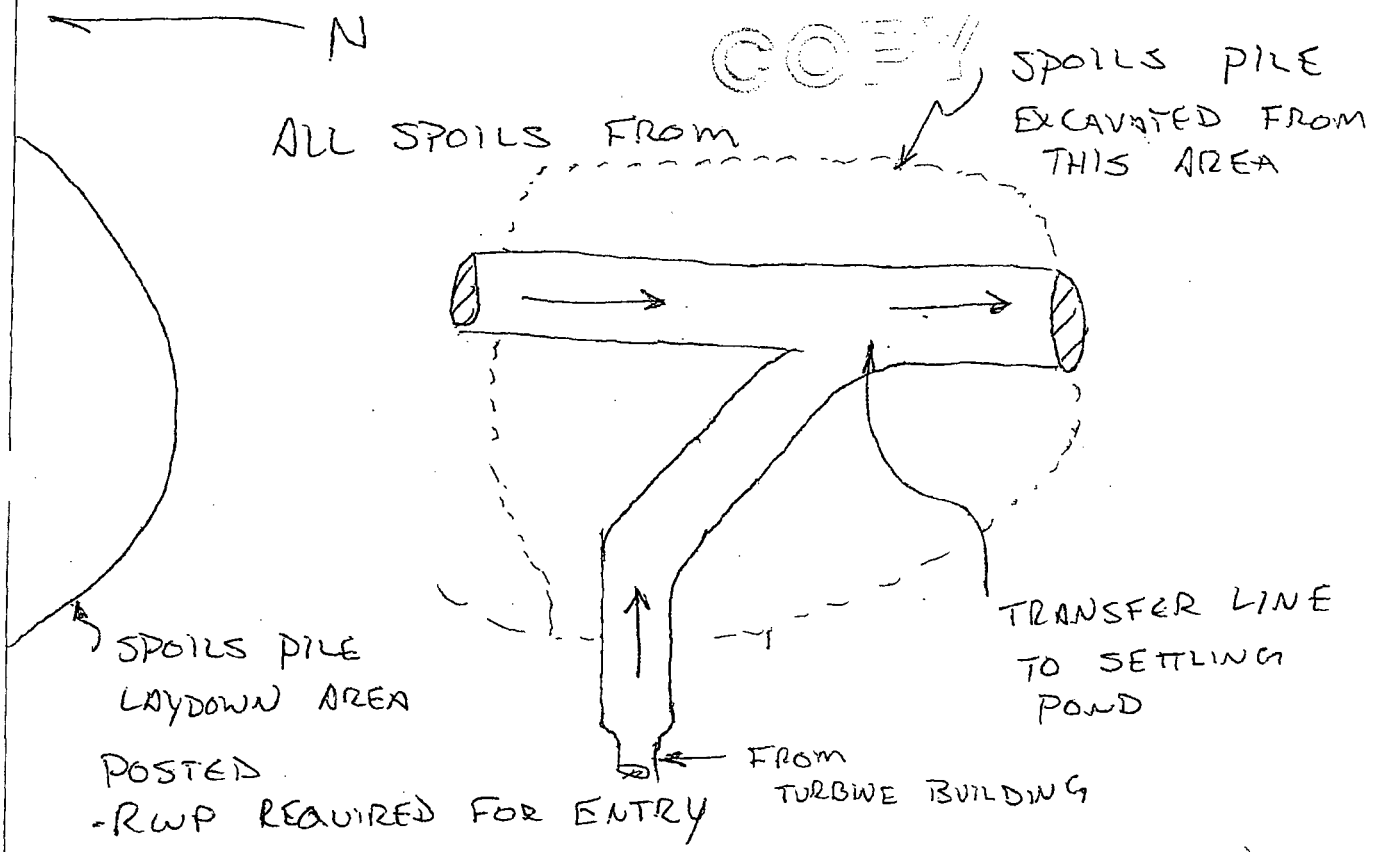
SURVEY NUMBER	MAP #	RWP NUMBER
08-01284	N/A	~~N/A~~ 08-7000-3

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
EAST YARD	585'	CONDENSER PIT SUMP TO SETTLING POND TRANSFER LINE	10/31/08	1400

PURPOSE	% POWER
DIRECT FRISK SPOILS FROM EXCAVATION IN ACCORDANCE WITH DB-HP-1104	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



ALL DIRECT FRISK LOCATION NDA

Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2.7.495	12/18/8	30-50cpm

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430		10/31/08

APPROVED BY

SAP NUMBER	SIGNATURE	DATE

PAGE 1 OF 1

RADIOLOGICAL SURVEY FORM

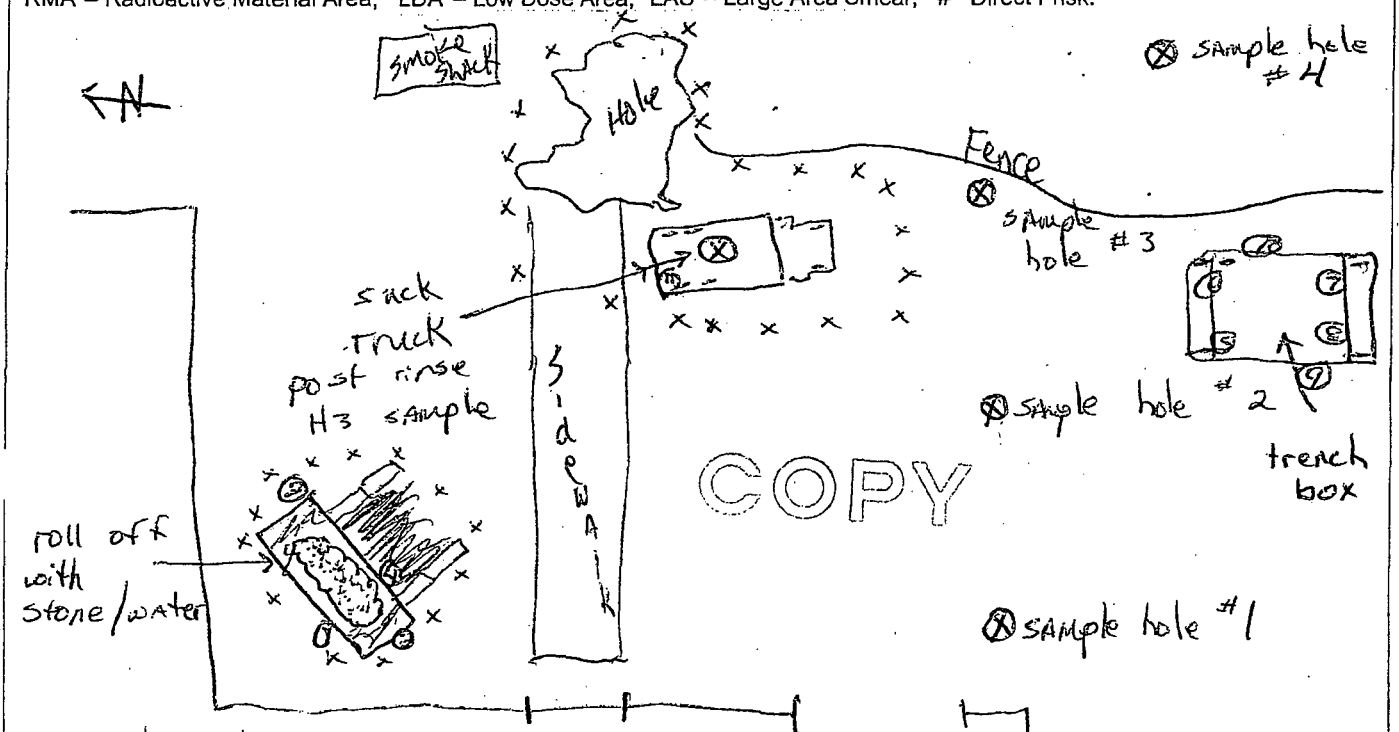
SURVEY NUMBER	MAP #	RWP NUMBER
RS-01331	N/A	OR-7000-3

OP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
Outside	585	fore bay	11-5-08	VARIOUS

PURPOSE	% POWER
excavation of soil / stone samples	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N- Neutron, α - Alpha, β- Beta, γ - Gamma, A- Air Sample, O- Smear, */- Contact/30cm, XXXX- Boundary, SOP - Step Off Pad, Bkgd- Background, MDA- Minimum Detectable Activity, ND- Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



- Sample holes 1-4 1 liter MCA γ spec, see attached results
- smears recounted on tennelec on 11-11-08
- direct frisk of trench box = N.D. activity.

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α
1	roll off box	<27	<16	5	trench box	<27	<16	9	trench box	<27	<16
2	↓	↓	↓	6	↓	↓	↓	10	↓	↓	↓
3	↓	↓	↓	7	↓	↓	↓	11	suck truck	↓	↓
4	↓	↓	↓	8	↓	↓	↓		MDA=	27	16

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
γ Spec	2.1.63	daily	N/A
Tennelec	2.12.57	9-6-09	N/A
Analyst	2.7.476	12-18-08	50 cpm
	NA		

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10602	[signature]	11-5-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

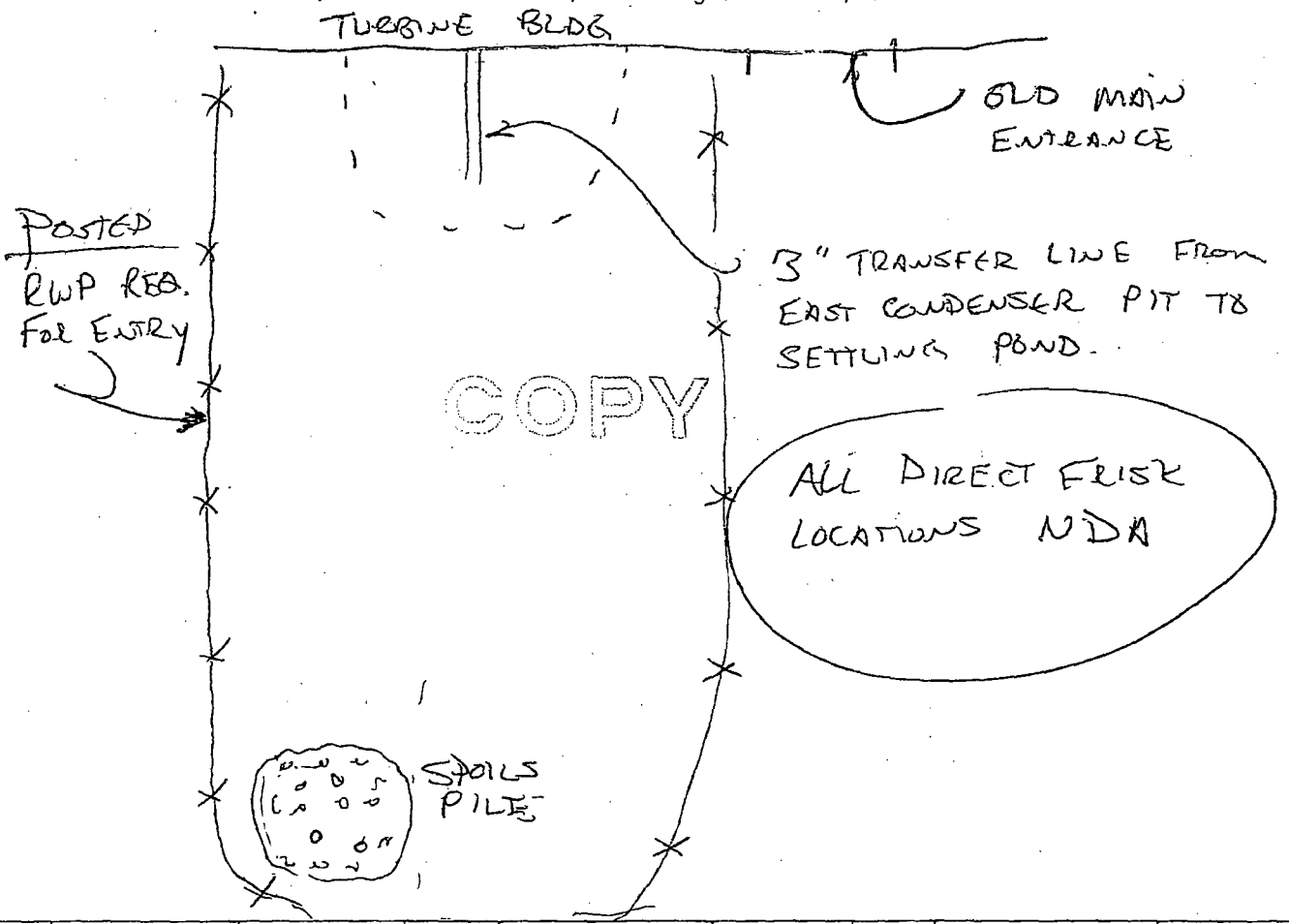
SURVEY NUMBER	MAP #	RWP NUMBER
08-01317	N/A	N/A

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
EAST YARD	585	EXCAVATE TRANSFER LINE	11/6/08	1400

PURPOSE	% POWER
SPOILS PILE FROM TRANSFER LINE EXCAVATION	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2.7.475	12/18/08	50

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	11/6/08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

11/6/8

RADIOLOGICAL SURVEY FORM

SURVEY NUMBER	MAP #	RWP NUMBER
08-01318	N/A	~~N/A~~ 08-7000-3

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
EAST YARD	585	TRANSFER LINE EXCAVATION	11/6/08	1515

PURPOSE	% POWER
RELEASE JLG FROM RWP AREA"	100-

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.

JLG EXTERNAL SURFACES (TIRES, RIMS, LIFT BASKET)
- GROSS MASS LINNS NDA / probe area
- DIRECT FRISK LOCATIONS NDA

COPY

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2	n			6	n			10	n		
3				7				11			
4		a		8		a			MDA= a		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2.7.475	12/18/8	50
n			
			a

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	11/6/08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

PAGE 1 OF 1

RADIOLOGICAL SURVEY FORM

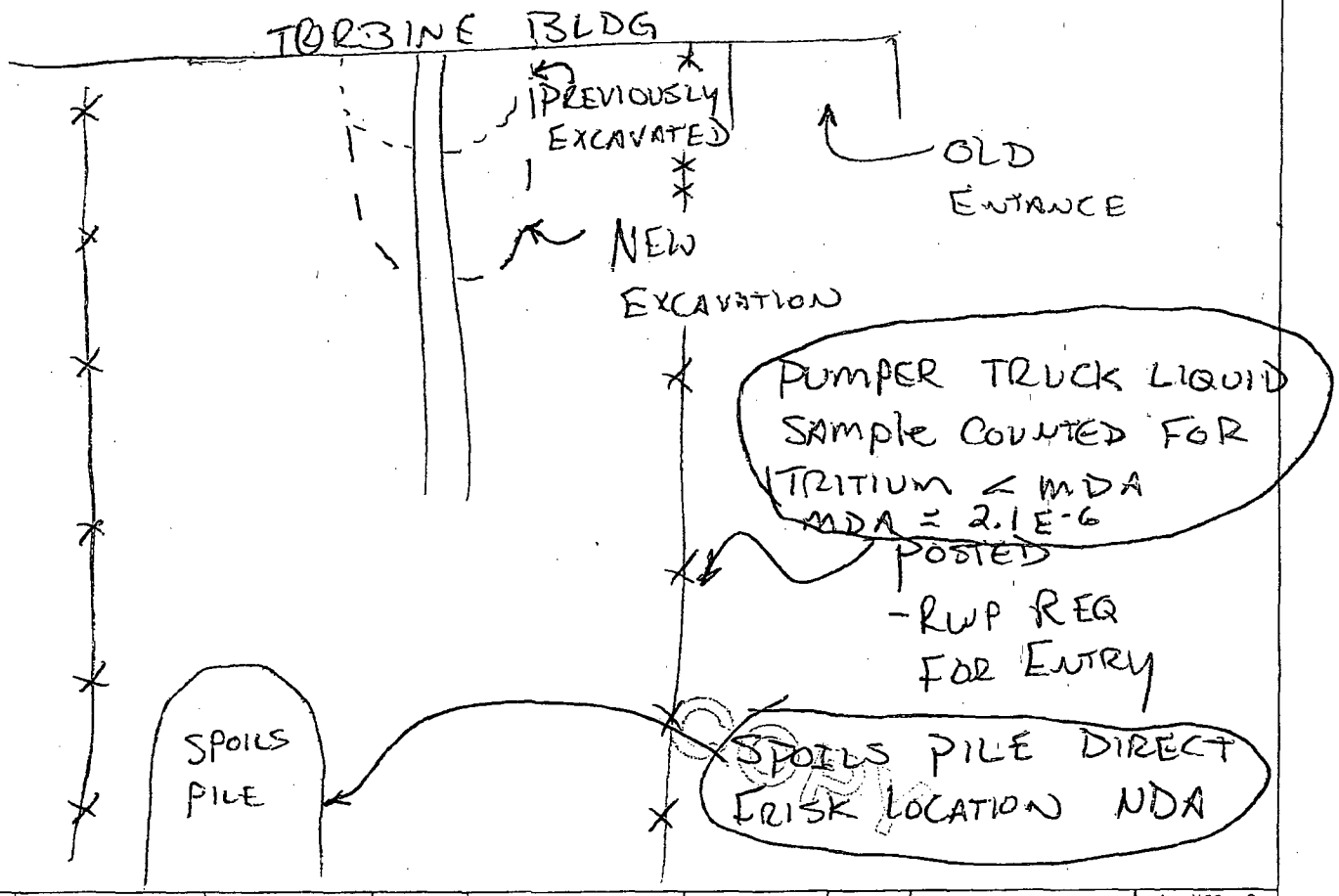
SURVEY NUMBER	MAP #	RWP NUMBER
08-01325	N/A	08-7000-3

OP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
EAST YARD	585	CONDENSER PIT SUMP TO SETTLING POND TRANSFER LINE	11/7/8	1430

PURPOSE	% POWER
EXCAVATE TRANSFER LINE	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	27476	12/18/8	50

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
42430	[signature]	12/7/8

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

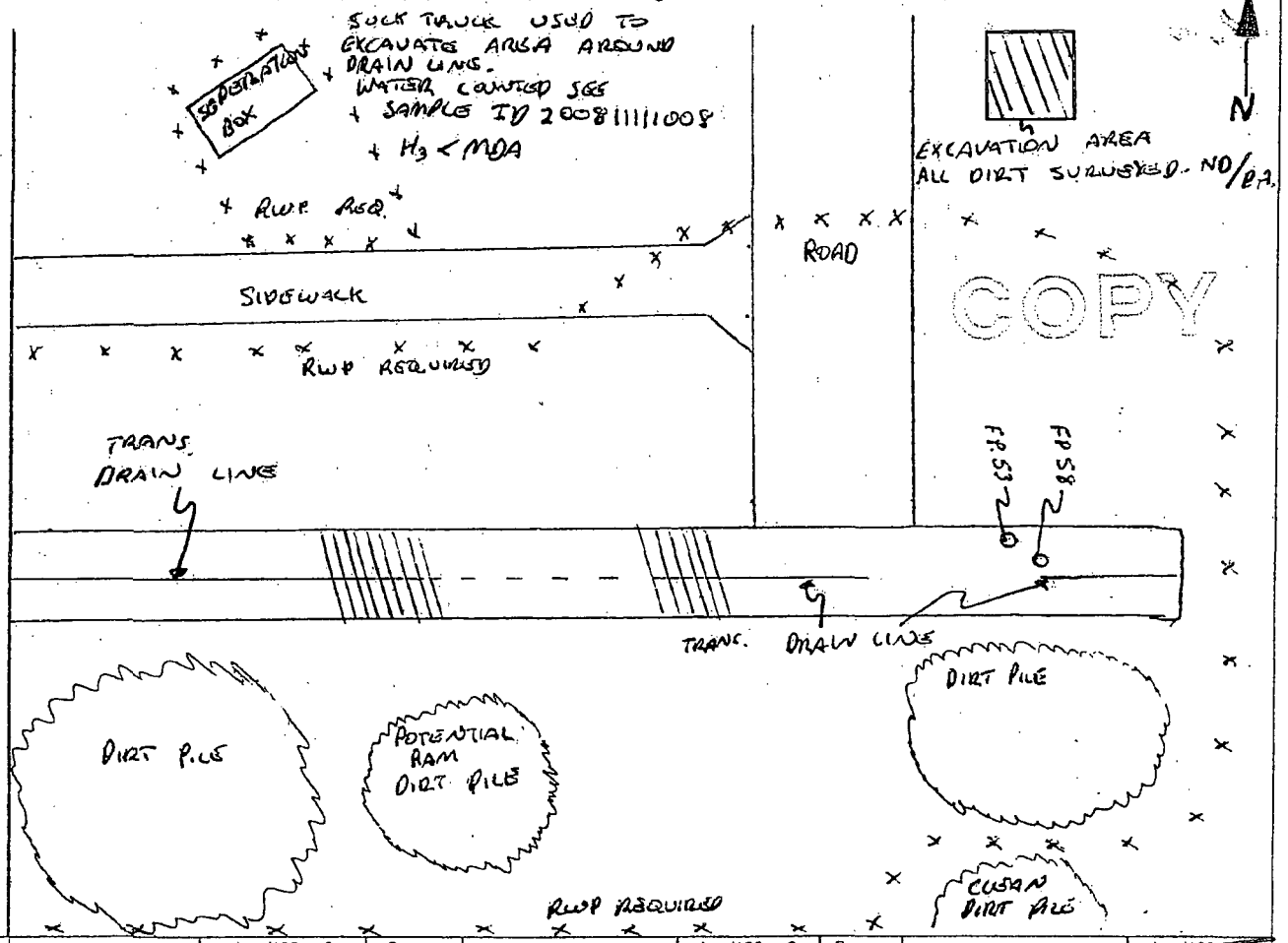
SURVEY NUMBER	MAP #	RWP NUMBER
08-1353	N/A	08-7000

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
N/A	585	COND. SUMP DRAIN LINE	1/10-08	VARIOUS

PURPOSE	% POWER
DECOMMISSIONING RECORD SURVEY SURVEY DIRT REMOVED TO REPAIR DRAIN LINE	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O - Smear, */- Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5	N/A			9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	27.475	12-18-08	50
N/A			

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10866	Loren Moore	1-10-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

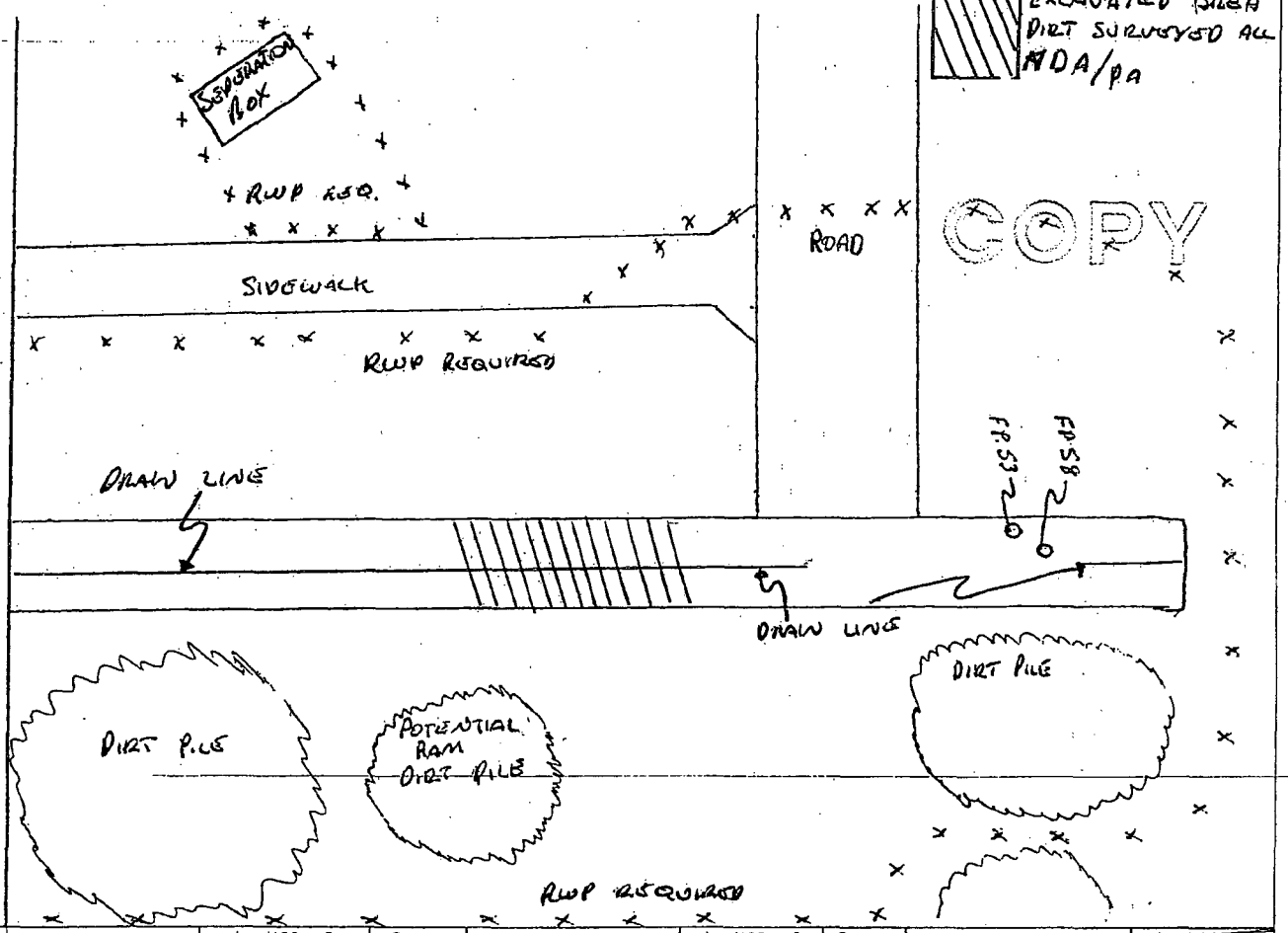
SURVEY NUMBER	MAP #	RWP NUMBER
08-1360	N/A	08-7000

NOP-OP-4701-01-Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
N/A	585	COND. SUMP DRAIN LINE	11/14/08	VARIOUS

PURPOSE	% POWER
DECOMMISSIONING SURVEY SURVEY DIRT REMOVED TO REPAIR DRAIN LINE	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O – Smear, */- Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5	N/A			9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2.7.475	12-18-08	50

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10866	[signature]	11-14-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

RADIOLOGICAL SURVEY FORM

SURVEY NUMBER	MAP #	RWP NUMBER
08-1395	N/A	08-7000

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
OUTSIDE	585	SUCK TRUCK	11-17-08	1040

PURPOSE	% POWER
RELEASE OF SUCK TRUCK	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.

LAS OF INSIDE SUCK TRUCK BOX ND.

<0.005 MREM/HR INSIDE + OUTSIDE SUCK TRUCK

LAS OF OUTSIDE SUCK TRUCK ND

DIRECT FRISK OF INSIDE SUCK TRUCK BOX + TIRES ND

COPY

Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1	INSIDE SUCK	<20	<17	5	INSIDE SUCK	<20	<17	9	INSIDE SUCK	<20	<17
2	TRUCK BOX	↓	↓	6	TRUCK BOX	↓	↓	10	TRUCK BOX	↓	↓
3	↓	↓	↓	7	↓	↓	↓	11	↓	↓	↓
4	↓	↓	↓	8	↓	↓	↓		MDA=	20	17

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
TENNELEC	2.12.56	9-1-06	N/A
MICRO RSM	2.7.363	1-14-09	0.005
FRISK TECH	2.7.475	12-18-08	50 CPM
	N/A		

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10866	[signature]	11-17-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

PAGE 1 OF 1

RADIOLOGICAL SURVEY FORM

NOP-OP-4701-01 Rev. 00

SURVEY NUMBER	MAP #	RWP NUMBER
08-1395	N/A	08-7000

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
OUTSIDE	585	SUCK TRUCK	11-17-08	1040

PURPOSE	% POWER
RELEASE OF SUCK TRUCK	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.

LAS OF INSIDE SUCK TRUCK BOX ND.

<0.005 MREM/HR INSIDE & OUTSIDE SUCK TRUCK

LAS OF OUTSIDE SUCK TRUCK ND

DIRECT FRISK OF INSIDE SUCK TRUCK BOX + TIRES ND

COPY

Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1	INSIDE SUCK	<20	<17	5	INSIDE SUCK	<20	<17	9	INSIDE SUCK	<20	<17
2	TRUCK BOX	↓	↓	6	TRUCK BOX	↓	↓	10	TRUCK BOX	↓	↓
3	↓	↓	↓	7	↓	↓	↓	11	↓	↓	↓
4	↓	↓	↓	8	↓	↓	↓		MDA=	20	17

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
TENNELEC	2.12.56	9-1-06	N/A
MICRO REM	2.7.363	1-14-09	0.005
RISK TECH	2.7.475	12-18-08	50 CPM
	N/A		

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10866	[signature]	11-17-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE
10835	[signature]	11-25-08

RADIOLOGICAL SURVEY FORM

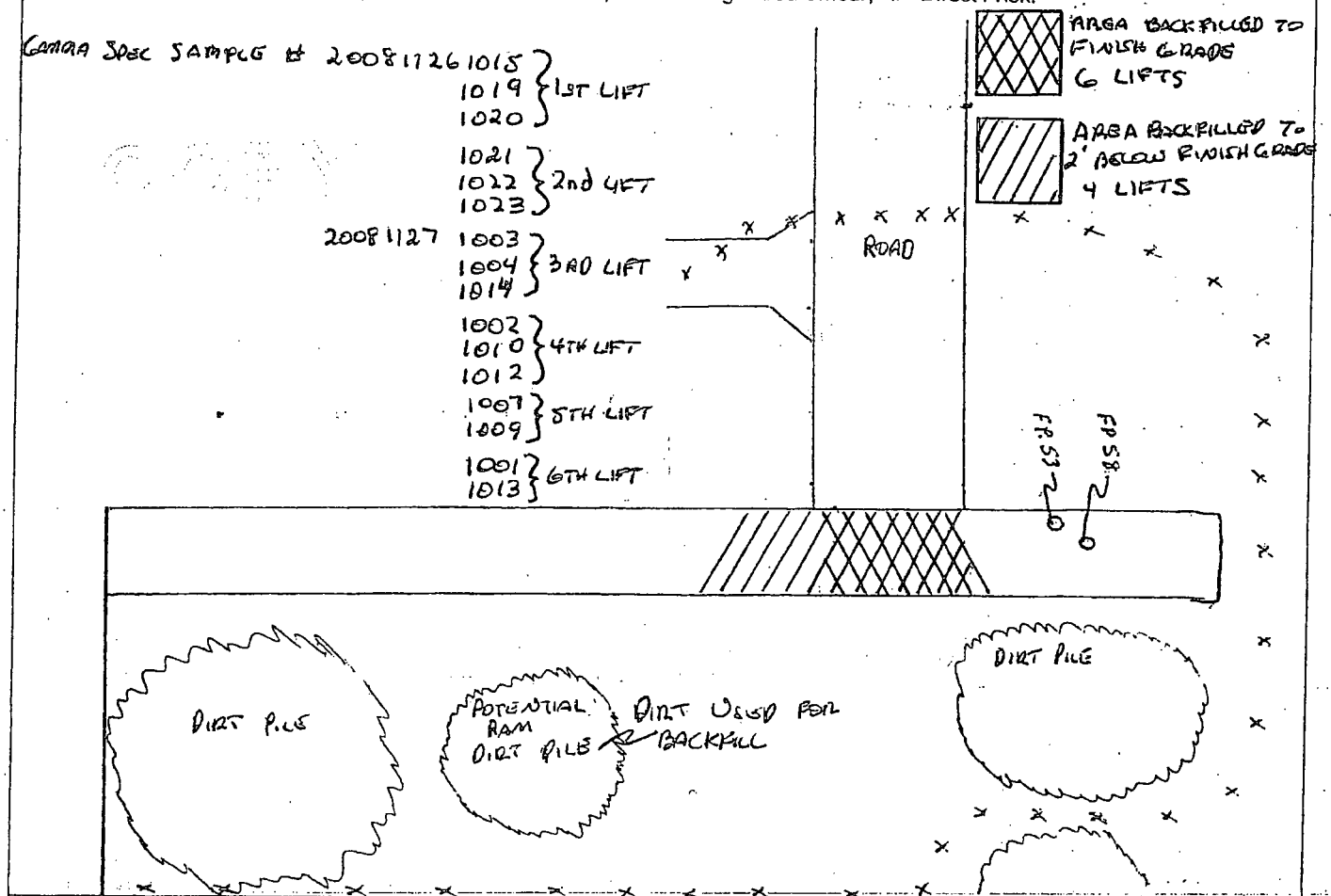
SURVEY NUMBER	MAP #	RWP NUMBER
08-1432	N/A	08-7000

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
OUTSIDE	585'	CONDENSOR SUMP DRAIN LINE	11-26-08	VARIOUS

PURPOSE	% POWER
DECOMMISSIONING SURVEY	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6				10			
3				7				11			
4				8					MDA=		

N/A

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
GAMMA SPEC	2-1-67	DAILY	
GAMMA SPEC	2-1-63	DAILY	
	N/A		

PREPARED BY

SAP NUMBER	SIGNATURE	DATE
10866	Loren Moore	12-2-08

APPROVED BY

SAP NUMBER	SIGNATURE	DATE
10835	[illegible]	12-2-08

RADIOLOGICAL SURVEY FORM

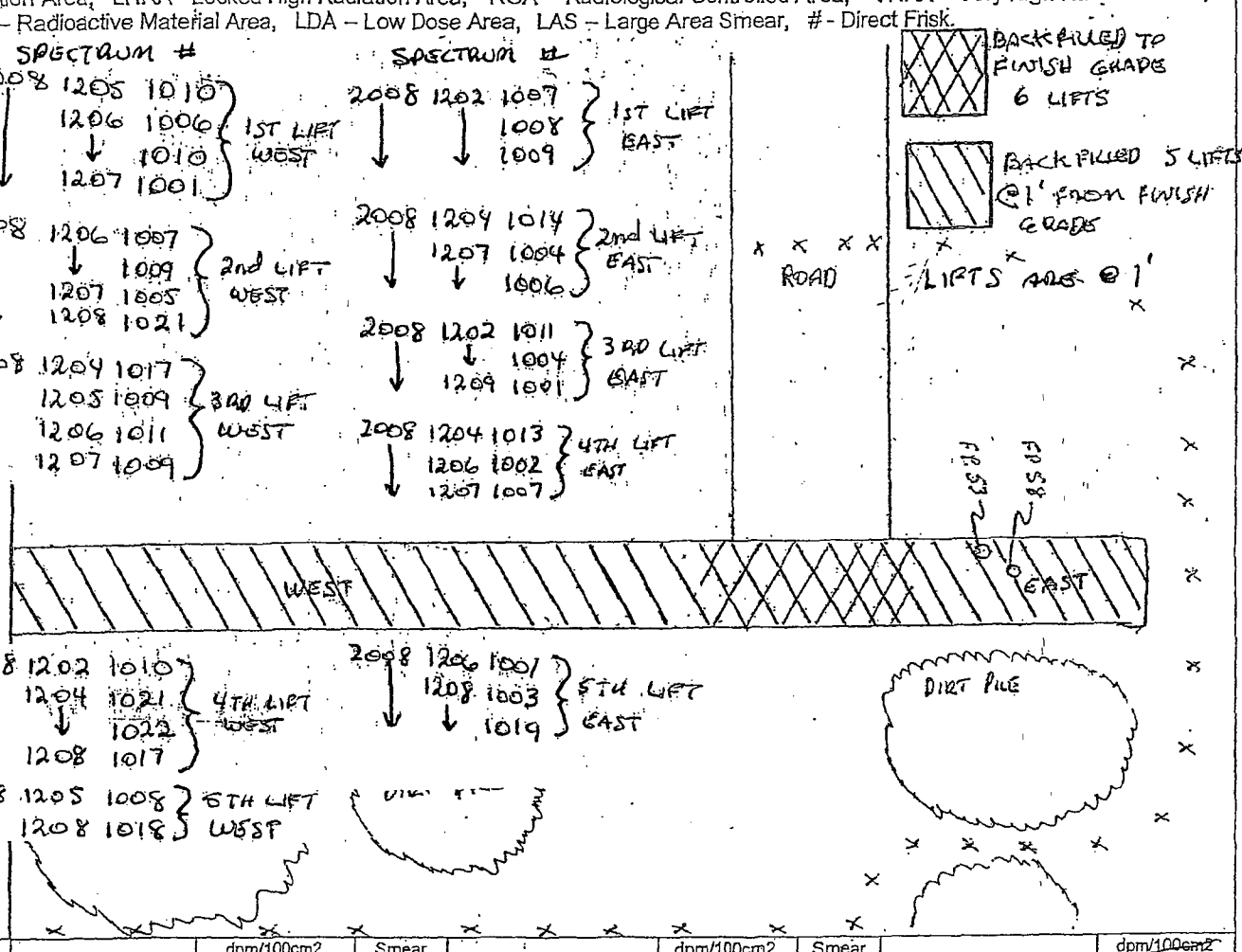
SURVEY NUMBER	MAP #	RWP NUMBER
08-01475	N/A	08-7000

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
JT SIDE	585'	CONDENSER DRAIN LINE	12-2-08	VARIOUS

PURPOSE	% POWER
DECOMMISSIONING SURVEY	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */- Contact/30cm, XXXX- Boundary, SOP - Step Off Pad, Bkgd - Background, MDA- Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA- Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.



Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5	N/A			9			
2				6				10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
GAMMA SPEC	2.1.67	DAILY	N/A
GA SPEC	2.1.63	DAILY	N/A

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10866	[signature]	12-10-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

COPY

RADIOLOGICAL SURVEY FORM

SURVEY NUMBER	MAP #	RWP NUMBER
08-1455	N/A	08-7000-3

NOP-OP-4701-01 Rev. 00

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
OUTSIDE	585'	N/A	12-8-08	1300

PURPOSE	% POWER
COMPLETE BACK FILL & CLEAN-UP DIG SITE	100

Legend: Unless otherwise noted, all radiation readings are in mrem/h and all smears are in net dpm/100cm². HS – Hot Spots, N - Neutron, α - Alpha, β - Beta, γ - Gamma, Δ - Air Sample, O– Smear, */ - Contact/30cm, XXXX - Boundary, SOP - Step Off Pad, Bkgd - Background, MDA - Minimum Detectable Activity, ND – Non Detectable, CA - Contamination Area, HCA - Highly Contaminated Area, DPZ - Discrete Particle Zone, ARA - Airborne Radiation Area, RA - Radiation Area, HRA - High Radiation Area, LHRA - Locked High Radiation Area, RCA – Radiological Controlled Area, VHRA – Very High Radiation Area, RMA – Radioactive Material Area, LDA – Low Dose Area, LAS – Large Area Smear, # - Direct Frisk.

ITEMS SURVEYED FOR FREE RELEASE:

* DIRECT FRISK RESULTS - NON DETECTABLE
  BKGD = 50-60cpm
* LAS PERFORMED - NON DETECTABLE PROBE AREA

TARP (SCRAP)
2 BENT STANTIONS (SCRAP)
3 BINDERS FOR CHAINS
3 CHAINS
3 STEEL PLATES
5 WOOD PLATES
1 PIECE OF VISQUEEN (SCRAP)
1 TWO PIECE EXT. LADDER
14' PIC
5 SAFETY CONES
SHOVEL
PICK
5 CONST. BARRELS

BACK FILL COMPLETED "RMA" SIGNS REMOVED FROM DIG SITE.

"RMA" REMAINS AROUND DIRT RAMP AND "DRAIN-BOX" ROLL-OFF.

Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 β γ	dpm/100cm2 α	Smear No.	Smear Location	dpm/100cm2 βγ	dpm/100cm2 α
1				5				9			
2				6	N/A			10			
3				7				11			
4				8					MDA=		

INSTRUMENTS USED

MODEL NUMBER	INSTRUMENT NUMBER	CAL DUE DATE	MDA/BKGD
ANALYST	2.7.476	12-18-08	50-60 cpm
	N		
	A		

PREPARED BY:

SAP NUMBER	SIGNATURE	DATE
10586	[signature]	12-8-08

APPROVED BY:

SAP NUMBER	SIGNATURE	DATE

Groundwater Monitoring Wells 2007				Groundwater Monitoring Wells 2008		
	June	July	Sept/Oct	Spring	Fall	Post-Leak
Well No.	[H-3], pCi/liter	[H-3], pCi/liter	[H-3], pCi/liter	[H-3], pCi/liter	[H-3], pCi/liter	[H-3], pCi/liter
MW-100A			<193	<173	405	
MW-100B			<193	<173	282	
MW-100C			<149	<154	<140	
MW-101A			237	203	376	
MW-101B			207	<173	257	
MW-101C			<193	<173	<141	
MW-102A			387	713	458	
MW-102B			394	442	531	
MW-102C			<193	<143	<141	
MW-103A			495	423	326	
MW-103B			362	435	365	
MW-103C			<149	<156	<140	
MW-104A			237	436	250	
MW-104B			250	230	254	
MW-104C			<193	<154	141	
MW-105A			1832	1477	1041	1183
MW-01S	<169					
MW-01D	<169					
MW-07S	426					
MW-12S	657	860	276			1219
MW-12D		1155	769			689
MW-15S	375		301			
MW-15D	704		442			
MW-18S	277			436	324	
MW-18D	204					
MW-20S	255		189	380	426	
MW-20D	328		<174			
MW-23S			306			
MW-26S	341					
MW-26D	<169					
MW-30S	1307	1149	494			
MW-30D		231	<174			
MW-31S		7322	3149			1612
MW-31D		108	183			118
MW-32S	5838	7535				1240
MW-32D	466	507				552
MW-33S	2287	2702	1230	767	212	581
MW-33D	2975	3271	1934			1538
MW-34S		2839				695
MW-34D		1076				1142
MW-35S			227			
MW-35D			368			
MW-37S		2961	1231	596	502	
MW-37D		135				

Davis-Besse Nuclear Power Station Condensate Backwash Line Leak - Groundwater Well Sampling Week of 10/27/08

Condensate Backwash Line Leak - Groundwater Well Sampling Week of 10/27/08							**Sample History**				
Well Designation	Sample Date	In-House Tritium Analysis (pCi/L)	Date Sample Shipped to Vendor	Date Vendor Lab Results Received	Vendor Lab Tritium Analysis (pCi/L)	Sample Accuracy	Jun-07 (pCi/L)	Jul-07 (pCi/L)	Sep-07 (pCi/L)	Apr-08 (pCi/L)	Oct-08 (pCi/L)
MW-105A	10/27/2008	<2100	10/28/2008	10/31/2008	1183	± 137	ns	ns	1832	1477	1041
MW-31S	10/27/2008	<2100	10/28/2008	10/31/2008	1612	± 150	ns	7322	3149	ns	ns
MW-31D	10/27/2008	<2100	10/28/2008	10/31/2008	118	± 99	ns	108	183	ns	ns
MW-32S	10/29/2008	<2100	10/30/2008	11/3/2008	1383	± 143	5838	7535	ns	ns	ns
MW-32D	10/29/2008	<2100	10/30/2008	11/3/2008	654	± 119	466	507	ns	ns	ns
MW-33S	10/28/2008	<2100	10/29/2008	10/31/2008	581	± 117	2287	2702	1230	767	212
MW-33D	10/28/2008	<2100	10/29/2008	10/31/2008	1538	± 148	2975	3271	1934	ns	ns
MW-34S	10/28/2008	<2100	10/29/2008	10/31/2008	695	± 121	ns	2839	ns	ns	ns
MW-34D	10/29/2008	<2100	10/30/2008	11/3/2008	1212	± 138	ns	1076	ns	ns	ns
MW-12S	10/30/2008	<2100	10/31/2008	11/4/2008	1219	± 136	657	860	276	ns	ns
MW-12D	10/30/2008	<2100	10/31/2008	11/4/2008	689	± 119	ns	1155	769	ns	ns

In-House Tritium Minimum Detectable Activity (MDA) = 2.10E-06 µCi/ml = 2100 pCi/L

Well locations chosen based on proximity to leak and expected migration path.

Davis-Besse Nuclear Power Station Condensate Backwash Line Leak - Groundwater Well Sampling Week of 10/27/08