



Westinghouse Electric Company  
Hematite Decommissioning Project  
3300 State Road P  
Festus, MO 63028  
USA

U.S. Nuclear Regulatory Commission – Region III  
ATTN: Christine Lipa, NRC Region III/DNMS/MCID  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

Direct tel: 314-810-3368

Direct fax: 636-937-6380

Our ref: HEM-08-107

Date: December 12, 2008

Subject: Additional Information in Response to United States Nuclear Regulatory Commission Issues and Observations Provided November 21, 2008, and Interim Process Building Radiological Survey Requirements

Dear Ms. Lipa:

The Hematite Decommissioning Project (HDP) offers the attached additional information in response to the issues and observations noted during the United States Nuclear Regulatory Commission (NRC) debriefing conducted November 21, 2008. This information is provided pursuant to our discussions following the debriefing to support the ongoing NRC inspection (Inspection Number 2008002). This information is intended to ensure we have consistent information about the issues. This submittal does not contain corrective actions for these issues; corrective actions will be provided separately. In addition, this submittal does not address the issues relating to the amount of uranium-235 (U-235) in the Process Buildings; those issues will be addressed separately in the 30-day written report that follows the notification HDP made on November 19, 2008.

Additionally, as you are aware, the HDP issued a Stop Work Order on November 20, 2008 that prohibits work in or on the Process Buildings until authorization to access the buildings is provided by the NRC. HDP License SNM-00033, Chapter 3, Section 3.2.6.2 requires daily surveys of step-off pad areas when in use, weekly surveys of contamination control areas, monthly surveys of clean areas, and quarterly direct beta-gamma surveys. Much of the area within the Process Buildings is posted and controlled as a contamination area, with a step-off pad (ingress/egress point) and associated clean area. With the Stop Work Order in place, the HDP cannot perform the surveys indicated and required. In the interim, the HDP is performing surveys, per the required frequency, outside each access point to the Process Buildings, either at the door sill area or area immediately outside the doorway. These interim actions will continue until the Stop Work Order is lifted and access to the Process Buildings is allowed.

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Please do not hesitate to contact Gerry Couture of my staff at 803-247-2045 or me, should you have questions or need additional information.

Sincerely,



E. Kurt Hackmann  
Director, Hematite Decommissioning Project

Attachment: HDP Additional Information for the U.S. Nuclear Regulatory Commission  
Inspection of the Hematite Decommissioning Project, November 17-21, 2008

cc: G. M. McCann, NRC Region III/DNMS/MCID  
W. Snell, NRC Region III/DNMS/MCID  
P. Lougheed, NRC Region III/EICS  
R. Tadesse, NRC/FSME/DWMEP/DURLD  
J. Hayes, NRC/FSME/DWMEP/DURLD  
G. J. Rood, HDP Radiation Safety Officer  
G. F. Couture, HDP Licensing Manager  
K. J. Bradford, HDP Project Oversight Committee Chairperson

**ATTACHMENT**

**HDP Additional Information for the  
U.S. Nuclear Regulatory Commission  
Inspection of the Hematite Decommissioning Project  
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HDP Additional Information for the  
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The U.S. Nuclear Regulatory Commission (NRC) conducted an inspection of the Hematite Decommissioning Project (HDP) November 17 through 21, 2008. At the November 21, 2008, debriefing, the NRC Inspection Team informed HDP of issues and observations identified during the inspection. The HDP documented these in internal memorandum number HEM-08-MEMO-079, which is included as Appendix A.

The following is intended to provide additional information, as well as documentation requested by the NRC which was not available during the inspection. Please refer to the numbered issues and observations in Appendix A, as they are not repeated in the following discussion. Where the information addresses more than one issue, the information is assembled into common areas. Issues 1, 2, 3, 4, and 21, which relate to the amount of U-235 in the Process Buildings, are not addressed below. Those issues will be addressed separately in the 30-day written report that follows the NRC notification made by the HDP on November 19, 2008. Corrective actions will be addressed separately.

**I. HDP Additional Information on NRC Issues and Observations**

**A. Observation 5**

Section 2.5 (Project Oversight Committee) of SNM-00033 includes “The Committee shall have a minimum of five members chosen to provide administrative and technical competence. The Committee shall consist of the Radiation Safety Officer (RSO), the Chairperson, a Committee Secretary, and other management and qualified individuals as appointed by the Project Director.” Section 2.1.2 (Project Oversight Committee Chairman) includes a responsibility for “Recommending committee members to represent, at a minimum, D&D operations, and EH&S.”

The HDP Project Oversight Committee (POC) is comprised of the Chairperson (Westinghouse Western Zirconium Environmental, Health and Safety Manager), the HDP RSO, the Westinghouse Waltz Mill RSO, the HDP Operations Manager, the HDP Environmental, Health and Safety Manager, the HDP Environmental Engineering Manager, the HDP Quality Assurance Manager, and the HDP Licensing Manager as the Committee Secretary.

In each of the previous four quarterly meetings, the POC reviewed six or more HDP topics. None of the topics resulted in a POC action item. In addition, caretaking and characterization activities occurring at HDP in this time period did not lend themselves to POC action items per HDP Policy PO-GM-004, “Project Oversight Committee Charter.” This policy lists project changes that require POC approval as:

- Major actions that will result in changes to the facility status that could affect current effluent pathways and personnel exposures.
- Activities that could potentially increase site effluent levels.

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- Activities that could potentially result in substantial increases to personnel exposure.
- Activities that could potentially impact nuclear criticality safety evaluations.

**B. Observation 6 and Issue 22**

Since site demobilization in early 2006, facility caretaking has been the primary activity associated with the Process Buildings. In August 2008, an investigation was initiated to baseline the as-left conditions from the 2005 dismantling project and to develop work plans for pre-demolition activities. Surveys to estimate U-235 mass in the Process Buildings began on November 10, 2008. The identification of potential additional uranium from these surveys was initially communicated to HDP management when survey results were translated into mass estimates on November 13, 2008.

Additional Health Physics oversight records from October to December 2007 have been located and are included in Appendix B. The current RSO was hired and re-staffing of the Health Physics organization began in October 2007. The resumption of routine oversight activities was initiated by the new RSO's organization.

**C. Observation 7**

HDP has over 1250 continuous days without an Occupational Safety and Health Administration (OSHA) reportable injury, holds daily safety briefings, and incorporates safety measures into its work planning. Daily safety briefings address occupational safety topics and, as needed, radiation safety topics.

The event discussed in NRC Observation 7 occurred while HDP and NRC personnel were exiting the posted Radioactive Material Area outside the Process Buildings following a tour of the structure. While the two HDP management personnel were disconnecting the radiological rope from a stanchion to allow personnel to exit the area, an HP technician apparently stepped over the boundary rope instead of waiting for the area to be "opened." Neither of the HDP management representatives present observed the inappropriate action.

Of note, prior to this incident HDP and NRC personnel had exited a posted contamination area within the Process Buildings. During this egress, all personnel followed appropriate protocols for doffing personal protective clothing and equipment, proper exit from the area utilizing the "step-off pad" provided at the boundary between the contaminated and clean areas, and performance of radiological surveys.

HDP management does recognize and reinforce the proper methods for entering and exiting radiological areas and understands that stepping over or passing under a radiological barrier is not an acceptable practice.

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**D. Issues 8, 9, 10, 11, and 12**

The respirator fit test on January 24, 2008, of an individual was performed based on an individual's assertion of his satisfactory respirator medical examination, but without the documentation being provided or verified prior to the fit test. The documentation was subsequently provided by the individual following the fit test and before he was issued a respirator. However, January 24, 2008, was more than 12 months after the respirator medical examination, which are only effective for 12 months. The individual underwent a new respirator medical examination on March 5, 2008, with satisfactory results. A second fit test was performed on March 26, 2008.

CAPs Issue Report 08-063-W013 was assigned a significance level of "watch/trend," which does not require a determination of the cause(s). The CAPs Issue Report was closed based on completion of the corrective action to add medical approval date verification to the respirator fit test protocol. Had the CAPs issue been assigned a significance level of "medium" based on the requirements of 10 CFR 20.1703(c)(5), a determination of the cause(s) would have been required.

A second individual was fit tested on February 27, 2008. According to the person performing the fit test, the individual presented a laminated Medical Surveillance Certification card dated January 21, 2008, prior to the fit test. However, a copy of the Medical Surveillance Certification card was not entered into the record file. The Medical Surveillance Certification card, signed by the responsible physician, indicates the individual was medically qualified per OSHA regulations in 29 CFR 1910.134 for use of respiratory protection devices, with a single restriction listed on the reverse side of the card recommending the use of OSHA approved corrective lenses.

**E. Issues 13, 14, and 16**

The HDP documented the issues with the emergency response plan and associated procedures in CAPs Issue Report 08-302-W002 on October 28, 2008. Additionally, as discussed with the Inspection Team, the HDP is in the process of reviewing and revising plans, policies, and procedures, as necessary, to more accurately reflect current management expectations and assure all applicable requirements are addressed. Prior to the NRC inspection, revision of the emergency response plan and procedures had been initiated.

**F. Issues 15, 17, and 18**

CAPs Issue Report 07-352-W004 was initiated December 18, 2007 which documents issues regarding inadequate and missing training documentation.

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**G. Issues 19 and 20**

The flowchart in HDP Technical Basis Document HP-05-08 shows dose rate surveys, in micro-roentgen per hour ( $\mu\text{R/hr}$ ) preceding ISOCS surveys. HDP Procedure LVI-HP-50 includes requirements to locate hotspots via a  $\mu\text{R/hr}$  survey before an ISOCS survey. ISOCS measurements of piping, ducting, and equipment remaining in the building have not been identified to date. Surveys independent of ISOCS involving  $\mu\text{R/hr}$  surveys of piping, ducting, and equipment remaining in the Process Buildings have not been identified to date.

HDP has reviewed documentation of the  $\mu\text{R/hr}$  and ISOCS process from 2005, when substantial amounts of piping and ducting were being removed from the Process Buildings. Based on the following, it appears that surveys using a  $\mu\text{R/hr}$  meter or sodium iodide (2 inch by 2 inch) detector were used, followed at a much later time by the second survey, such as an ISOCS measurement.

- A document of methodologies for obtaining a second mass estimate of U-235 in ventilation ducting (NC-05-007, "Ventilation Survey Guidance," dated October 2005) states "the U-235 mass of the entire ventilation system was estimated via a radiological survey and associated activity mass-curves....The second independent U-235 mass estimate may be determined via either one of the following three methods." The three methods include ISOCS, mass curves from NISYS-NCS-1180-TR014, and mass curves from "Estimation of the U-235 Content of the Hematite Former Fuel Fabrication Facility Ventilation System Ductwork," dated August 11, 2005.
- HDP has attempted to match  $\mu\text{R/hr}$  survey records from 2005 to a corresponding ISOCS record from 2005. However, the records do not have sufficient information for a link to be established. The dates of the records are not a link since  $\mu\text{R/hr}$  surveys and ISOCS measurements could not be matched by relative closeness of the date of survey/measurement.

HDP Technical Basis Document HP-05-08 states "Another 40 of the 540 shots to date are of piping and ventilation material. The dimensions of the containers were obtained using visual inspection and measurement. The density and amount of the source region was assumed to be a 1-3 inch layer of contamination in the pipe. The density of the source region was similar to dirt." This statement is providing historical information on the contamination geometry for those 40 ISOCS measurements. This statement is not used in establishing the appropriate geometry for an ISOCS measurement. Section 8.1.5 in WI-23, "ISOCS Operation and Data Verification for Gamma Spectral Analysis," states "Analyze each sample with its correct geometry file and generate Sample Report for each item." A review of some previous ISOCS records indicated that the thickness of surface contamination within piping was not set to a 1-3 inch range, e.g., values of 0.3 and 0.4 inch thickness were used for separate 1-inch diameter pipes.

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At the time of the November 2008 NRC inspection, HDP was completing the final approvals for a new ISOCS procedure that superseded both WI-023 and HP-05-008. The new Procedure HDP-PR-HP-031 went into effect on November 24, 2008.

**H. Issue 23**

The records for the criticality alarm checks for 2005 and 2006 were located and are in Appendix B. The exact date of the de-activation of the five criticality detectors in the Process Buildings has not been determined. The alarm test procedure required two sets of criticality detectors to be tested each month. The 2006 alarm test record shows no second set of detectors being tested from March 2006 through the rest of the year. Based on these records, HDP concludes that the criticality detectors in the Process Buildings were deactivated between February 21, 2006, and March 22, 2006.

The record for the 2005 criticality alarm checks had several entries where the ink had faded. The best reproductions of the original records are included in Appendix C. In addition, personnel scrutinized the original records for 2005 to produce more legible, traced copies of the originals, which are included in Appendix D.

**I. Observation 24**

When HDP provided the summary spreadsheet to the NRC Inspection Team, HDP identified it as a summary and advised that more detailed documentation was available if desired. The additional information identifies who performed the sample analysis (e.g., contractor name or HDP staff name).

**II. NRC Expectation and Request**

HDP is expected to reflect all inspection issues and/or violations to be addressed within CAPs. NRC wants to know which CAPs issues are written to address which issues/violations, by issue/violation number used in the November 21, 2008, debriefing.

**A. HDP Additional Information on NRC Expectation and Request**

HDP has generated CAPs Issue Reports addressing each of the NRC issues and observations. NRC inspection issue and observation numbers are identified in the CAPs Issue Reports. A list of these CAPs Issue Reports is provided in Appendix E.

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**III. Documents Requested by NRC but not Available during the Week of the Inspection**

The NRC Inspection Team requested the following types of documentation that were not available by the NRC debrief on November 21, 2008.

- A. Documentation of the date when the criticality alarm system in the Process Buildings was deactivated.** Documentation of the exact date of deactivation has not been located. Please see the HDP additional information on NRC Issue 23.
- B. The criticality alarm checklist from 2005 and 2006.** Documents have been located and are included in Appendices C and D. Also, please see the HDP additional information on NRC Issue 23.
- C. HP Oversight records (Appendix A to HDP Procedure LVI-HP-12) for 2007.** Documents have been located and are included in Appendix B. Also, please see the HDP additional information on NRC Issues 6 and 22.
- D. The surveys that provide the original basis of the estimate of U-235 for and support of License Amendment 52.** These records will be addressed separately as part of in the 30-day written report that follows the NRC notification HDP made on November 19, 2008.

**IV. Appendices**

- Appendix A: Westinghouse Inter-Office Memo HEM-08-MEMO-079, Nuclear Regulatory Commission (NRC) Inspection No. 2008002 Summary – November 21, 2008 Debrief Meeting Notes
- Appendix B: Health Physics Oversight Records from 2007 that Have Been Located
- Appendix C: Criticality Alarm Checks for 2005 and 2006
- Appendix D: Criticality Alarm Checks for 2005 with Enhanced Legibility
- Appendix E: List of CAPs Issue Reports Generated from NRC Inspection Issues and Observations

**APPENDIX A**

**HEM-08-MEMO-079, Nuclear Regulatory Commission (NRC) Inspection No. 2008002  
Summary – November 21, 2008 Debrief Notes**



INTER-OFFICE MEMO

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Date: November 25, 2008 HEM-08-MEMO-079

To: G. F. Couture

From: M. C. Williams 

Cc: C. Cummin  
R. Dutton  
E. K. Hackmann  
K. Harris  
D. March  
R. Reynolds  
D. Ridenhower  
G. Rood  
M. Lambert

Subject: Nuclear Regulatory Commission (NRC) Inspection No. 2008002  
Summary - November 21, 2008 Debrief Meeting Notes

This memorandum summarizes verbal comments by NRC personnel during the debrief meeting conducted November 21, 2008 at the Westinghouse Electric Company (WEC) Hematite Decommissioning Project (HDP), as part of NRC Inspection No. 2008002. This summary represents a composite of the notes taken by multiple attendees. The attendance sheet for the debrief meeting is attached to this memorandum.

A. Attendees:

NRC Inspection Team:

- W. Snell (Inspector, NRC Region III)
- C. Lipa (Branch Chief, NRC Region III)
- B. Watson (Senior Health Physicist, NRC Headquarters)
- J. Clements (Health Physicist, NRC Headquarters)

MDNR Representative:

- T. Burgess (Environmental Specialist, Hazardous Waste Program)

**WEC-HDP Representatives:**

N. Bauman	R. Reynolds
G. Couture	D. Ridenhower
C. Cummin	G. Rood
R. Dutton	J. Tarnow
K. Hackmann	G. Uding
K. Harris	S. Welch
D. March	M. Williams
B. Matthews	

Mr. Bill Snell, NRC Regional Inspector, opened the meeting at 0832 hours, stating the meeting would be a "debriefing," rather than an "exit" meeting due to the number of outstanding issues. The exit meeting will be conducted on a future date, either by teleconference or during another site visit, after NRC has time to review its findings and conduct an NRC "Management Review."

Mr. Snell indicated the issues presented may result in Preliminary Notices of Violation or Non-Cited Violations; and issues, findings or other designations which might not result in violations.

Mr. Snell indicated potential violations relate primarily to the discovery of potential quantities of enriched Uranium in excess of the quantities estimated as a basis for submittal of LAR 52; these quantities could potentially exceed 700 grams of U-235.

NRC is evaluating HDP relative to the requirements of 10 CFR 70.24; therefore, NRC believes HDP needs to apply compensatory and other measures, in addressing the following NRC-identified issues and observations:

1. NRC stated that Criticality Alarm capability is required for any work activity in the Process Buildings, including surveys. NRC further indicated the use of electronic dosimetry would be adequate.
2. The preliminary discovery on Friday 11/14/2008, of the potential for a quantity greater than 700 grams of U-235 (SNM) in the Process Buildings, should have triggered a 24-hour report notification in accordance with 10 CFR 70.50. This report was not made within the required 24-hour period. NRC added they believe sufficient information was available at the time (Friday, November 14, 2008), to make the determination that a report was required.

3. The discovery of a potential difference in the amount of SNM in Process Buildings compared to the amount determined as a basis for License Amendment Request (LAR) 52, is considered by NRC to be a potential violation of 10 CFR 70.9, regarding the completeness and accuracy of information provided to NRC in submittal of LAR 52. Violation of 10 CFR 70.9 requires a 2-day notification, which HDP did not provide.
4. Based on 10 CFR 70, Appendix A (part b) a 24-hour report was required; HDP did not submit the report within the required time period. Later in the meeting, G. Couture (Hematite Licensing Manger) requested, and received clarification that this was a late report, rather than failing to report.
5. Observation: NRC reviewed the minutes and documentation for the four most recent meetings of the Project Oversight Committee (POC). With respect to frequency, attendance, documentation, etc., the meeting documentation was considered acceptable; however, NRC believes the POC is not meeting the oversight intent ["The Committee shall monitor D&D operations to ensure they are being performed safely and according to regulatory requirements"], as evidenced by only one action item: a change in chairmanship of the POC. (NRC referenced Section 2.5 of the site license)

NRC indicated the POC is neither effective nor independent as an oversight body; especially considering membership is mostly comprised of the managers whose programs are being monitored. [see HDP procedure PO-GM-004, "Project Oversight Committee Charter"]

6. Observation: Based on PR-HP-015 "Health Physics Oversight," NRC identified the discovery of potential additional Uranium in the Process Buildings as a missed oversight opportunity, as evidenced by the fact this event was not documented in the weekly oversight report.
7. Observation: During the site inspection, NRC observed a Hematite employee "jump" over a radiation boundary rope, as they were exiting the Process Building. HDP management present at the time made no comment to the employee regarding this behavior, and NRC believes this indicates a problem with the HDP safety culture.

Mr. Bruce Watson (Senior Health Physicist, NRC Headquarters) continued the discussion of NRC-identified issues and observations, indicating he identified 14 issues. NRC indicated their original Inspection "intent" upon arrival, was to evaluate the HDP response to previous HDP radiological safety issues, such as: contaminated forklift, contaminated documents sent off-site, etc.; including the HDP programmatic changes and the role of quality in response to these events. However, this "intent" changed with the discovery of numerous new issues.

8. Training records were inspected relative to the requirements of 10 CFR 20.1703. Records indicate a respirator fit test was performed for a contractor [2/28/08 and 3/26-27/08] without verifying the required medical examination had been performed. This is a violation of 10 CFR 20 not previously identified.
9. A CAPs QA Audit Finding (08-063-W013) identified the above failure to verify the respirator medical examination as a CAPs issue; however, the issue was closed without analyzing and correcting the root cause.
10. NRC identified that respirators were issued at HDP, without the person issuing them verifying a satisfactory respirator medical examination was performed.
11. Although the fact missing respirator medical examination records were identified previously, no action was taken.
12. The CAPs review of the respirator medical Audit Finding (08-063-W013) failed to identify it as a violation of 10 CFR 20.
13. Review of PO-GM-005, "Project Emergency Plan," (1/19/2004) lists five HDP staff members as "Emergency Response Managers", four of whom who are no longer working at the site. Additionally, there is no documentation of the qualification for these "Managers."
14. There is no documentation of Emergency Response training for Emergency Response Team members. NRC identified this as a "timeliness issue."
15. Section 2.6.1 of the site license requires site-specific written testing and practical factors (demonstration testing) for HP Techs. Documentation of this testing is deficient.
16. There is no documentation of Emergency Response training for Hematite Site Personnel. NRC believes such training should include response to spills, fire fighting and contaminated/injured personnel.
17. The site license does not authorize training exemptions/equivalencies for HP Techs; however, HDP issued training exemptions for HP Techs. There is no documentation to support the exemption/equivalency; NRC indicated such documentation should include resumes, and verification of experience years documented on resumes.
18. The Training Manager signed approval of exemptions/equivalencies two months prior to the RSO's signature approval; exemptions/equivalencies should be approved by the RSO first, then the Training Manager.

19. The ISOCS Technical Basis Document (TBD) [HP-05-008] Flow Chart requires  $\mu$ R surveys be conducted prior to performing ISOCS surveys. The discovery of elevated readings in the Process Building, indicating a potential change in the U-235 inventory, leads NRC to the conclusion that  $\mu$ R surveys were not performed in accordance with the TBD.
20. NRC interprets the ISOCS TBD to indicate the survey geometry allows 1 in. to 3 in. of U-235 in process piping; therefore, NRC concluded that surveys performed in accordance with this TBD would result in failure to correctly determine the quantity of U-235 in piping.
21. Documentation could not be found for the HDP surveys which provided the technical basis for HDP submittal of LAR 52.

Mr. John Clements (NRC Regional Inspector) discussed the following issues and observations:

22. NRC requested HP Oversight (PR-HP-015) records for two years, but received only records for the last year; it was communicated to NRC that records for the previous year could not be found in EDMS. The records reviewed did not identify the issue of potential additional U-235 in the Process Building.
23. NRC requested records of Criticality Alarm checks (PR-HP-010, "Alarm Testing," Appendix A, "Nuclear Alarm Checklist"). Records for the years 2007 and 2008 were provided; however, records for the years 2005 and 2006 could not be located/provided. NRC commented that these should be lifetime records and thus, easily retrievable. NRC commented further that some records were located in a binder in the Health Physics office rather than in EDMS.

NRC noted they could not identify a specific date when the Process Building Criticality Alarm System was de-activated.

24. Observation: NRC requested Environmental Monitoring data from plant wells 11, 15, 18, 19, 20, 29, 30 and 31. NRC observed that yearly results were provided in a summary spreadsheet, and it was not clear if the spreadsheet was an "official" document. Additionally, the spreadsheet did not indicate who performed the sample analysis.

NRC reviewed data for selected (by NRC) periods, and found the data acceptable. No issues associated with these records were identified.

25. Observation: NRC interviewed an HP tech (Yardy) and inquired about daily source checks and instrument calibration records. No issues were identified.

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Ms. Christine Lipa (NRC Region Branch Chief) indicated NRC expects all inspection issues and/or violations to be addressed within the CAPs system; furthermore, NRC wants to know which CAPs are written to address which issues/violations, by issue/violation number used in this Debrief Meeting.

Ms. Lipa asked when Criticality Alarms would be obtained and put into operation in the Process Buildings.

Mr. Snell provided a contact name, Mr. Ken O'Brien (Regional Director), for discussion of criticality issues and additional information regarding NRC's interpretation of 10 CFR 70.24.

DATE: NOVEMBER 21 2008

SHEET 1 of 2

ENTRANCE / INTERIM / EXIT MEETING ATTENDANCE RECORD

Hematite Decommissioning Project (HDP)

LOCATION: Building 110 Conference Rm.

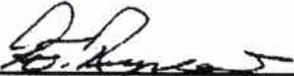
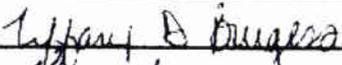
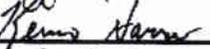
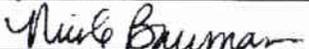
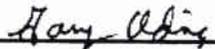
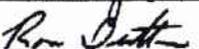
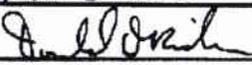
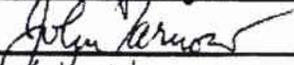
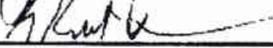
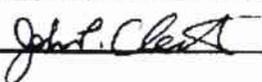
PURPOSE: NRC INSPECTION

ATTENDEES:

NAME // SIGNATURE

REPRESENTING

PHONE // EMAIL

<u>Russ Reynolds</u> 	<u>WEC</u>	<u>314-810-3314</u> <u>REYNOLDR@WESTINGHOUSE.COM</u>
<u>Tiffany Burgess</u> 	<u>INDMC</u>	<u>314-877-3251</u> <u>tiffany.burgess@indmc.gov</u>
<u>Kevin Harris</u> 	<u>WEC</u>	<u>314-810-3175</u> <u>harriske@westinghouse.com</u>
<u>D.C. Cummins</u> 	<u>ES</u>	<u>314 810 3349</u> <u>Cummins@es.westinghouse.com</u>
<u>NICOLE BAUMAN</u> 	<u>WEC</u>	<u>301-810-3381</u> <u>baumann1@westinghouse.com</u>
<u>Gary Udine</u> 	<u>WEC</u>	<u>314-810-3358</u> <u>udineg@westinghouse.com</u>
<u>SALLY WELCH</u> 	<u>WEC</u>	<u>314-810-3320</u> <u>welchsp@westinghouse.com</u>
<u>RON DUTTON</u> 	<u>WEC</u>	<u>314-810-3343</u> <u>DUTTONR@WESTINGHOUSE.COM</u>
<u>Dan Ridenhower</u> 	<u>WEC</u>	<u>314-810-3364</u> <u>ridenhow@westinghouse.com</u>
<u>Gerald Road</u> 	<u>WEC</u>	<u>314-810-3382</u> <u>roadg@westinghouse.com</u>
<u>John Tarnow</u> 	<u>Sypl</u>	<u>314-810-3341</u> <u>tarnowj@westinghouse.com</u>
<u>Kurt Hackmann</u> 	<u>WEC</u>	<u>314-810-3368</u> <u>hackmannk@westinghouse.com</u>
<u>John Clements</u> 	<u>USNRC</u>	<u>301-415-5878</u> - <u>john.clements@nrc.gov</u>

DATE: NOVEMBER, 2008

SHEET 2 of 2

ENTRANCE / INTERIM / EXIT MEETING ATTENDANCE RECORD

Hematite Decommissioning Project (HDP)

LOCATION: Building 110 Conference Rm.

PURPOSE: NRC INSPECTION

ATTENDEES:

NAME / SIGNATURE

REPRESENTING

PHONE // EMAIL

<u>CHRISTINE LIPA</u>	<u>US NRC</u>	<u>cel@nrc.gov 630-829-9834</u>
<u>William Snell</u>	<u>US NRC RTT</u>	<u>630-829-9871 William.Snell@nrc.gov</u>
<u>BRUCE WATSON</u>	<u>USNRC HQ</u>	<u>301-415-6221 bruce.watson@nrc.gov</u>
<u>Mike Williams</u>	<u>Hematite</u>	<u>314-810-3306 williamc@westinghouse.com</u>
<u>Brian Matthews</u>	<u>Hematite</u>	<u>brian.matthaus@nuclearservice.com</u>
<u>Gerard Cantore</u>	<u>WEC</u>	<u>803-649-2045 / cantore.g@westinghouse.com</u>
<u>Douglas B. MARCH</u>	<u>EJL</u>	<u>314-911-7269 / douglas.march@westinghouse.com</u>

**APPENDIX B**

**Health Physics Oversight Records from 2007 that Have Been Located**

PROCEDURE  
Health Physics Oversight

**COPY**

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

INSPECTION + CLEANING OF DRAIN PIPE

Location: BEHIND BLDGS 230 + 231 (OUTFALL OCCUPANCY) Date: 10/11/07

	Sat.	Unsat	N/A	CORRECTED
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

Comments:

EQUIPMENT WAS SURVEYED PRIOR TO  
USE IN OTHER AREAS, EQUIPMENT  
WAS SURVEYED PRIOR TO RELEASE  
FROM SITE.

KEITH HAFLEY / [Signature]  
Print Name: Sign

Date: 10/11/07

[Signature] / JASON VALTOS  
Print Name: Sign  
Reviewed by:

Date: 10/11/07

**ROUTINE SURVEILLANCE FREQUENCY**

Site: CAP GAS LINE S. FIELD Date: 9/10/07 Signature (RPM): \_\_\_\_\_

Frequency	Location/Description	Radiation Survey <sup>1</sup>	Contamination Survey <sup>2</sup>	Air Sample <sup>3</sup>
EVERY 2FT	GAS LINE IN S. FIELD BEHIND PLANT BLDG. SURVEY SOIL + EQUI. EVERY 2FT DEPTH	N/A	TOTAL	N/A
N A				

<sup>1</sup> List the requirement such as general area and/or on-contact radiation survey.  
<sup>2</sup> List the requirement such as total and/or removable contamination survey.  
<sup>3</sup> List the requirement such as breathing zone (occupational), work area (occupational), general area (occupational), and/or perimeter (non-occupational) air samples.

**Appendix A  
Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted: Characterization surveys and sampling by Energy Solutions

Location: Locations specified in Supplemental Date: Nov 05 - Dec 01, 2007

<u>Characterization For WEC Hematite Facility:</u>	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of RWP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
PPE use and condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of radiological survey data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of radiological instrumentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:  
Performed review of instrumentation response test records.  
Observations and resolutions attached.

Gerald Road Beuld Road  
Print Name Sign  
Performed by:

Date: 12/14/07  
Good 12/14/07

Charles Finkenbine  
Print Name Sign  
Reviewed by:

Date: 12/14/07

1. A date was not consistently recorded with the Person's initials when making corrections to records.

**Response:** Reviewed record and initialed and dated prior correction.

2. Initial response test for Model 2224, Ser#218861 was not marked "Pass" as previous instrumentation was on the initial test. Consider procedural clarification of this need.

**Response:** This comment was passed on to my management for possible procedural modification. The initial test was marked as "Pass".

3. The change in the responsibility for source checks performed by WEC of the instrumentation intended for use during operational coverage surveys (after the pre-use check on morning of 11/15/2007) was documented by a footnote on the source check log. This is an example of a good practice, and appropriate attention to detail.

4. The reason for source check failure of Model 2224, Ser #118240 on 11/15/2007 was appropriately noted on the source check log.

5. The post-use source check of Model 2224, Ser #118240 on 11/10/2007 does not appear to have been documented. Note that this instrument was used for operational coverage surveys, and therefore met the minimum requirements of the instrumentation program for operational surveys.

**Response:** A note was added to the Response Test Form that the post-use source check was not performed but that this instrument was used for operational coverage surveys, and therefore met the minimum requirements of the instrumentation program for operational surveys.

6. The absence of post-use source check of Model 2241-2, Ser#232763 was explained by a footnote on the source check log indicating that the instrument was not actually used on that date. This is an example of a good practice, and appropriate attention to detail.

7. The "Sat/Unsat" box was not checked for Model 2241-2, Ser#232763 on 11/26/2007. Also, it appears the order of Positions 1, 2 and 3 was reversed when recording the source check results. Note that the instrument satisfactorily passed the source check.

**Response:** The data was reviewed and the data for positions 1 and 3 were reversed on the Response Test Form and after review with the RP Technician "Sat" was entered in the "Sat/Unsat" box and the changes and initialed and dated.

8. The post-use source check of Model 2241-2, Ser #237641 on 11/08/2007 does not appear to have been documented.

**Response:** The instrument use was reviewed and this instrument was not used on 11/08/2007 and therefore a post-use source check was not required. This information was added to the Response Test Form.

9. The "Sat/Unsat" box was not checked for Model 2241-2, Ser#237641 on 11/15/2007. Note that the instrument satisfactorily passed the source check.

**Response:** The data was reviewed and a note was added to the Response Test Form that the instrument passed.

10. The date of the MDCR/MDA calculation on 11/28/2007 for Model 2929, Ser#102001 does not appear to have been recorded. Also, it does not appear that an independent review of this record was performed. Note that the instrument satisfactorily passed the source check.

**Response:** The data was reviewed and the date of the MDCR/MDA calculation was added and an independent review of this data was performed by Kurt Myers.

11. The "Sat/Unsat" box was not checked for Model 2350-1, Ser#126172 on 11/29, 11/30, and 12/01/2007.

**Response:** The data was reviewed and a note was added to the Response Test Form that the instrument satisfactorily passed the source check on 11/29, 11/30, and 12/01/2007.

12. The initial source check on 11/30/2007 following a mylar window repair was indicated by a footnote to the source check log for Model 2350-1, Ser#126172. This is an example of a good practice, and appropriate attention to detail.

13. The initial pre-use source check was recorded, however, the post-use source check of Model 2360, Ser #193776 on 11/26/2007 does not appear to have been documented. The source check was performed near the end of the day (17:00) suggesting that this instrument was not used to perform surveys on that date. Please confirm.

**Response:** The instrument use information was reviewed and no instruments were used for survey work on 11/26/2007. A note was added to the Response Test Form that this instrument was not used for surveys on 11/26/2007 and therefore a post-use source check was not required.

14. The pre-use source checks were recorded, however, the post-use source checks of Model 2360, Ser #164680 (floor monitor) on 11/26 and 11/27/2007 do not appear to have been documented. Please determine whether this instrument was used to perform surveys on these dates.

**Response:** The post-use source checks of Model 2360, Ser #164680 (floor monitor) on 11/26 and 11/27/2007 were not conducted but the instrument was not used for surveys on these days and a post source check was not required. This information was added to the Response Test Form.

15. The pre-use source check for alpha and beta radiation were recorded, however, the post-use source checks of Model 2360, Ser #164680 (floor monitor) on 11/28 for alpha radiation does not appear to have been documented. Please determine whether this instrument was used to perform surveys on that date.

**Response:** The post-use source checks of Model 2360, Ser #164680 (floor monitor) for alpha on 11/28 was not conducted but the instrument was not used for surveys on this day and a post source check was not required. This information was noted on the Response Test Form.

16. The post-use source check for alpha radiation was recorded on 11/29/2007 for Model 2360, Ser#164680 (floor monitor); however the balance of the pre and post-use source checks do not appear to have been documented. Please determine whether this instrument was used to perform surveys on these dates.

**Response:** The post-use beta source check of Model 2360, Ser #164680 (floor monitor) on 11/29/2007 was not conducted. Post source checks for alpha and beta were performed on 12/4/2007 to serve as the post source check for the day the floor monitor was used and a post source check was not completed. This information was added to the Response Test Form.

**Appendix A  
Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

WP-2007-004

Location: BLDG-256

Date: 11/6/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

Comments:

PRE-JOB , JIB-LOVERAGE + POST-JOB  
SURVEYS COMPLETED  
ALL "OK"

KEITH HAFLEY / Keith Hafley  
Print Name/Sign  
Performed by:

Date: 11/6/07 KH 11/6/07

JASON VALTOS / Jason Valtos  
Print Name/Sign  
Reviewed by:

Date: \_\_\_\_\_

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**  
HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: Building 230

Date: 11/8/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

The crew properly observed Barriers. The  
two Energy Solution Health Physics supporting  
the job were professional and diligent

Thomas Yordy / [Signature]

Print Name/Sign  
Performed by:

11/6/07  
Date:

Charles Finkenbine / [Signature]

Print Name/Sign  
Reviewed by:

12/10/07  
Date:

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

WP-2007-806

Location: 230-WAREHOUSE

Date: 11/8/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

ALL PRE-JOB, JOB-COVERAGE AND POST-JOB SURVEYS WERE <MDA / 100 CM<sup>2</sup> FOR BOTH ALPHA & BETA

KEITH HAFLEY / *[Signature]*

Print Name/Sign  
Performed by:

Date:

11/8/07

JASON VALENTIS / *[Signature]*

Print Name/Sign  
Reviewed by:

Date:

NOV 08 2007

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**  
HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: Building 230

Date: 11/9/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	[x]	[ ]	[ ]	Y/N
Review of work plan for radiological requirements	[x]	[ ]	[ ]	Y/N
Review of RWP	[x]	[ ]	[ ]	Y/N
PPE use and condition	[x]	[ ]	[ ]	Y/N
Review of radiological survey data	[x]	[ ]	[ ]	Y/N
Review of area radiological conditions	[x]	[ ]	[ ]	Y/N
Review of radiological instrumentation	[x]	[ ]	[ ]	Y/N
Oversight survey	[ ]	[ ]	[x]	Y/N

Comments:

Work crew observed all RWP requirements

RWP # RP-07-004

Thomas Yardy / [Signature]  
Print Name/Sign

Performed by:

Date:

11/9/07

Charles Finkenbire / [Signature]  
Print Name/Sign

Reviewed by:

Date:

12/10/07

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

WP-2007-005

Location: E. WOODS NEXT TO SITE Date: 11/9/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

ALL PRE-JOB, JOB-COVERAGE AND POST-JOB SURVEYS WERE SATISFACTORY

KEITH HARLEY / *[Signature]*  
Print Name/Sign  
Performed by:

11/9/07  
Date:

JASON VALDES / *[Signature]*  
Print Name/Sign  
Reviewed by:

NOV 11 2007  
Date:

4217

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: Building 230 Date: 11/12/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

The crew properly observed all RWR requirements

Thomas Yocky / [Signature]

Print Name/Sign  
Performed by:

Date: 11/12/07

Charles Finkenbine / [Signature]

Print Name/Sign  
Reviewed by:

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet  
HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Samples

Location: Process Plant

Date: 11/13/07

	Sat.	Unsat	N/A	CORRECTED
	[X]	[ ]	[ ]	Y/N
Radiological Postings and Barriers	[X]	[ ]	[ ]	Y/N
Review of work plan for radiological requirements	[X]	[ ]	[ ]	Y/N
Review of RWP	[X]	[ ]	[ ]	Y/N
PPE use and condition	[ ]	[X]	[ ]	<del>Y/N</del>
Review of radiological survey data	[X]	[ ]	[ ]	Y/N
Review of area radiological conditions	[X]	[ ]	[ ]	Y/N
Review of radiological instrumentation	[X]	[ ]	[ ]	Y/N
Oversight survey	[X]	[ ]	[ ]	Y/N

Comments:

Best source were put on in wrong order  
it was corrected at the time.  
I did a post walk over survey with a 2x2  
Location BD-39 Reading 13 uR Instrument  
S/N 237641 RWP# RP-07-003

Thomas Vady, Thomas G. E.

Print Name/Sign  
Performed by:

Date: 11/13/07

Charles Finkenbine / [Signature]

Print Name/Sign  
Reviewed by:

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization

Location: Process Plant, 230 Pad Date: 11/14/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	[X]	[ ]	[ ]	Y/N
Review of work plan for radiological requirements	[X]	[ ]	[ ]	Y/N
Review of RWP	[X]	[ ]	[ ]	Y/N
PPE use and condition	[X]	[ ]	[ ]	Y/N
Review of radiological survey data	[X]	[ ]	[ ]	Y/N
Review of area radiological conditions	[X]	[ ]	[ ]	Y/N
Review of radiological instrumentation	[X]	[ ]	[ ]	Y/N
Oversight survey	[X]	[ ]	[X] 12/3/07 TY	Y/N

Comments:

Over all a good oversight review Post  
Job Survey on NB-133 survey log # 0239007114  
Post Job Survey on PD-25 Survey log # 0239007114

Thomas Yardy / [Signature] Date: 11/14/07  
Print Name/Sign  
Performed by:

Charles Finkenbine / [Signature] Date: 12/10/07  
Print Name/Sign  
Reviewed by:

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: West Side Building 230 Date: 11/15/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 7/12/07	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 7/12/07	Y/N

Comments:

Radiological requirements all in place  
and properly used. Post Job Survey NB-117  
Survey Log # 0240 0071115

Thomas Verly/Thomas  
Print Name/Sign  
Performed by:

Date: 11/15/07

Charles Finkenbine / [Signature]  
Print Name/Sign  
Reviewed by:

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: AB-129

Date: 11/16/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

Comments:

Replace Mylar on 43-84. It is working  
satisfactory. HP Oversight Survey Log  
#02410071116

Thomas Yach / [Signature]  
Print Name/Sign

Date: 11/16/07

Performed by:

Charles Finkenbine / [Signature]  
Print Name/Sign

Date: 12/10/07

Reviewed by:

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: AB-113

Date: 11/17/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

Comments:

HP Oversight Survey was performed Survey Log # 0252 S 071117

Theodore Vachy / [Signature]  
Print Name/Sign

Date: 11/17/07

Charles Finkenbine / [Signature]  
Print Name/Sign

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

WP-2007-005 CORE SAMPLING OUTSIDE OF BLDGS

Location: WEST SIDE OF SITE OUTSIDE Date: 11/20/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

OBSERVED CREW GEOPROBE SAMPLING. CREW HAD TWO HEALTH PHYSICS TECHS SUPPORTING THE OPERATION. ALL WORK + RAD CON SUPPORT WAS SATISFACTORY.

KEITH HAFLEY / *[Signature]*  
Print Name Sign  
Performed by:

Date: 11/20/07

JASON VAUGHN / *[Signature]*  
Print Name Sign  
Reviewed by:

Date: 11/20/07

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

Supplemental Under Building Characterization Sampling

Location: Process Plant

Date: 11/21/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N

Comments:

Over Sight Walk over Survey performed with 2x2  
S/N 232763 Location BD-26 4 uR/HR,  
BD-31 4 uR/HR, BD-22 22 uR/HR,  
BD-30 5 uR/HR, and BD-33 5 uR/HR

Thomas Vardy / [Signature]  
Print Name/Sign  
Performed by:

Date: 11/21/07

Charles Finkentine / [Signature]  
Print Name/Sign  
Reviewed by:

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

WP-2007-005                      CORE SAMPLING OUTSIDE

Location: ROADWAY BETWEEN BLDGS 230+240 Date: ~~11/21/07~~ 11/21/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

SURVEY # 0270 R 071121

Comments:

2 HP TECHS PROVIDED JOB COVERAGE  
HP SUPPORT, ALL WORK WAS SATISFACTORY

KEITH HARLEY / [Signature]  
Print Name/Sign  
Performed by:

11/21/07  
Date:

JASON VALTOS / [Signature]  
Print Name/Sign  
Reviewed by:

11/21/07  
Date:

**APPENDIX A – NUCLEAR ALARM CHECKLIST**

Faded ink entries traced for readability.  
 Andrea Riter  
 12/9/08  
 Ken T. Davis  
 12/9/08

LOCATION	JANUARY		FEBRUARY		MARCH		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE			2/10/05	DM/SW/ES			Y
ERBIA					3/29/05	DM/ES/DM	Y
PELLET PLANT			2/10/05	DM/SW/ES/DA			Y
RED ROOM	1/14/05	DM/CA			3/24/05	DM/ES/DM	Y
GREEN ROOM					3/30/05 DM 3/24/05	DM/ES/DM	Y
BLDG 230	1/14/05	DM/SW					Y
AUDIBLE TEST	1/14/05	DM/SW	2/10/05	DM/DA	3/24/05	DM	

LOCATION	APRIL		MAY		JUNE		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE					6/29/05	DM/WJK	Y
ERBIA					6/29/05	DM/DA	Y
PELLET PLANT					6/29/05	DM/WJK	Y
RED ROOM			5/19/05	DM/DA/DA			Y
GREEN ROOM	4/22/05	DM/ES					Y
BLDG 230	4/22/05	DM/DM	5/19/05	DM/DA			Y
AUDIBLE TEST	4/22/05	DM/DM	5/19/05	DM	6/29/05	DM	

LOCATION	JULY		AUGUST		SEPTEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	7/20/05	DM/DS			9/19/05	DM/WJK	Y
ERBIA	7/27/05	DM/WJK/SW					Y
PELLET PLANT			8/23/05 8/15/05	DM/WJK DM/DS	9/6/05	DM/WJK	Y
RED ROOM			8/15/05	DM/DS			Y
GREEN ROOM	7/27/05	DM/WJK/SW					Y
BLDG 230					9/14/05	DM/SV/DA	Y
AUDIBLE TEST	7/27/05	DM/SW	8/15/05	DM	9/9/05	DM/WJK	

LOCATION	OCTOBER		NOVEMBER		DECEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	10/11/05	DM/WJK/SV	11/23/05	SV/DA			Y
ERBIA	10/22/05	g√					Y
PELLET PLANT					12/30/05	g√	Y
RED ROOM	10/12/05	g√	11/6/05	DM WJK			Y
GREEN ROOM	10/4/05	DM/SV/WJK DM/WJK/SV					Y/Y
BLDG 230			11/23/05	SV/DA			Y
AUDIBLE TEST	10/11/05	DM	11/6/05	DM			

**APPENDIX B  
DETECTOR ASSEMBLY AND ELECTRONIC CHASSIS CHANGEOUT LOG**

Faded ink  
entries  
traced for  
readability

Andrea  
Pitler  
12/19/08  
Kurt Dain  
12/19/08

LOCATION	DETECTOR ASSEMBLY	ELECTRONIC CHASSIS S/N	DATE CHANGED	OPERATIONAL TEST		COMMENTS
				SAT / UNSAT		
230-L	288	288	1/14/05	SAT		Removed 277/277
RR-L	283	283	1/14/05	SAT		Removed 271/271
230-R	275	275	5/19/05	SAT		Removed 271/271
RR-R	272	272	5/19/05	UNSAT	(circled)	Removed 280/280
RR-R	278	278	5/19/05	SAT		Removed 272/272
260-R	272	272	7/20/05	SAT		Removed 272/272
GR-L	282	282	7/27/05	SAT		Removed 284/284
GR-R	285	285	7/27/05	SAT		Removed 289/284
EP-R	276	276	7/27/05	SAT		Removed 287/284
PP-L	271	271	8/25/05	SAT		Removed 290/271
PP-R	277	277	8/25/05	SAT		Removed 273/268
PP-L	287	287	9/6/05	SAT		Removed 271/271
OB-L	284	284	9/9/05	SAT		Removed 281/281
230 L	279	279	9/14/05	SAT		Removed 288/288
GR-L	280	280	10/6/05	SAT		Removed 282/282
GR-R	289	289	10/6/05	SAT		Removed 285/285
RR-L	286	286	11/6/05	SAT		Removed 271/271
A						
N						

**List of CAPS Issue Reports Generated  
from NRC Inspection Issues**

<b>Number</b>	<b>Title</b>	<b>Issue Description</b>
08-331-W002	Potential to Exceed 700 g U-235	Recent characterization surveys suggest that the residual inventory of U-235 within the Process Buildings may be greater than previously understood. A potential exists the total inventory may exceed 700 grams within the buildings when considered as a whole. Also, a very small potential exists that the inventory within individual areas as previously defined, may exceed 700 grams. In the event that the mass of U-235 within an area exceeds 700 grams, criticality alarm system may be required per 10CFR70.24, depending upon the degree of enrichment. Additional characterization is needed to provide adequate information to make these determinations. This was discussed with NRC during Inspection #070-00036/2008-02 during the week beginning November 17, 2008. See items 1, 2, 3, & 4 of HEMO-08-MEMO-079 attached.
08-337-M019	Inadequate Oversight of HDP Activities -- NRC Inspection 070-00036/2008-002	Oversight activities and actions have been noted as less than adequate as documented in Item 5 of HEMO-08-MEMO-079 (attached).
08-337-M018	Health Physics Oversight - PR-HP-015 -- NRC Inspection 070-00036/2008-002	Item #6 of HEM-08-MEMO-179 (attached). Based on PR-HP-015 "Health Physics Oversight," NRC identified the discovery of potential Uranium in Process Buildings as a missed oversight opportunity as evidence by the fact this event was not documented in the weekly oversight report.
08-340-M003	Inappropriate Crossing of Radiation Boundary Rope -- NRC Inspection 070-00036/2008-002	Item #7 of HEM-08-MEMO-179 (attached) - During NRC Site Inspection, NRC observed a Hematite employee step over a radiation boundary rope as they were exiting the Process Building. HDP Management present at the time made no comment to the employee regarding this behavior, and NRC believes this indicates a problem with the HDP safety culture.
08-340-M004	Respirator Program Deficiencies-- NRC Inspection Report 070-00036/2008-002	NRC Identified deficiencies in our respirator program. Issue individual commitments for items numbers Items 8, 9, 10, & 11, & 12 of HEM-08-MEMO-079
08-337-M020	Emergency Preparedness Program Deficiencies -- NRC Inspection 070-00036/2008-002	Emergency Preparedness Program implementation is noted as less than adequate as documented in Items 13, 14, & 16 of HEM-08-MEMO-179 (attached).

**APPENDIX E**

**List of CAPs Issue Reports Generated from NRC Inspection Issues and Observations**

Number	Title	Issue Description
08-340-M007	Deficient HP Testing Program & Documentation -- NRC Inspection 070-00036/2008-002	Item 15 of HEM-08-MEMO-079 -- Section 2.6.1 of the site licenses requires specific written testing and practical factors (demonstration testing) for HP Techs. Documentation of this testing is deficient. Item 17 of HEM-08-MEMO-079 -- The site license does not authorize training exemptions/equivalencies for HP Techs; however, HDP issued training exemptions for HP Techs. There is no documentation to support the exemption/equivalency; NRC indicated such documentation should include resumes, and verification of experience years on resumes. Item 18 of HEM-08-MEMO-079 -- The Training Manager signed approval of exemptions/equivalencies two months prior to the RSO's signature approval; exemptions/equivalencies should be approved by the RSO first, then the Training Manager.
08-337-M021	Technical Basis for Submittal of LAR 52 -- NRC Inspection 070-00036/2008-002	Technical basis for submittal of LAR 52 is noted as less than adequate as documented in Items 19, 20, & 21 of HEM-08-MEMO-179 (attached).
08-340-M013	Unable to Locate HP Oversight Records for 2 Years -- NRC Inspection 070-00036/2008-002	Item # 22 of HEM-08-MEMO-079 (attached) -- NRC requested HP oversight (PR-HP-015) records for two years, but received only records for the last year; it was communicated to the NRC that records for the previous year could not be found in EDMS. The records reviewed did not identify the issue of potential additional U-235 in the Process Building.
08-340-M014	Unable to Locate 2005 & 2006 Criticality Alarm Check Records -- NRC Inspection 070-00036/2008-002	Item #23 of HEM-08-MEMO-079 (attached) -- NRC requested records of Criticality Alarm checks (PR-HP-010, "Alarm Testing", Appendix A, "Nuclear Alarm Checklist"). Records for years 2007 and 2008 were provided; however, records for years 2005 and 2006 could not be located/provided. NRC commented that these should be lifetime records and, thus, easily retrievable. NRC commented further that some records were located in a binder in the Health Physics office rather than EDMS.
08-325-W001	Level of Contamination Greater Than Expected in the Process Buildings	On Wednesday, November 20, the preliminary results of recent characterization surveys and sampling were compiled to the extent that the additional information suggested the inventory of residual mass may be higher than previously estimated. The results of previous characterization data indicate that the residual mass was approximately 250 grams of U-235.





**APPENDIX C**  
**Criticality Alarm Checks for 2005 and 2006**

## PROCEDURE Alarm Testing

### APPENDIX A - NUCLEAR ALARM CHECKLIST

LOCATION	JANUARY		FEBRUARY		MARCH		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE			2/10/05	DM/LSW/ES			Y
ERBIA					3/29/05	DM/ES/DM	Y
PELLET PLANT			2/10/05	DM/LSW/ES/DM			Y
RED ROOM	1/14/05	DM/LS			3/24/05	DM/ES/DM	Y
GREEN ROOM					3/30/05 DM 3/24/05	DM/ES/DM	Y
BLDG 230	1/14/05	DM/LS					Y
AUDIBLE TEST	1/14/05	DM/LS	2/10/05	DM/DA	3/24/05	DM	

LOCATION	APRIL		MAY		JUNE		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE					6/29/05	DM/LSK	Y
ERBIA					6/29/05	DM/DA	Y
PELLET PLANT					6/29/05	DM/LSK	Y
RED ROOM			1/14/05	DM/LS			
GREEN ROOM	4/22/05	DM/LS					
BLDG 230	4/22/05	DM/LS	1/14/05	DM/LS			
AUDIBLE TEST	4/22/05	DM/LS	1/14/05	DM/LS	6/29/05	DM	

LOCATION	JULY		AUGUST		SEPTEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	7/27/05	DM/LS			9/9/05	DM/LSK	
ERBIA	7/27/05	DM/LS					
PELLET PLANT					9/16/05	DM/LSK	Y
RED ROOM							
GREEN ROOM	7/27/05	DM/LS					
BLDG 230					9/16/05	DM/LSK	
AUDIBLE TEST	7/27/05	DM/LS			9/16/05	DM/LSK	

LOCATION	OCTOBER		NOVEMBER		DECEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	10/11/05	DM/LSK/SL					Y
ERBIA	10/22/05	g					Y
PELLET PLANT					12/30/05	g	Y
RED ROOM	10/12/05	g					Y
GREEN ROOM	10/4/05	DM/LSK/SL					Y/Y
BLDG 230							
AUDIBLE TEST	10/11/05	DM	11/6/05	DM			



## PROCEDURE Alarm Testing

### APPENDIX A - NUCLEAR ALARM CHECKLIST

LOCATION	JANUARY		FEBRUARY		MARCH		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	1/16/06	JV/DA	2/21/06	JV/BK			Y
ERBIA	1/16/06	JV/DA	2/21/06	JV/BK			Y
PELLET PLANT			2/21/06	JV/DA			Y
RED ROOM			2/21/06	JV/BK			Y
GREEN ROOM			2/21/06	JV/DA			Y
BLDG 230			2/21/06	JV/BK	3/22/06	DM/JV	Y
ALDIBLE TEST	1/16/06	N	2/21/06	JV/BK	3/22/06	DM/JV	

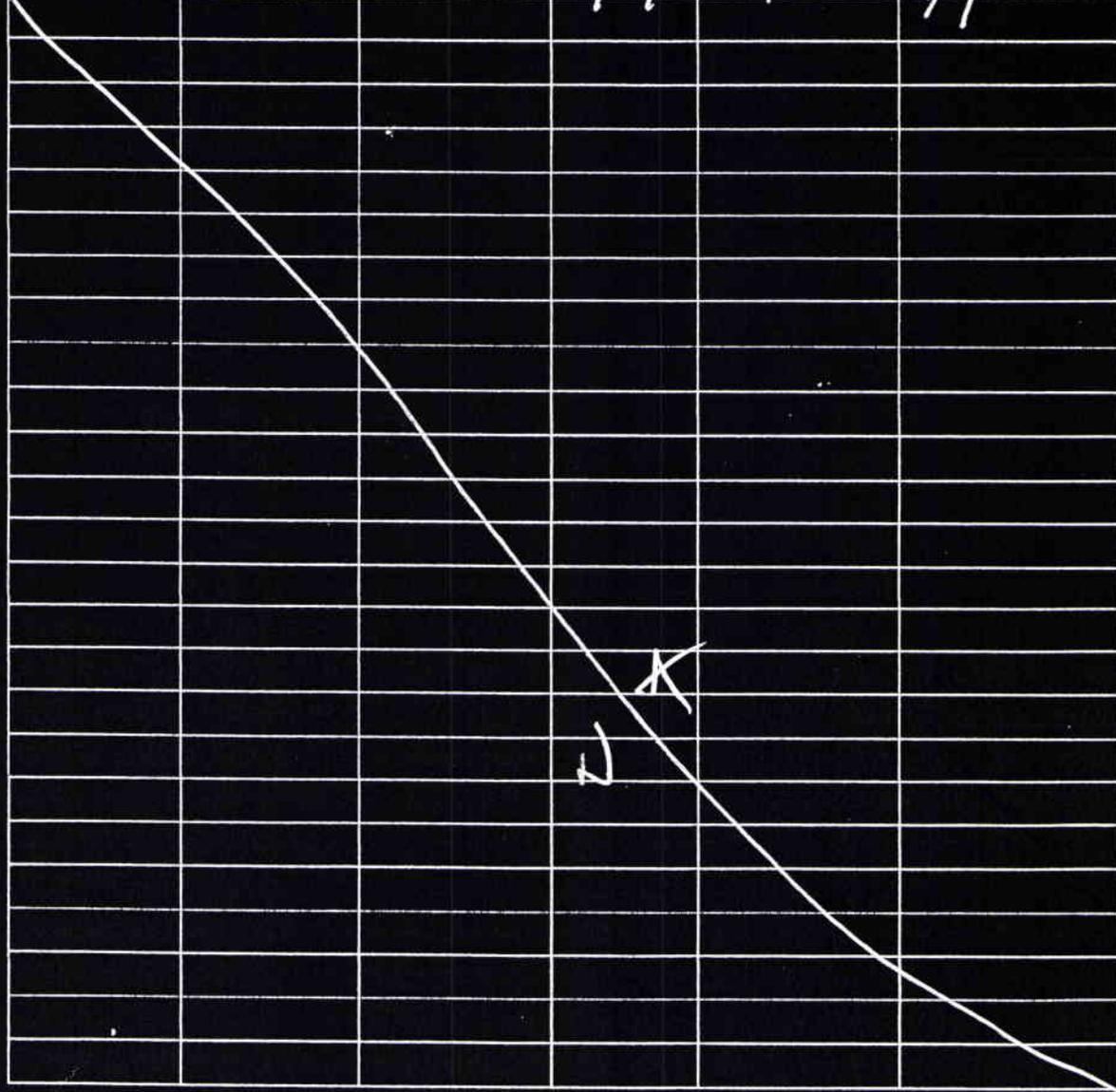
LOCATION	APRIL		MAY		JUNE		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE	/		/		/		
ERBIA	A		A		A		
PELLET PLANT	N		N		N		
RED ROOM	N		N		N		
GREEN ROOM	N		N		N		
BLDG 230			5/18/06	JV	6/29/06	JV	YES
ALDIBLE TEST			5/18/06	JV	6/29/06	JV	YES

LOCATION	JULY		AUGUST		SEPTEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE							
ERBIA							
PELLET PLANT							
RED ROOM							
GREEN ROOM							
BLDG 230	7/31/06	JV	8/29/06	JV	9/20/06	JV	yes
ALDIBLE TEST	7/31/06	JV	8/29/06	JV	9/23/06		

LOCATION	OCTOBER		NOVEMBER		DECEMBER		HAS EACH ALARM BEEN TESTED THIS QUARTER?
	DATE TESTED	INITIALS	DATE TESTED	INITIALS	DATE TESTED	INITIALS	
OXIDE							
ERBIA							
PELLET PLANT							
RED ROOM							
GREEN ROOM							
BLDG 230	10/18/06	JV	11/29/06	JV/BK	12/8/06	JV/BK	yes
ALDIBLE TEST	10/18/06	JV	11/29/06	N/BK	12/8/06	JV/BK	yes

PROCEDURE  
Alarm Testing

APPENDIX B  
DETECTOR ASSEMBLY AND ELECTRONIC CHASSIS CHANGEOUT LOG

LOCATION	DETECTOR ASSEMBLY	ELECTRONIC CHASSIS S/N	DATE CHANGED	OPERATIONAL TEST SAT / UNSAT	COMMENTS
230-L	272	272	5/18/06	SAT	JV/BK
230-R	278	278	5/18/06	SAT	JV/BK
230-L	288	288	6/29/06	SAT	JV/BK
230-L	275	275	11/29/06	SAT	JV/BK
					

**APPENDIX D**  
**Criticality Alarm Checks for 2005 with Enhanced Legibility**

## APPENDIX A RADIOLOGICAL SURVEY REPORT

Purpose of Survey : HP Oversight survey of EnergySolutions survey package HDP-B0230 11/30/07								Log Number		0300 O 071130	
Surveyed by: <i>[Signature]</i>						Reviewed By: <i>[Signature]</i>		DEC 04 2007		Date: 11/30/2007	
Instrument	Serial Number	Calibration Due	Probe	Probe Area [cm <sup>2</sup> ]	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Time
Tennelec LB	2	1/18/2008	GFPC	20.3	1.20	26.3%	24.70	3.90	38.5%	24.75	14:30
Lud 2224	125567	4/12/2008	43-89	100	2	14.4%	64.51	116	24.4%	216.48	Smear Area ~ 100 cm <sup>2</sup>
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 1218
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: Q/C check of at least 5% of EnergySolutions survey data for HDP-B0230

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Floor sample point # 8	0.00	<MDA	1.10	<MDA	1.0	<MDA	131.0	<MDA	3.60	3.80	N/A N/A
2	Floor sample point # 19	0.00	<MDA	1.10	<MDA	3.0	<MDA	183.0	274.6	3.80	3.80	N/A N/A
3	Floor sample point # 43	0.00	<MDA	0.00	<MDA	3.0	<MDA	165.0	<MDA	3.80	4.14	N/A N/A
4	Wall sample point # 28	0.00	<MDA	0.10	<MDA	1.0	<MDA	166.0	<MDA	3.80	4.00	N/A N/A
5	Wall sample point # 40	0.80	<MDA	1.10	<MDA	5.0	<MDA	137.0	<MDA	3.60	3.90	N/A N/A
6	Wall sample point # 51	0.00	<MDA	0.00	<MDA	4.0	<MDA	140.0	<MDA	3.80	4.00	N/A N/A
7	Ceiling sample point # 86	0.00	<MDA	0.10	<MDA	4.0	<MDA	121.0	<MDA	3.90	3.90	N/A N/A
8	Hepa duct sample point # 1	1.80	<MDA	0.00	<MDA	3.0	<MDA	171.0	225.4	3.60	3.90	N/A N/A
9	Hepa duct sample point # 9	0.00	<MDA	0.00	<MDA	5.0	<MDA	202.0	352.5	3.90	3.80	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

α - loose alpha  
β - loose beta  
φ - direct reading



**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey of EnergySolutions survey package HDP-B0231 11/30/07								Log Number		0302 O 071130		
Surveyed by: <i>T. Smith</i>						Reviewed By: <i>A. A.</i>						
Date: 11/30/2007						DEC 04 2007						
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/30/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	1.20	26.3%	24.70	3.90	38.5%	24.75	Time:	15:49
Lud 2224	125567	4/12/2008	43-89	100	2	14.4%	64.51	116	24.4%	216.48	Smear Area	~ 100 cm <sup>2</sup>
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1220
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: Q/C check of at least 5% or Energy solutions survey data for HDP-B0231

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		βy Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Floor sample point # 7	0.00	<MDA	0.00	<MDA	2.0	<MDA	117.0	<MDA	3.90	3.80	N/A N/A
2	Floor sample point # 22	0.00	<MDA	2.10	<MDA	2.0	<MDA	122.0	<MDA	4.10	4.00	N/A N/A
3	Floor sample point # 37	0.00	<MDA	0.00	<MDA	2.0	<MDA	141.0	<MDA	3.80	3.80	N/A N/A
4	Wall sample point # 8	1.80	<MDA	3.10	<MDA	6.0	<MDA	199.0	340.2	3.60	3.80	N/A N/A
5	Wall sample point # 17	0.00	<MDA	0.00	<MDA	3.0	<MDA	181.0	266.4	3.80	3.90	N/A N/A
6	Overhead sample point # 10	2.80	<MDA	1.10	<MDA	2.0	<MDA	150.0	<MDA	3.80	4.00	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

α - loose alpha  
β - loose beta  
φ - direct reading























**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

With Map

Purpose of Survey : <b>Characterization of Bldg. 230 roof and West Vault roof</b>							Log Number		0257 S 071120			
Surveyed by: <i>[Signature]</i>					Reviewed By: <i>[Signature]</i>			11/20/07				
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/20/2007
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Time:	10:12
Lud 2224	125567	4/12/2008	43-89	100	1	14.4%	51.13	115	24.4%	215.60	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	User Entry
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: N/A

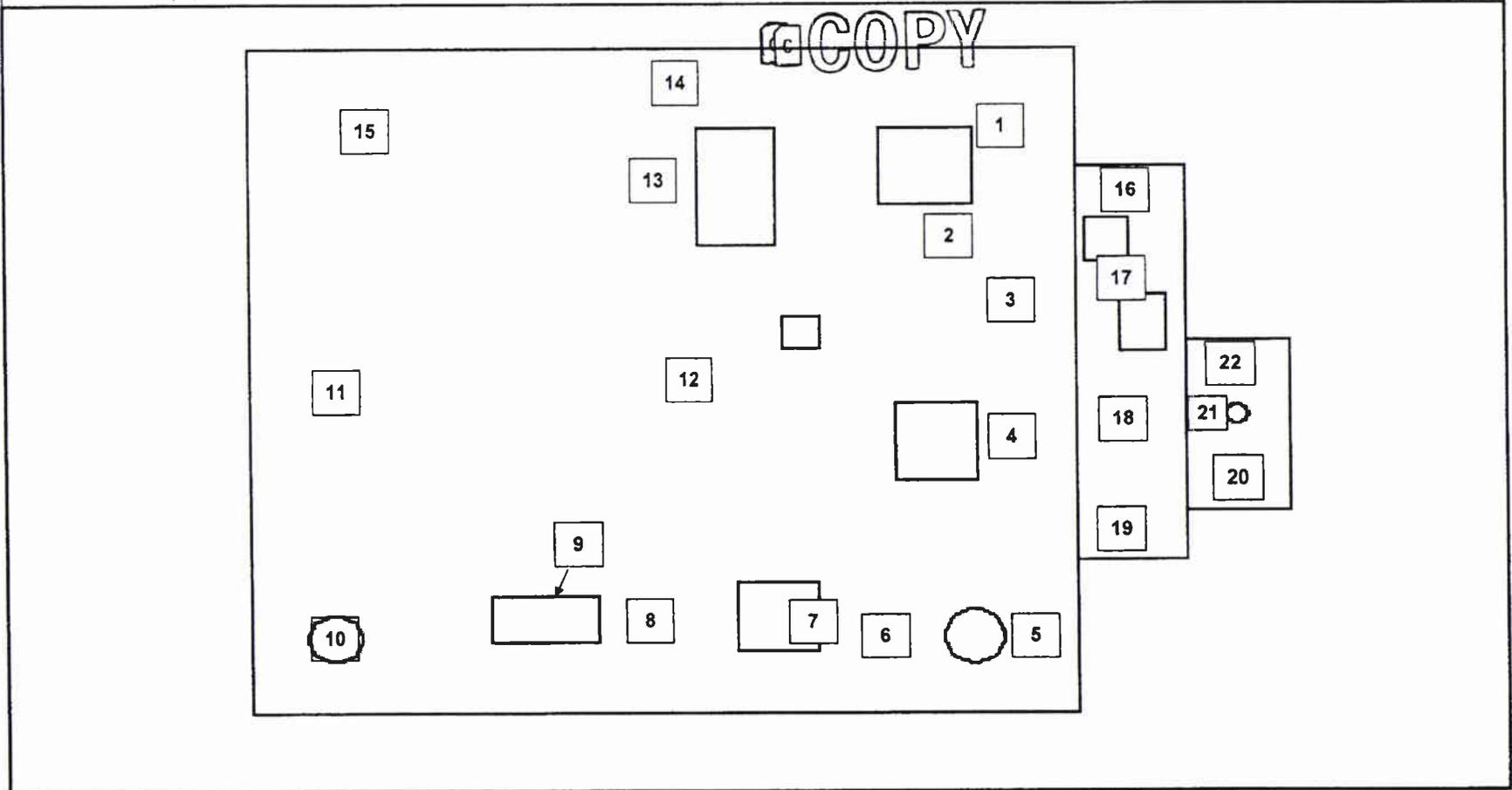
#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen. Area $\mu$ R/hr	
21	West Vault roof next to round vent	N/A	N/A	N/A	N/A	74.0	506.9	278.0	668.0	N/A	N/A	N/A N/A
22	West Vault roof north end	N/A	N/A	N/A	N/A	61.0	416.7	227.0	459.0	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

$\alpha$  - loose alpha  
 $\beta$  - loose beta  
 $\phi$  - direct reading

APPENDIX A  
RADIOLOGICAL SURVEY REPORT (Map)

Purpose of Survey : Characterization of Bldg. 230 roof and West Vault roof								Log Number		0257 S 071120	
Surveyed by: <i>Heath Smith</i>								Reviewed By: <i>CAJ JLL</i> 11/20/07			
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11/20/2007
Lud 2224	125567	4/12/2008	43-89	100	1	14.4%	51.13	115	24.4%	215.60	Time: 10:12
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # User Entry
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: N/A







**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP oversight survey 11/21/07							Log Number		0270 R 071121			
Surveyed by: <i>[Signature]</i>					Reviewed By: <i>[Signature]</i> NOV 23 2007							
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff	Beta MDA (dpm)	Date:	11/21/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	0.30	26.6%	17.26	2.20	38.2%	20.48	Time:	10:39
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1051
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	RP-07-004
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: Duplicate smear survey of equip, floor and samples from sample location BD-30

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen. Area $\mu$ R/hr	
1	Equipment	0.70	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
2	Equipment	1.70	<MDA	0.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
3	Equipment	0.70	<MDA	0.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
4	Equipment	0.70	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
5	Equipment	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
6	Floor	0.70	<MDA	0.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
7	Floor	1.70	<MDA	1.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
8	Floor	2.70	<MDA	2.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
9	Floor	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10	Floor	0.00	<MDA	2.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
11	Samples	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
12	Samples	0.70	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
13	Samples	0.70	<MDA	1.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
14	Samples	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
15	Samples	0.00	<MDA	0.80	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey 11/26/07							Log Number		0271 R 071126			
Surveyed by: <i>Kevin [Signature]</i>							Reviewed By: <i>[Signature]</i> NOV 28 2007					
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/26/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	1.00	26.2%	23.46	3.80	38.0%	24.79	Time:	14:14
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1082
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: Replicate smear survey of equipment and floor from sample location BD-32

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen. Area $\mu$ R/hr	
1	Equipment	0.00	<MDA	1.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
2	Equipment	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
3	Equipment	1.00	<MDA	0.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
4	Equipment	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
5	Equipment	0.00	<MDA	0.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
6	Floor	0.00	<MDA	1.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
7	Floor	1.00	<MDA	0.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
8	Floor	0.00	<MDA	0.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
9	Floor	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10	Floor	0.00	<MDA	3.20	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

$\alpha$  - loose alpha  
 $\beta$  - loose beta  
 $\phi$  - direct reading

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

<b>Purpose of Survey :</b> Bldg. 230 Men's and Women's locker room rad line benches								<b>Log Number</b>		<b>0277 S 071129</b>		
<b>Surveyed by:</b> <i>[Signature]</i>						<b>Reviewed By:</b> <i>[Signature]</i> <b>NOV 29 2007</b>						
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/29/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	0.90	26.1%	22.87	2.30	38.1%	20.83	Time:	15:08
Lud 2224	218861	1/11/2008	43-89	100	1	14.7%	50.09	130	20.3%	274.68	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1165
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: N/A

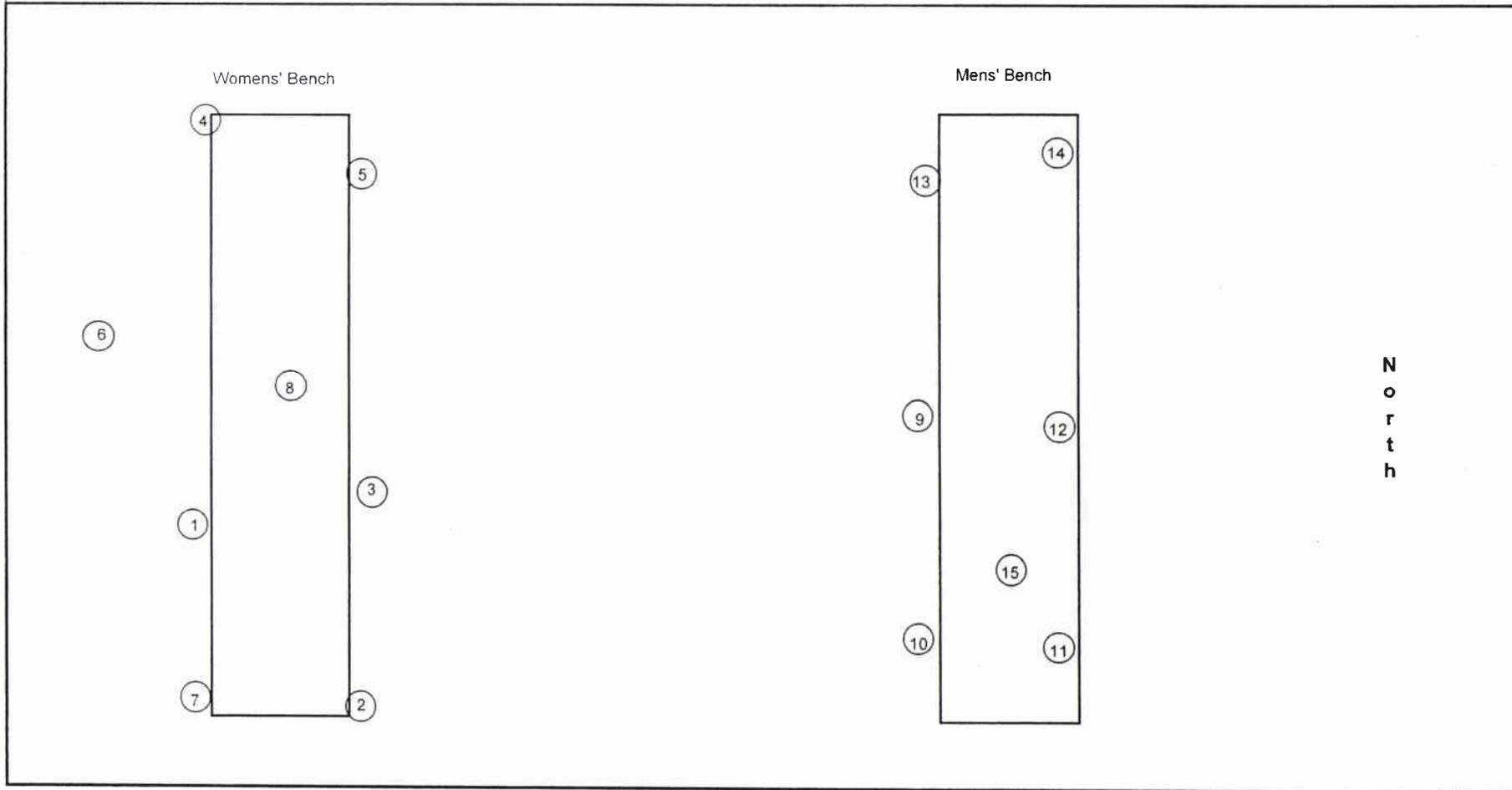
#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen. Area $\mu$ R/hr	
1	Women's locker room location # 1	33.10	126.6	26.70	70.1	456.0	3095.2	1602.0	7251.2	N/A	N/A	1 $\phi\beta$
2	Women's locker room location # 2	3.10	<MDA	3.70	<MDA	127.0	857.1	1834.0	8394.1	N/A	N/A	1 $\phi\beta$
3	Women's locker room location # 3	11.10	42.5	12.70	33.3	111.0	748.3	362.0	1142.9	N/A	N/A	N/A N/A
4	Women's locker room location # 4	4.10	<MDA	4.70	<MDA	317.0	2149.7	1209.0	5315.3	N/A	N/A	1 $\phi\beta$
5	Women's locker room location # 5	4.10	<MDA	3.70	<MDA	84.0	564.6	285.0	763.5	N/A	N/A	N/A N/A
6	Women's locker room location # 6	2.10	<MDA	2.70	<MDA	14.0	88.4	129.0	<MDA	N/A	N/A	N/A N/A
7	Women's locker room location # 7	2.10	<MDA	9.70	25.5	399.0	2707.5	1692.0	7694.6	N/A	N/A	1 $\phi\beta$
8	Women's locker room location # 8	1.10	<MDA	3.70	<MDA	10.0	61.2	117.0	<MDA	N/A	N/A	N/A N/A
9	Men's locker room location # 9	46.10	176.4	56.70	148.8	965.0	6557.8	3209.0	15167.5	N/A	N/A	3 $\phi\beta$
10	Men's locker room location # 10	17.10	65.4	62.70	164.5	452.0	3068.0	2402.0	11192.1	N/A	N/A	2 $\phi\beta$
11	Men's locker room location # 11	0.10	<MDA	0.70	<MDA	227.0	1537.4	753.0	3069.0	N/A	N/A	N/A N/A
12	Men's locker room location # 12	6.10	23.3	9.70	25.5	76.0	510.2	200.0	344.8	N/A	N/A	N/A N/A
13	Men's locker room location # 13	12.10	46.3	16.70	43.8	316.0	2142.9	1077.0	4665.0	N/A	N/A	N/A N/A
14	Men's locker room location # 14	1.10	<MDA	0.70	<MDA	64.0	428.6	1025.0	4408.9	N/A	N/A	N/A N/A
15	Men's locker room location # 15	0.10	<MDA	5.70	<MDA	10.0	61.2	107.0	<MDA	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

APPENDIX A  
RADIOLOGICAL SURVEY REPORT (Map)

<b>Purpose of Survey :</b> Bldg. 239 Men's And Women's locker room rad line benches								<b>Log Number</b>		0277 S 071129		
<b>Surveyed by:</b> <i>Thomas Smith</i>						<b>Reviewed By:</b> <i>[Signature]</i>			NOV 30 2007			
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/29/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	0.90	26.1%	22.87	2.30	38.1%	20.83	Time:	15:08
Lud 2224	218861	1/11/2008	43-89	100	1	14.7%	50.09	130	20.3%	274.68	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1165
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

COPY

Remarks: N/A



**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey Bldg 230 roof top 11/30/07								Log Number		0279 R 071130		
Surveyed by: <i>Scott HAZ</i>				Reviewed By: <i>[Signature]</i>				DEC 04 2007				
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgrd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgrd	Beta Eff.	Beta MDA (dpm)	Date:	11/30/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	1.10	26.0%	24.31	3.70	38.2%	24.45	Time:	12:30
Lud 2224	125567	4/12/2008	43-89	100	8	14.4%	110.21	115	24.4%	215.60	Smear Area	~ 100 cm <sup>2</sup>
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1171
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: Surface area was scanned with a 43-89 alpha / beta detector (approx. 1 meter around each sample point). High reading was recorded. See attached survey locations.

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Survey point # 1	0.90	<MDA	5.30	<MDA	57.0	340.3	215.0	409.8	4.00	4.00	N/A N/A
2	Survey point # 2	1.90	<MDA	10.30	27.0	50.0	291.7	173.0	237.7	4.00	4.00	N/A N/A
3	Survey point # 3	0.90	<MDA	6.30	<MDA	66.0	402.8	185.0	286.9	3.80	3.80	N/A N/A
4	Survey point # 4	1.90	<MDA	0.00	<MDA	47.0	270.8	148.0	<MDA	4.00	4.50	N/A N/A
5	Survey point # 5	2.90	<MDA	0.30	<MDA	43.0	243.1	172.0	233.6	3.80	3.80	N/A N/A
6	Survey point # 6	0.00	<MDA	0.30	<MDA	68.0	416.7	224.0	446.7	3.70	3.60	N/A N/A
7	Survey point # 7	0.90	<MDA	0.30	<MDA	44.0	250.0	173.0	237.7	3.80	3.90	N/A N/A
8	Survey point # 8	2.90	<MDA	3.30	<MDA	46.0	263.9	186.0	291.0	3.60	3.80	N/A N/A
9	Survey point # 9	0.00	<MDA	4.30	<MDA	42.0	236.1	171.0	229.5	4.00	3.90	N/A N/A
10	Survey point # 10	0.00	<MDA	0.30	<MDA	52.0	305.6	180.0	266.4	3.80	3.80	N/A N/A
11	Survey point # 11	3.90	<MDA	3.30	<MDA	46.0	263.9	181.0	270.5	4.30	4.00	N/A N/A
12	Survey point # 12	1.90	<MDA	2.30	<MDA	44.0	250.0	203.0	360.7	3.60	4.00	N/A N/A
13	Survey point # 13	1.90	<MDA	4.30	<MDA	62.0	375.0	212.0	397.5	4.00	3.70	N/A N/A
14	Survey point # 14	2.90	<MDA	3.30	<MDA	51.0	298.6	214.0	405.7	4.30	4.30	N/A N/A
15	Survey point # 15	1.90	<MDA	1.30	<MDA	51.0	298.6	206.0	373.0	3.80	3.80	N/A N/A
16	Survey point # 16	0.00	<MDA	3.30	<MDA	49.0	284.7	168.0	217.2	3.90	4.10	N/A N/A
17	Survey point # 17	1.90	<MDA	4.30	<MDA	26.0	125.0	249.0	549.2	3.10	3.50	N/A N/A
18	Survey point # 18	0.00	<MDA	1.30	<MDA	56.0	333.3	189.0	303.3	3.60	3.60	N/A N/A
19	Survey point # 19	0.00	<MDA	0.00	<MDA	54.0	319.4	221.0	434.4	3.70	3.80	N/A N/A
20	Survey point # 20	0.00	<MDA	3.30	<MDA	60.0	361.1	199.0	344.3	4.10	4.10	N/A N/A

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey Bldg 230 roof top 11/30/07								Log Number		0279 R 071130	
Surveyed by: <i>Keith Hoff</i>						Reviewed By: <i>[Signature]</i> DEC 04 2007					
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha MDA (dpm)	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
Tennelec LB	2	1/18/2008	GFPC	20.3	1.10	26.0%	24.31	3.70	38.2%	24.45	11/30/2007
Lud 2224	125567	4/12/2008	43-89	100	8	14.4%	110.21	115	24.4%	215.60	Time: 12:30
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 1171
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: Surface area was scanned with a 43-89 alpha / beta detector (approx. 1 meter around each sample point). High reading was recorded. See attached survey locations.

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen. Area $\mu$ R/hr	
21	Survey point # 21	0.00	<MDA	0.00	<MDA	50.0	291.7	192.0	315.6	4.10	3.90	N/A N/A
22	Survey point # 22	0.00	<MDA	1.30	<MDA	42.0	236.1	165.0	<MDA	3.90	3.90	N/A N/A
23	Survey point # 23	0.00	<MDA	7.30	<MDA	53.0	312.5	148.0	<MDA	3.80	4.00	N/A N/A
24	Survey point # 24	0.00	<MDA	0.00	<MDA	53.0	312.5	202.0	356.6	3.90	3.90	N/A N/A
25	Survey point # 25	0.90	<MDA	2.30	<MDA	48.0	277.8	202.0	356.6	3.70	4.00	N/A N/A
26	Survey point # 26	0.00	<MDA	3.30	<MDA	47.0	270.8	182.0	274.6	3.80	3.80	N/A N/A
27	Survey point # 27	1.90	<MDA	3.30	<MDA	56.0	333.3	222.0	438.5	3.90	3.70	N/A N/A
28	Survey point # 28	0.00	<MDA	4.30	<MDA	52.0	305.6	194.0	323.8	4.20	4.20	N/A N/A
29	Survey point # 29	0.00	<MDA	3.30	<MDA	48.0	277.8	203.0	360.7	4.10	4.00	N/A N/A
30	Survey point # 30	3.90	<MDA	6.30	<MDA	56.0	333.3	206.0	373.0	4.00	3.60	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

APPENDIX A  
RADIOLOGICAL SURVEY REPORT (Map)

Purpose of Survey : HP Oversight survey Bldg 230 roof top 11/30/07								Log Number		0279 R 071130	
Surveyed by: <i>Beck JH</i>								Reviewed By: <i>[Signature]</i>		DEC 04 2007	
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
Tennelec LB	2	-1/18/2008	GFPC	20.3	1.10	27.8%	14.3	3.70	38.2%	24.45	11/30/2007
Lud 2224	125567	4/12/2008	43-89	100	8	14.7%	110.21	115	24.4%	215.60	Time: 12:30
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 1171
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: Surface area was scanned with a 43-89 alpha beta meter approx. 1 meter around each sample point. High reading was recorded.

**Survey Package B-0230  
Building 230 Class 3 Roof**

Survey Point	Survey Location		SURVEY POINT	SURVEY LOCATION		
	X (ft)	Y (ft)		X(ft)	Y(ft)	
	X (East:West)	190.0	feet	13	169	84
	Y (North:South)	200	feet	14	129	8
				15	57	187
				16	142	57
				17	177	171
				18	81	81
				19	148	187
				20	142	48
				21	12	112
				22	55	59
				23	142	148
				24	62	161
				25	91	164
				26	149	142
				27	85	190
				28	187	36
				29	155	74
				30	109	21

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey 11/27/07							Log Number		0281 R 071127		
Surveyed by: <i>[Signature]</i>							Reviewed By: <i>[Signature]</i> 11/27/03				
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
Tennelec LB	2	1/18/2008	GFPC	20.3	1.30	26.2%	25.33	1.60	38.2%	18.50	11/27/2007
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Time: 11:36
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 1123
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: RP-07-003
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: Replicate smear survey of equip. and floor from sample point BD-17

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Equipment	0.00	<MDA	2.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
2	Equipment	0.00	<MDA	2.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
3	Equipment	0.00	<MDA	1.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
4	Equipment	0.00	<MDA	2.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
5	Equipment	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
6	Floor	0.00	<MDA	1.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
7	Floor	0.00	<MDA	0.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
8	Floor	0.00	<MDA	1.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
9	Floor	0.00	<MDA	2.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10	Floor	0.00	<MDA	3.40	<MDA	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

α - loose alpha  
β - loose beta  
♦ - direct reading

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey of EnergySolutions survey package HDP-C0110 11/30/07								Log Number		0298 O 071130	
Surveyed by: <i>Kurt Hill</i>						Reviewed By: <i>[Signature]</i> DEC 04 2007					
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Efgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Efgd	Beta Eff	Beta MDA (dpm)	Date:
Tennelec LB	2	1/18/2008	GFPC	20.3	1.20	26.3%	24.70	3.90	38.5%	24.75	11/30/2007
Lud 2224	125567	4/12/2008	43-89	100	2	14.4%	64.51	116	24.4%	216.48	Time: 12:07
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 1216
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: Q/C check of at least 5% of EnergySolutions survey data for HDP-C0110

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		β <sub>γ</sub> Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Floor sample point # 6	0.80	<MDA	0.10	<MDA	2.0	<MDA	166.0	<MDA	4.00	4.00	N/A N/A
2	Floor sample point # 36	0.00	<MDA	0.10	<MDA	0.0	<MDA	111.0	<MDA	4.00	4.00	N/A N/A
3	Wall sample point # 17	0.00	<MDA	0.00	<MDA	0.0	<MDA	123.0	<MDA	3.90	3.80	N/A N/A
4	Wall sample point # 22	0.00	<MDA	0.00	<MDA	3.0	<MDA	146.0	<MDA	3.80	4.10	N/A N/A
5	Roof sample point # 2	0.00	<MDA	0.00	<MDA	12.0	69.4	247.0	536.9	4.00	4.10	N/A N/A
6	Roof sample point # 7	0.00	<MDA	0.00	<MDA	8.0	<MDA	202.0	352.5	4.20	4.30	N/A N/A
7	Roof sample point # 20	0.00	<MDA	0.00	<MDA	5.0	<MDA	211.0	389.3	4.30	4.30	N/A N/A
8	Roof sample point # 27	0.00	<MDA	1.10	<MDA	7.0	<MDA	199.0	340.2	4.30	4.30	N/A N/A
9	Roof sample point # 34	0.00	<MDA	0.10	<MDA	6.0	<MDA	228.0	459.0	4.30	4.20	N/A N/A
10	Exterior wall sample point # 3	0.00	<MDA	2.10	<MDA	2.0	<MDA	202.0	352.5	4.10	4.10	N/A N/A
11	Exterior wall sample point # 16	1.80	<MDA	0.10	<MDA	5.0	<MDA	149.0	<MDA	4.00	4.30	N/A N/A
12	Exterior wall sample point # 20	0.00	<MDA	1.10	<MDA	3.0	<MDA	127.0	<MDA	3.80	4.10	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

α - loose alpha  
β - loose beta  
♠ - direct reading

**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

Purpose of Survey : HP Oversight survey of EnergySolutions survey package HDP-A0230 11/30/07							Log Number		0299 O 071130			
Surveyed by: <i>Keith Hoff</i>							Reviewed By: <i>[Signature]</i>		DEC 04 2007			
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff	Beta MDA (dpm)	Date:	11/30/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	1.20	26.3%	24.70	3.90	38.5%	24.75	Time:	13:21
Lud 2224	125567	4/12/2008	43-89	100	2	14.4%	64.51	116	24.4%	216.48	Smear Area	~ 100 cm <sup>2</sup>
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	1217
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: Q/C check of at least 5% of EnergySolutions survey data for HDP-A0230

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Unit
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact $\mu$ R/hr	Gen Area $\mu$ R/hr	
1	Floor sample point # 29	0.00	<MDA	3.10	<MDA	5.0	<MDA	166.0	<MDA	3.50	3.70	N/A N/A
2	Floor sample point # 41	0.00	<MDA	1.10	<MDA	3.0	<MDA	181.0	266.4	3.50	3.50	N/A N/A
3	Floor sample point # 52	0.80	<MDA	0.10	<MDA	3.0	<MDA	206.0	368.9	3.80	3.70	N/A N/A
4	Wall sample point # 14	0.00	<MDA	0.10	<MDA	8.0	<MDA	266.0	614.8	3.70	3.50	N/A N/A
5	Wall sample point # 32	0.00	<MDA	0.00	<MDA	2.0	<MDA	202.0	352.5	3.70	3.80	N/A N/A
6	Ceiling sample point # 11	1.80	<MDA	1.10	<MDA	1.0	<MDA	118.0	<MDA	3.50	3.80	N/A N/A
7	Ceiling sample point # 13	0.00	<MDA	0.00	<MDA	3.0	<MDA	227.0	454.9	3.80	3.70	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

$\alpha$  - loose alpha  
 $\beta$  - loose beta  
 $\phi$  - direct reading

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

WP-2007-006-01

CORE SAMPLING

Location: PROCESS BLDGS

Date: 11/26/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

SURVEY # 0271

Comments:

OB SERVED GEOPROBE SAMPLING OPERATION.

ALL WORK WAS SATISFACTORY. 2 ENERGY SOLUTION HEALTH PHYSICS TECHS SUPPORTED THE OPERATION.

KEITH HAFLEY / [Signature]  
Print Name/Sign  
Performed by:

11/26/07  
Date:

Charles Finkenbine / [Signature]  
Print Name/Sign  
Reviewed by:

12/10/07  
Date:

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

WP-2007-006-01

EQUIPMENT DECON & SURVEY

Location: PROCESS BLDG

Date: 11/27/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N

RELEASE SURVEY #0262

Comments:

EQUIPMENT WAS DECONNED & SURVEYED FOR RELEASE. ALL SURVEYS SATISFACTORY

KEITH HAFLEY / *Keith Hf*  
Print Name/Sign  
Performed by:

Date: 11/27/07

Charles Finkenbine / *CF*  
Print Name/Sign  
Reviewed by:

Date: 12/10/07

PROCEDURE  
Health Physics Oversight

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

**COPY**

ENERGY SOLUTIONS BUILDING CHARACTERIZATION SURVEYS

Location: BLDG 230

Date: 11/30/07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	[ ]	[ ]	<input checked="" type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
Review of RWP	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N
Oversight survey <u>SURVEY # 0279</u>	<input checked="" type="checkbox"/>	[ ]	[ ]	Y/N

Comments:

OBSERVED TWO ENERGY SOLUTIONS  
HP TECHS PERFORMING CHARACTERIZATION  
SURVEYS. ALL WORK WAS SATISFACTORY

KEITH HAFLEY / Keith Hafley  
Print Name/Sign

Date: 11/30/07

Performed by:  
JASON VALDES / Jason Valdes  
Print Name/Sign

Date: 12/3/07

Appendix A  
Health Physics Oversight Record Sheet

HP Activity Being Performed/Oversighted:

Intracra Groundwater Monitoring sampling Quarterly

Location: Process plant

Date: 12-3-07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

Equipment that went into process plant for  
sampling was surveyed out! Survey log #  
0282 RC71203  
RWP# RP-07-005

Thomas Yorky / [Signature]  
Print Name Sign

Date: 12-3-07

Performed by:  
Charles Finkenbine / [Signature]  
Print Name Sign

Date: 12/10/07

Reviewed by:

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

*Enterium Glenwater Monitoring Quarterly Sampling*

Location: site Date: 12-4-07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of RWP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

Sampling took place in nonradiological control

Access

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Thomas Yuddy / [Signature]  
Print Name: Sign

Date: 12-4-07

Performed by:  
Charles Finkenbine / [Signature]  
Print Name: Sign

Date: 12/10/07

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

Interior Groundwater Monitoring Quarterly Sampling

Location: Site

Date: 12-5-07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of RWP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

Sampling took place in near radiological control areas

Thomas York / John York  
Print Name Sign

12-5-07  
Date:

Performed by:  
Charles Finkenbine / [Signature]  
Print Name Sign

12/10/07  
Date:

Reviewed by:

Date:

PROCEDURE  
Health Physics Oversight

**Appendix A**  
**Health Physics Oversight Record Sheet**

HP Activity Being Performed/Oversighted:

Intrinsic Groundwater Monitoring Quarterly Sampling

Location: Site

Date: 12-6-07

	Sat.	Unsat	N/A	CORRECTED
Radiological Postings and Barriers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of work plan for radiological requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of RWP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N
PPE use and condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological survey data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of area radiological conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Review of radiological instrumentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y/N
Oversight survey	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Y/N

Comments:

Two wells pump dry inside the control area on 12-4-07. I was with the crew on this sampling, sure that the Truck had LAWS on all wheels coming out of control area all results < MDA. Sampling equipment was placed on masslin. On 12-6-07

Thomas Yardy / Thomas Yardy  
Print Name/Sign

Performed by:

Date: 12-6-07

Charles Finkenbine / C.F.  
Print Name/Sign

Reviewed by:

Date: 12-10-07

APPENDIX A  
RADIOLOGICAL SURVEY REPORT

Purpose of Survey : HP Oversight Duplicate Survey WP-2007-006 Location BD-25 11/14/07								Log Number		0238 O 071114	
Surveyed by: <i>[Signature]</i>						Reviewed By: <i>[Signature]</i>					
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date: 11/16/2007
Tennelec LB	2	1/18/2008	GFPC	20.3	1.10	26.5%	23.88	2.90	38.4%	22.33	Time: 10:08
Lud 2241-2	237641	3/25/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 849
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

COPY

Remarks: Instrument #237641 Model 2241-2												
#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Green CPM	DPM / 100cm <sup>2</sup>	Green CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Sample tube	0.00	<MDA	1.10	<MDA	N/A	N/A	N/A	N/A	5.00	N/A	N/A N/A
2	Sample tube	0.90	<MDA	0.10	<MDA	N/A	N/A	N/A	N/A	5.00	N/A	N/A N/A
3	Sample tube	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	5.00	N/A	N/A N/A
4	Sample tube	0.90	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	5.00	N/A	N/A N/A
5	Sample tube	0.00	<MDA	3.10	<MDA	N/A	N/A	N/A	N/A	5.00	N/A	N/A N/A
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N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
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N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
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N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A

α - loose alpha  
β - loose beta  
φ - direct reading

APPENDIX A  
RADIOLOGICAL SURVEY REPORT

Purpose of Survey : HP Oversight Survey WP-2007-006 Location NB-133 11/14/07							Log Number		0239 O 071114		
Surveyed by: <i>[Signature]</i>							Reviewed By: <i>[Signature]</i>				
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
Tennelec LB	2	1/18/2008	GFPC	20.3	1.10	26.5%	23.88	2.90	38.4%	22.33	11/14/2007
Lud 2241-2	232763	2/16/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Time: 18:06
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 867
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

COPY

Remarks: N/A

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose-Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Sample tube	1.90	<MDA	0.10	<MDA	N/A	N/A	N/A	N/A	11.00	N/A	N/A N/A
2	Sample tube	0.00	<MDA	1.10	<MDA	N/A	N/A	N/A	N/A	11.00	N/A	N/A N/A
3	Sample tube	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	11.00	N/A	N/A N/A
4	Sample tube	0.00	<MDA	0.10	<MDA	N/A	N/A	N/A	N/A	11.00	N/A	N/A N/A
5	Sample tube	0.00	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	11.00	N/A	N/A N/A
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α - loose alpha  
β - loose beta  
φ - direct reading



APPENDIX A  
RADIOLOGICAL SURVEY REPORT

Purpose of Survey : HP Oversight Survey WP-2007-006 Location NB-129 11/16/07							Log Number		0241 O 071116		
Surveyed by: <i>[Signature]</i>							Reviewed By: <i>[Signature]</i>				
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Eff <sup>d</sup>	Alpha Efficiency	Alpha MDA (dpm)	Beta Eff <sup>d</sup>	Beta Eff.	Beta MDA (dpm)	Date:
Tennelec LB	2	1/18/2008	GFPC	20.3	0.80	26.3%	22.05	2.70	38.3%	21.84	11/16/2007
Lud 2241-2	237641	3/25/2008	44-10	2 x 2 NaI	N/A	N/A	N/A	N/A	N/A	N/A	Time: 11:19
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # 922
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: N/A

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Sample tube	0.00	<MDA	1.30	<MDA	N/A	N/A	N/A	N/A	9.00	N/A	N/A N/A
2	Sample tube	1.20	<MDA	1.30	<MDA	N/A	N/A	N/A	N/A	9.00	N/A	N/A N/A
3	Sample tube	0.00	<MDA	2.30	<MDA	N/A	N/A	N/A	N/A	9.00	N/A	N/A N/A
4	Sample tube	3.20	<MDA	3.30	<MDA	N/A	N/A	N/A	N/A	9.00	N/A	N/A N/A
5	Sample tube	0.20	<MDA	0.00	<MDA	N/A	N/A	N/A	N/A	9.00	N/A	N/A N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
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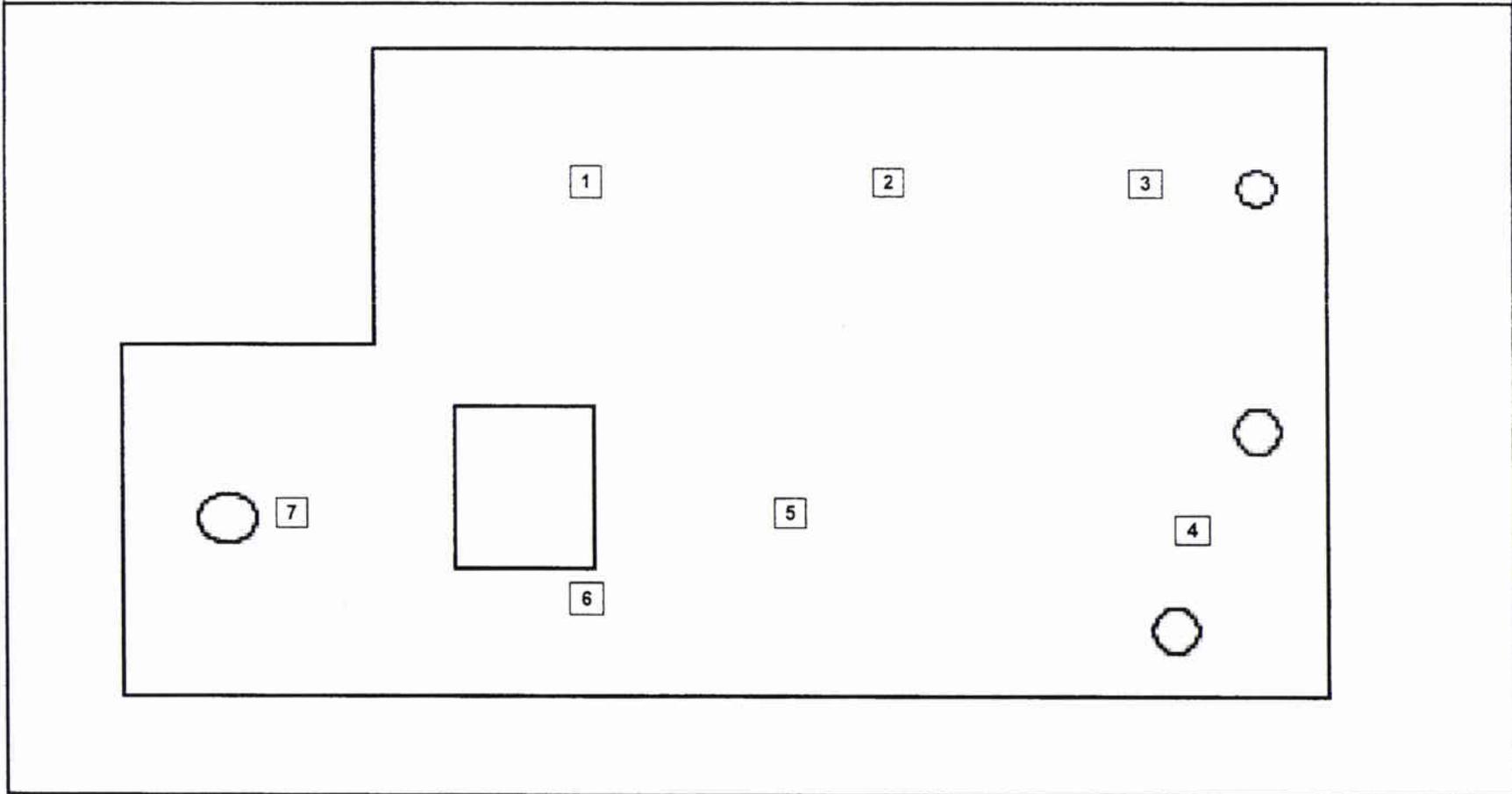
α - loose alpha  
β - loose beta  
↓ - direct reading



APPENDIX A  
RADIOLOGICAL SURVEY REPORT (Map)

Purpose of Survey : Characterization of Bldg. 110 roof								Log Number		0255 S 071120		
Surveyed by: <i>[Signature]</i>						Reviewed By: <i>[Signature]</i> 11/20/07						
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:	11/20/2007
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Time:	10:36
Lud 2224	125567	4/12/2008	43-89	100	1	16.4%	5113	149	24.4%	243.87	Smear Area	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #	User Entry
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP:	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc.	N/A

Remarks: N/A



**APPENDIX A  
RADIOLOGICAL SURVEY REPORT**

With Map

Purpose of Survey : <b>Characterization of Bldg 230 roof and West Vault roof</b>								Log Number		0257 S 071120	
Surveyed by: <i>[Signature]</i>						Reviewed By: <i>[Signature]</i> 11/20/07					
Instrument	Serial Number	Calibration Due	Probe	Probe Area (cm <sup>2</sup> )	Alpha Bkgd	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkgd	Beta Eff.	Beta MDA (dpm)	Date:
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11/20/2007
Lud 2224	125567	4/12/2008	43-89	100	1	14.4%	51.13	115	24.4%	215.60	Time: 10:12
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch # User Entry
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc. N/A

Remarks: N/A

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact μR/hr	Gen. Area μR/hr	
1	Bldg 230 roof NE of east air handler	N/A	N/A	N/A	N/A	52.0	354.2	168.0	217.2	N/A	N/A	N/A N/A
2	Bldg 230 roof S of east air handler	N/A	N/A	N/A	N/A	38.0	256.9	164.0	<MDA	N/A	N/A	N/A N/A
3	Bldg 230 roof next to round E roof vent	N/A	N/A	N/A	N/A	63.0	430.6	203.0	360.7	N/A	N/A	N/A N/A
4	Bldg 230 roof E of south east air handler	N/A	N/A	N/A	N/A	44.0	298.6	135.0	<MDA	N/A	N/A	N/A N/A
5	Bldg 230 roof E of south east round air exhaust	N/A	N/A	N/A	N/A	40.0	270.8	180.0	266.4	N/A	N/A	N/A N/A
6	Bldg 230 roof E of south AC unit	N/A	N/A	N/A	N/A	53.0	361.1	128.0	<MDA	N/A	N/A	N/A N/A
7	Bldg 230 roof next to south AC unit	N/A	N/A	N/A	N/A	27.0	180.6	137.0	<MDA	N/A	N/A	N/A N/A
8	Bldg 230 roof east of south west AC unit	N/A	N/A	N/A	N/A	33.0	222.2	182.0	274.6	N/A	N/A	N/A N/A
9	Bldg 230 roof under south west AC unit	N/A	N/A	N/A	N/A	12.0	76.4	212.0	397.5	N/A	N/A	N/A N/A
10	Bldg 230 roof inside south west round roof exhaust	N/A	N/A	N/A	N/A	36.0	243.1	137.0	<MDA	N/A	N/A	N/A N/A
11	Bldg 230 roof west end central	N/A	N/A	N/A	N/A	41.0	277.8	165.0	<MDA	N/A	N/A	N/A N/A
12	Bldg 230 roof center	N/A	N/A	N/A	N/A	38.0	256.9	175.0	245.9	N/A	N/A	N/A N/A
13	Bldg 230 roof west of north west air handler	N/A	N/A	N/A	N/A	50.0	340.3	192.0	315.6	N/A	N/A	N/A N/A
14	Bldg 230 roof north edge next to NW air handler	N/A	N/A	N/A	N/A	37.0	250.0	186.0	291.0	N/A	N/A	N/A N/A
15	Bldg 230 roof north west corner	N/A	N/A	N/A	N/A	36.0	243.1	146.0	<MDA	N/A	N/A	N/A N/A
16	Bldg 230 low east roof north end	N/A	N/A	N/A	N/A	44.0	298.6	169.0	221.3	N/A	N/A	N/A N/A
17	Bldg 230 low east roof between AC units	N/A	N/A	N/A	N/A	5.0	<MDA	160.0	<MDA	N/A	N/A	N/A N/A
18	Bldg 230 low east roof south of AC units	N/A	N/A	N/A	N/A	53.0	361.1	169.0	221.3	N/A	N/A	N/A N/A
19	Bldg 230 low east roof south end	N/A	N/A	N/A	N/A	98.0	673.6	186.0	291.0	N/A	N/A	N/A N/A
20	West Vault roof south end	N/A	N/A	N/A	N/A	150.0	1034.7	254.0	569.7	N/A	N/A	N/A N/A

# FedEx

RT  
FZ  
341 B  
345  
6423  
12.15

# Exp

From: Origin ID: SUSA (314) 810-3341  
John Tarnow  
Westinghouse  
3300 State Road P.  
Festus, MO 63028



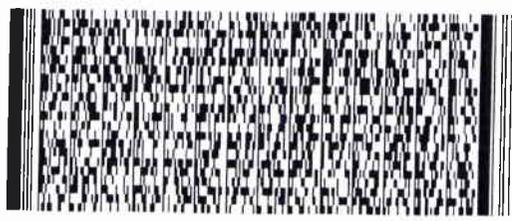
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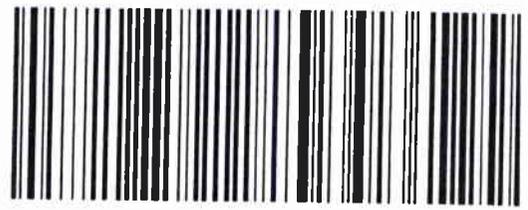
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**Christine Lipa**  
U.S. Nuclear Regulatory Commission  
2443 WARRENVILLE RD STE 210  
REGION III DNMS MCID  
LISLE, IL 60532



TRK# 7961 8361 6423  
0201

MON - 15DEC  
PRIORITY OV

## TJ BDFA



61  
IL-  
OF

64792-0706

# 77

# FedEx

RT 347 B 1119  
FZ 0 12.15

# Expre

From: Origin ID: SUSA (314) 810-3341  
John Tarnow  
Westinghouse  
3300 State Road P.  
Festus, MO 63028



Ship Date: 12DEC08  
ActWgt: 3 0 LB  
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Account#: S \*\*\*\*\*

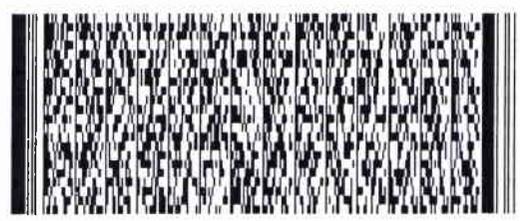
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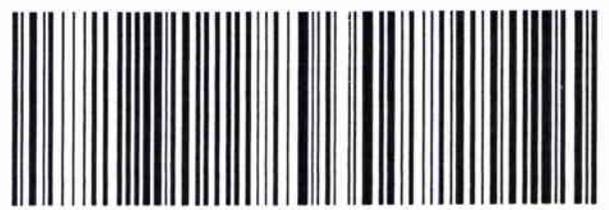
SHIP TO: (630) 829-9856 BILL SENDER  
**Mike McCann**  
U.S. Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, IL 60532

TRK# 7971 8021 1119 MON - 15DEC A2  
0201 PRIORITY OVERNIGHT



**XH BDFA**

60532  
IL-US  
ORD



64792-0706

*John Tarnow*

# recode

RT 341 B 4346  
FZ 345 12.15

From: Origin ID: SUSA (314) 810-3341  
John Tarnow  
Westinghouse  
3300 State Road P  
Festus, MO 63028



Ship Date: 12DEC08  
ActWgt: 3.0 LB  
CAD: 4229724/NET8091  
Account#: S \*\*\*\*\*

Delivery Address Bar Code

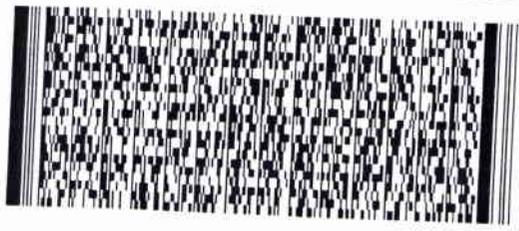


Ref #  
Invoice #  
PO #  
Dept #

SHIP TO: (630) 829-9871  
**WILLIAM G SNELL**  
U.S. Nuclear Regulatory Commission  
2443 WARRENVILLE RD STE 210  
REGION III DNMS MCID  
LISLE, IL 60532

BILL SENDER

JCL 511288/003

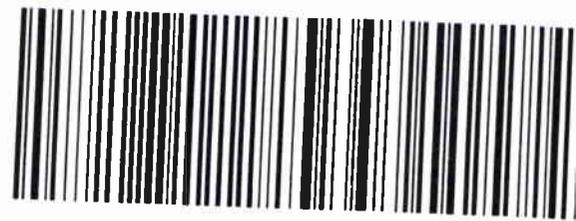


TRK# 7961 8368 4346  
0201

MON - 15DEC  
PRIORITY OVER

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