



OCCUPATIONAL RADIATION PROTECTION PROGRAM ANNUAL SURVEY

NEW HAVEN DEPOT

FEBRUARY 22-23, 2006

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DNSC-E

OCCUPATIONAL RADIATION PROTECTION PROGRAM SURVEY

NEW HAVEN DEPOT

EXECUTIVE SUMMARY

On February 22-23, 2006, Mr. Robert L. Skruck, Radiological Safety Officer, performed a survey of the radiological operations at the DNSC New Haven Depot in New Haven, IN. The results of the survey indicated that the depot had an effective Occupational Radiation Protection Program. Two (2) items were identified that did not comply with the requirements of the DNSC Nuclear Regulatory Commission License or the DNSC ORPP and are identified in section XI of this report. Exposures for depot personnel have been maintain ALARA.

DISCUSSION

I. ADMINISTRATION

Lois Huddlestun and Nikki Horther are designated as the Radiological Protection Officers (RPOs) at New Haven Depot. Robert L. Skruck assigned as the Radiation Safety Officer (RSO) on January 15, 2003. Lois Huddlestun and Nikki Horther received the minimum 40 hours of radiation training in March 1997 and November 2002 respectively.

LICENSE

Radiological operations were authorized under NRC license STC-133, Amendment No. 24, issued May 5, 2003, expiring on February 28, 2010. The license authorizes the storage, sampling, repackaging and transfer natural uranium and thorium ores, concentrates or solids. The license was implemented under the DNSC ORPP manual dated December, 2002.

INVENTORY

The license authorizes the DNSC to possess a total of 2,000,000 kg of radioactive material in the form of uranium and thorium contained in ores, concentrates, and solids. Inventories at specific locations were not limited. DNSC records dated September 24, 2004 indicate that no licensed radioactive material remain on this depot. A physical inventory was last conducted by Lois Huddlestun on 22 December 2004. Inventory results were in agreement with records. A decommissioning file is in place and is acceptable per paragraph 4.11 of the ORPP, latest edition.

II. DOSIMETRY

Personal dosimetry & monitoring was terminated at New Haven on 30 September 2004 and TLD's are no longer utilized at this facility per letter generated by Mike Pecullan of DNSC-HQ on 27 Sep 04.

PUBLIC DOSE COMPLIANCE

A total of 30 dose rate measurements were made at the perimeter of the depot which indicated that levels were at background. Therefore the annual dose to members of the public in the area outside the depot was zero. Since we no longer store licensed radioactive materials at this depot, public dose compliance is no longer a concern.

III. TRAINING

No longer required since all radioactive material is gone from this location.

IV. EMERGENCY RESPONSE

The depot has an Emergency Response Plan dated April 22, 2004. Emergency response personnel have been informed, by memo dated April 22, 2004. Material safety data sheets are maintained at the security office for an emergency.

V. RADIATION SURVEYS

The last annual survey conducted at this site was completed by Mr. Robert Skruck on May 17-19, 2005. In August 2002 an external audit was conducted by ERS Solutions, Inc. of Sacramento, CA.

Instrumentation used to perform this survey was an Eberline E-600 multi-purpose digital survey meter with a SSPA-3 probe. Measured dose rates are shown on the attached "Monitoring Summary" sheet.

<u>LOCATION</u>	<u>NUMBER OF READINGS</u>
Background	10
Depot fence line	20
1 meter from closed door exteriors	20
Contact Former Zirconium Ore Pile-Center	40
Contact Former Zirconium Ore Pile-North	20
Contact Former Zirconium Ore Pile-South	20
Contact Former Zirconium Ore Pile-West	20
Contact Former Zirconium Ore Pile-East	20
Depot Office Space	10

VI. RECEIPTS, SHIPMENTS, AND DISPOSAL

No shipments since last annual survey. No other receipts and disposals were made since the last annual survey.

VII. INSTRUMENTATION

The depot has an adequate supply of instrumentation on hand to ensure successful operation of the ORPP. The Depot has an Eberline Geiger Counter model E-520 (Out of Calibration), Dosimeter Corp. model 5-0002 GM detector (Out of Calibration), model E-600 with an SHP-380/SPA-3 probe, and a model ASP 2 Alpha Meter with HP 380A probe. These two (2) meters have currently been sent out for calibration. Cs-137 gamma check source and a Th-230 alpha check source are also on depot and calibrated. Calibration Certificates were on file for all units in calibration at the New Haven Depot.

VIII. INCIDENTS

No incidents were reported since the last survey.

IX. STORAGE AREAS

Radioactive materials are no longer stored at the depot.

Radioactive (Zirconium Ore) was formerly stored at open area #7A. This material was sold and shipped in 2001 but decontamination of this area has not been complete. A decontamination project was initiated and a contract was issued to Pangea, Inc. by the Army Field Support Command (DOD executive agency for low level radioactive waste). Pangea performed the initial remediation and a final project closure report has been submitted to DNSC-E. Additional removal of soil from the former pile footprint is required and a final status survey must be conducted for the entire depot. The US Army Corps of Engineers (Huntsville, AL) had been tasked to accomplish this work; this assignment was terminated per the direction of the Administrator, DNSC. Re-characterization of the ore pile area, removal of additional soil, and a final survey remains to be accomplished for this area and all others formerly containing licensed radioactive material; the Army Support Command has now been tasked to accomplish this work.

POSTING

Copies of the Energy Reorganization Act of 1974 section 206, NRC Form 3, the license, operating procedures were posted in the depot office.

The outside of warehouse 214 is posted with National Fire Protection Association (NFPA) signs only and a stencil sign stating No Smoking Within 30 feet. No signs are posted noting radioactive material as no radioactive material remains on this depot.

“Caution Radioactive Materials” signs and radiation symbols were removed from warehouse 214-3 since the last Radiation Survey dated May 17-19, 2005. Radioactive materials are no longer stored in this warehouse.

XI. OTHER

The NRC last completed an inspection of the New Haven Depot radiation program April 2002. No violations and no recommendations were noted.

Disposal of the radioactive waste (soil from area 7A) at New Haven was accomplished on 21 September 2004 on manifest #3114-01-002 and sent to Cline, UT for proper disposal by PANGEA, Inc. (This was an item identified on the Radiation Survey completed in fiscal year 2004).

I currently noted one (1) 55 gallon drum in warehouse 214-2 marked "Radioactive Waste". This drum was sent from the Hammond Depot to the New Haven Depot to be disposed of by PANGEA, Inc. It appears New Haven missed their window of opportunity to dispose of this drum. The drum contents can be disposed of when additional work is completed at the former Zirconium Ore site. The contents of this drum is PP & E (Tyvek suits) and was monitored by Eric Deal, RPO at Hammond, with a gamma meter. The range of his readings was 0.019 thru 0.0265 mR/hr.

CONCLUSION

The ORPP, at the DNSC New Haven Depot, was effective. The following actions will improve the overall management and regulatory compliance.

1. Eberline Geiger Counter Model E-520, Out Of Calibration [ORPP Section 13.3]
 2. Dosimeter Corp. Model 5-0002 GM Detector, Out Of Calibration [ORPP Section 13.3]
- These two (2) meters have currently been sent out for calibration.

ANNUAL RADIATION TRAINING AT NEW HAVEN DEPOT 2006

No longer required as all radioactive material has been shipped from this location.

Location: NEW HAVEN DEPOT
NEW HAVEN, INDIANA

INSTRUMENTATION

Date: Feb. 22-23, 2006

Location: NEW HAVEN DEPOT
NEW HAVEN, INDIANA

Date: May 17-19, 2005

X	Instrument	Serial No.	Probe											Condition		Calibration Certificate		Calibration Date	
			HP-270	SPA-3	SHP400	SABP-100	SSPA-3	SHP-380A	SHP-270	SHP-360	SHP-380AB	AC-3	Other	OK	NG	Y	N		
			γ	γ	γ	αβ	γ	α	γ	β	αβ	α							
	E-120																		
X	E-520	3135													X	X		X	*1/13/2005
X	E-600 Multi-Purpose Survey Meter (Digital)	1883					X	X							X		X		2-Mar-05
X	Dosimeter Corp. Model 5-0002	5-0002													X	X		X	*1/14/2005
	Ludlum Mod. 2																		
	ASP-1 Multi-Purpose Survey Meter (Analog)																		
X	ASP-2 Multi-Purpose Survey Meter (Digital)	1409							X						X		X		16-Dec-05
	CDV-750 Charger																	n/a	
	CDV-750 Charger																	n/a	
	CDV-138 Pocket Dosimeter																	n/a	
	Panasonic TLD's																	n/a	

* OUT OF CALIBRATION

	Check Source	Activity (μCi)	Type	S/N	Manufacturer	Calibration Date
	Am-241		α			
	Co-60		γ			
X	Cs-137	4.938 uCi	γ	948-84	Isotope Products	15-Dec-02
	Tc-99		β			
X	Th-230	.9797 Nci	α	A8-528	Isotope Products	1-Dec-02