



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

November 13, 2000

Department of the Navy
Naval Radiation Safety Committee
Chief of Naval Operations (N-45)
ATTN: RDML L. Baucom
Chairman
Room 636
2211 S. Clark Place
Arlington, VA 22244-5108

SUBJECT: NRC INSPECTION REPORT NOS. 45-23645-01NA/00-08

Dear Admiral Baucom:

This refers to the recent inspection conducted by NRC staff of licensed activities authorized by Naval Radioactive Materials Permit Nos. 19-48539-83NP and 19-48539-91NP at the Naval Dosimetry Center in Bethesda, Maryland. The inspector examined activities conducted under your license with respect to radiation safety and compliance with NRC regulations and the conditions of your license. The inspection included selective examinations of procedures and representative records, interviews with personnel, and direct observations of permitted activities. At the conclusion of the inspection, the findings were discussed with the permitted facility's Radiation Safety Officer, and CDR G. Higgins of your staff.

As indicated in the enclosed NRC Form 591s, Safety and Compliance Inspection, no violations of NRC requirements were identified. Accordingly, no response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

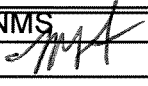
Jay L. Henson, Chief
Materials Licensing and Inspection Branch 2
Division of Nuclear Materials Safety

Docket No. 030-29462
License No. 45-23645-01NA

Enclosure: NRC Form 591

cc w/o encl:
Commonwealth of Virginia

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OFFICE	RII:DNMS		
SIGNATURE			
NAME	MFuller		
DATE	11/300	11/ /0	11/ /0
COPY?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES NO	YES NO

APPENDIX A INDUSTRIAL/ACADEMIC/RESEARCH INSPECTION RECORD (IP 87110)									
REGION I									
Insp. Report #	00-08	License #	45-23645-01NA	Docket #	030-29462				
Licensee Name	Navy- Naval Dosimetry Center								
Street Address	National Naval Medical Center								
City, State, Zip	Bethesda, Maryland								
Location (Authorized Site) Being Inspected	same								
Licensee Contact Name	LT J.R. Cassata			Phone #	292-301-0142				
Date of Last Inspection:	N/A			Date of This Inspection	10/23-24/00				
Type of Insp.	Announced		Routine	x	Initial				
	Unannounced	x	Special						
Next Insp. Date	N/A	Normal		Reduced		Extended			
Justification for change in normal inspection frequency:	Navy is a master materials license. Inspections are conducted yearly at different permits throughout the US.								
Summary of Findings and Actions									
No violations, Clear 591 or letter issued		Non-cited violations							
Violation(s), 591 issued		Violation(s), letter issued							
Follow up on previous violations:	None								
Inspector - Printed Name	Sheri Minnick								
- Signature	/RA/			Date	10/25/00				
Approved - Printed Name	John Kinneman								
- Signature	/RA/			Date	11/6/00				

PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY
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1.	AMENDMENTS AND PROGRAM CHANGES	
License amendments issued since last inspection, or program changes noted in the license.		
Amendment No.	Date	Subject
N/A-Navy master materials license		
2.	INSPECTION AND ENFORCEMENT HISTORY	
Unresolved issues; previous and repeat violations; Confirmatory Action Letters; and orders.		
N/A- permit inspections 19-48539-83NP and 19-48539-91NP. Overall Navy inspection conducted by NRC Region II.		
3.	INCIDENT/EVENT HISTORY	
List any incidents or events reported to NRC since the last inspection. Citing "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection.		
None for permits 19-48539-83NP and 19-48539-91NP		
PART II - INSPECTION DOCUMENTATION		
NOTE: References that correspond to each inspection documentation topic are in Inspection Procedure 87110, Appendix B, "Industrial/Academic/Research Inspection References."		
<p>The inspection documentation part is to be used by the inspector to assist with the performance of the inspection. Note that not all areas indicated in this part are required to be addressed during <u>each</u> inspection. However, for those areas <u>not covered</u> during the inspection, a notation ("Not Reviewed" or "Not Applicable") should be made in each section, where applicable.</p> <p>All areas covered during the inspection should be documented in sufficient detail to describe what activities and procedures were observed and/or demonstrated. In addition, the types of records that were reviewed and the time periods covered by those records should be noted. If the licensee demonstrated any practices at your request, describe those demonstrations. The observations and demonstrations you describe in this report, along with measurements and some records review, should substantiate your inspection findings. Attach copies of all licensee documents and records needed to support violations.</p>		
1.	ORGANIZATION AND SCOPE OF PROGRAM	
Management organizational structure; authorized locations of use, including field offices and temporary job sites; type, quantity, and frequency of material use; staff size; delegation of authority.		

CAPT Mendenhall is the Officer in Charge of the Naval Dosimetry Center. He oversees a staff of approximately 20 people, 10 military, 10 civilian. LT Cassata is the RSO and reports directly to CAPT Mendenhall, who is the highest official on-site at the NDC (he was off-site during the inspection).

CAPT Mendenhall reports to the Navy Environmental Health Center in Norfolk, who reports to the Bureau of Medicine.

The NDC has two permits under the Navy Master Materials license issued out of NRC Region II. These permits authorize 80 grams of Pu-239 in a PuBe source, 500 mCi Cs-137 sources, 100 mgrams of Ra-226, and 100 mCi Sr-90 sources for the purpose of testing and calibration of dosimeters. All the sealed sources that are currently used are inside Bicron TLD readers. The remainder are kept in storage. They also have exempt check sources to check meters.

This licensee is NAVLAP certified as an authorized dosimetry provider. As a result, the licensee is highly proceduralized and concerned with quality assurance.

Eighty percent of the licensee's work is reading whole body TLDs and finger rings on a 6-7 week badge cycle. They are responsible for 300,000 whole body badges. They are also responsible for keeping a database of Navy health records. They are fully funded by the Navy.

No unsealed material used. No material used off-site.

2.

MANAGEMENT OVERSIGHT

Management support to radiation safety; Radiation Safety Committee (RSC); Radiation Safety Officer (RSO); program audits, including annual reviews of program and as low as is reasonably achievable (ALARA) reviews; control by authorized users.

Due to the fact that the licensee is under the Navy and is NAVLAP approved, the licensee is heavily audited.

- 1) every six months - audit by an outside RSO
- 2) annual inspection of permit by outside organization (although skipped in 1999)
- 3) RSO performs annual audit of program
- 4) every 2-3 years Naval inspection
- 5) NAVLAP on site every other year
- 6) Malcolm Baldrige audit by seven individuals for a week

3.

FACILITIES

Facilities as described; uses; control of access; engineering controls; calibration facilities; shielding; air flow:

Facilities adequately designed for radiation protection and security. Shielding heavily used to reduce radiation levels.

4.	EQUIPMENT AND INSTRUMENTATION
Operable and calibrated survey equipment; procedures; 10 CFR Part 21.	
The licensee's meters are calibrated every six months by RADIAN calibration lab in Yorktown, VA. They possess 22 meters, including neutron meters.	
5.	MATERIAL USE, CONTROL, AND TRANSFER
Materials and uses authorized; security and control of licenses materials; and procedures for receipt and transfer of licensed material.	
All materials are properly secured from unauthorized removal. The sources are stored in a locked, heavily shielded box, within a locked area. Only three employees can gain access to the stored sources. All other sources are within TLD readers. Employees do not handle the sources or perform maintenance on the readers. Bicon, the manufacturer, comes out four times per year for routine upkeep of the machines.	
6.	AREA RADIATION SURVEYS AND CONTAMINATION CONTROL
Radiological surveys; air sampling; leak tests; inventories; handling of radioactive materials; contamination controls; records; and public doses.	
Licensee performs quarterly inventory and six month swipes for all sources.	
They also perform monthly and weekly surveys with calibrated meters.	
Two new TLD readers were received in Sept 2000. The licensee performed surveys and swipes.	
7.	TRAINING AND INSTRUCTIONS TO WORKERS
Training and retraining requirements and documentation; interviews and observations of routine work; staff knowledge of all routine activities; 10 CFR Parts 19 and 20 requirements; emergency situations; and supervision by authorized users.	
The licensee is very committed to an extensive training program. New employees receive a two hour training course plus retraining every three years. This training is give by the RSO. In addition, there is a one hour yearly training and monthly general safety training. Also, there is an on-line NIST training program that the RSO has asked his employees to go through. Hands on training is conducted periodically to get all employees knowledgeable in all procedures. The RSO reviews training records via database.	
Personnel very knowledgeable about radiation safety, procedures, security, etc.	
8.	RADIATION PROTECTION
Radiation protection program with ALARA provisions; external and internal dosimetry; exposure evaluations; dose and survey records and reports; annual notifications to workers; bulletins and other generic communications.	

<p>Inspector reviewed dosimetry records for 1997-2000. Worker's badges are exchanged every 6-7 weeks. The highest noted exposure was 12 millirem for a year. The only workers who get any exposure are those involved in the leak testing of the sealed sources. They have to remove shielding to get to the sources for a brief period of time. They have worked on ways to reduce this time over the years and are down to about three minutes of exposure.</p>	
9.	RADIOACTIVE WASTE MANAGEMENT
<p>Disposal; effluent pathways and control; storage areas; transfer; packaging, control, and tracking procedures; equipment; incinerators, hoods, vents and compactors; license conditions for special disposal method.</p>	
<p>The licensee has requested from Radiation Affairs Support Office in Norfolk, VA to get rid of sources that are in storage and not being used such as the radium needles and PuBe source.</p>	
10.	DECOMMISSIONING
<p>Records relevant to decommissioning; decommissioning plan/schedule; notification requirements; cost estimates; funding methods; financial assurance; and Timeliness Rule requirements; changes in radiological conditions since decommissioning plan was submitted.</p>	
<p>N/A</p>	
11.	TRANSPORTATION
<p>Quantities and types of licensed material shipped; packaging design requirements; shipping papers; hazardous materials (HAZMAT) communication procedures; return of sources; procedures for monitoring radiation and contamination levels of packages; HAZMAT training; and records and reports.</p>	
<p>Employees are hazmat trained, however, licensee does not ship out sources.</p>	
12.	NOTIFICATIONS AND REPORTS
<p>Reporting and followup of theft; loss; incidents; overexposures; change in RSO; authorized user; and radiation exposure reports to individuals.</p>	
<p>None</p>	
13.	POSTING AND LABELING
<p>Notices; license documents; regulations; bulletins and generic information; posting of radiation areas; and labeling of containers of licensed material.</p>	
<p>Inspector observed appropriate posting and labeling of radioactive materials.</p>	
14.	INDEPENDENT AND CONFIRMATORY MEASUREMENTS
<p>Areas surveyed, both restricted and unrestricted, and measurements made; comparison of data with licensee's results and regulations; and instrument type and calibration date.</p>	

Inspector used an Eberline E-120 GM survey meter. (SN 870, calibration date 7/00).

The inspector found <1mR/hr on the exterior of the storage box and could find no levels above background on the TLD readers.

15. VIOLATIONS, NON-CITED VIOLATIONS (NCVs), AND OTHER SAFETY ISSUES

State requirement and how and when licensee violated the requirement. For NCVs, indicate why the violation was not cited. Attach copies of all licensee documents needed to support violations.

None

16. PERSONNEL CONTACTED

Identify licensee personnel contacted during the inspection (including those individuals contacted by telephone).

Use # to indicate individual present at entrance meeting.

Use * to indicate individual present at exit meeting.

Name	Title	Phone No.	In Person or By phone
CDR Garry Higgins	Naval Radiation Safety Committee and permittee management	703-602-5365	by phone- *pre exit briefing conducted (not available during exit)
*LT Cassata	Permit RSO (acting Officer In Charge)	292-301-0142	person
HN Sneider	Staff	292-301-0142	person
HM Mitchell	Admin Support Mgr	292-301-0142	person
CDR Thompson	WB Counting Mgr	292-301-0142	person
LT Sanders	Dosimetry Div Officer	292-301-0142	person
HM Odom	Programmer	292-301-0142	person
HN Collins	Tech	292-301-0142	person
HN Gifford	Tech	292-301-0142	person
Paula Colter	secretary	292-301-0142	person

17. PERFORMANCE EVALUATION FACTORS

A.	Lack of senior management involvement with the radiation safety program and/or RSO oversight.	Y		N	x
B.	RSO too busy with other assignments.	Y		N	x

C.	Insufficient staffing.			Y		N	x
D.	RSC fails to meet or functions inadequately.	N/A		Y		N	x
E.	Inadequate consulting services or inadequate audits conducted.	N/A		Y		N	x

REMARKS : (Consider the above assessment and/or other pertinent Performance Evaluation Factors (PEFs) with regard to the licensee's oversight of the radiation safety program)

18. SPECIAL CONDITIONS OR ISSUES

NONE Special license conditions; year-2000 effects of computer software and embedded systems.

None

PART III - POST- INSPECTION ACTIVITIES

1. REGIONAL FOLLOWUP ON PEFs

None

2. DEBRIEF WITH REGIONAL STAFF

Post-inspection communication with supervisor, regional licensing staff, Agreement State Officer; and/or State Liaison Officer.

Branch chief informed of results

3. YEAR-2000 ISSUES

Convey, to the NMSS Year-2000 Coordinator, all year-2000 licensee-identified problems and corrective actions taken.

None

TO ADVANCE TO NEXT SECTION OF FORM - PUSH PAGE DOWN KEY