



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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From: Chairman, Naval Radiation Safety Committee
To: Distribution

Subj: MINUTES OF NAVAL RADIATION SAFETY COMMITTEE MEETING
FOURTH QUARTER, CY-1999

Encl: (1) Quarterly Meeting Agenda
(2) Executive Secretary Report
(3) NRMP Action Summary
(4) Inspection Summary
(5) Depleted Uranium Penetrator Recovery Plan for Vieques
(6) Navy Master Materials License, Amendment Proposal
(7) NRMP Permit Inspection Trend Analysis

1. The Naval Radiation Safety Committee (NRSC) convened at 1035 on Monday, December 6, 1999, to discuss agenda items provided in enclosure (1). The following individuals were in attendance:

RADM A. Granuzzo	Chairman, NRSC
CAPT P. Blake	BUMED
CDR G. Higgins	Executive Secretary, NRSC
CDR S. Doremus	OIC, NAVSEADET RASO
CDR J. Pomerville	Recording Secretary, NRSC
LCDR S. Wolff	NEHC
LCDR P. Liotta	HQMC(SD)
Mr. M. McGown	NAVSEA 08R
Mr. D. Collins	NRC Region II
Dr. D. B. Howe	NRC Headquarters

2. RADM Granuzzo opened the meeting by welcoming the Committee members to the NRSC Meeting, Fourth Quarter, 1999.

a. Commander Higgins opened the discussion with a status report regarding the NRSC agenda items for the quarter. Four old business agenda items were presented from the previous NRSC Meeting, of which two remain incomplete pending closure and two were reported as being closed. There were no new agenda items introduced. The status of all four items are described in enclosure (2).

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- The first agenda item involved the inadvertent expenditure of depleted uranium (DU) munitions on the Atlantic Fleet Weapons Training Facility, Vieques, Puerto Rico. Rear Admiral Granuzzo asked if the root cause, or causes, of the event had been identified as the result of the investigation conducted jointly by the Navy and Marine Corps. Lieutenant Commander Liotta stated that the root cause was identified and that the corrective actions taken, as stated in enclosure (2), are considered sufficient to prevent reoccurrence of the event. Commander Higgins noted that Commander Doremus would discuss corrective actions conducted to date on Vieques as part of his presentation on the depleted uranium recovery plan.

- The second agenda item concerned the temporary cessation of gamma radiography operations permitted by Pearl Harbor Naval Shipyard (PHNSY) while the command was undergoing additional radiographer training and administrative reorganization. During an inspection conducted at PHNSY by the Radiological Affairs Support Office (RASO) in November, it was decided that supplemental radiographer training was appropriate and the inspection was delayed. The allotted time to complete the inspection was insufficient and RASO agreed to return to PHNSY on or around January 10, 2000, to complete the gamma radiography inspection. Rear Admiral Granuzzo asked if PHNSY was receiving adequate radiography support during this stand-down period. Commander Doremus reported that PHNSY was receiving gamma radiography support from Puget Sound Naval Shipyard permitted radiographers in the interim period.

- The third agenda item involved the Nuclear Regulatory Commission's (NRC's) request that Navy alter the dosimetry distribution periodicity for gamma radiographers to accommodate the Annual Gamma Radiography Exposure Report. It was reported that the Naval Dosimetry Center had conducted two meetings with the NRC and their computer programmer and had agreed that Navy would request that radiography commands begin and end their dosimetry issue cycles in January. Rear Admiral Granuzzo asked if the NRC was requesting that Navy alter all exposure reporting cycles. Dr. Howe (NRC Headquarters) explained that the request to begin and end a calendar year exposure period in January was drawn from Title 10 CFR Part 20. Commander Higgins further

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explained that the adjustment of dosimetry issue cycles would effect a small number of gamma radiography commands and would have minimal impact. This action item is considered closed.

- The forth agenda item concerned the accidental incineration of long half-lived radionuclides from the National Naval Medical Center (NNMC), Bethesda. This agenda item is carried forward from the previous NRSC Meeting. The Committee was informed that adequate corrective measures had been taken by NNMC and that they had recently undergone an inspection by the Navy Environmental Health Center (NEHC). Evidence of corrective actions to prevent or significantly reduce the possibility of a recurrence were noted in the inspection report. This action item is considered closed.

b. Lieutenant Commander Wolff (NEHC), and Commander Doremus (RASO), discussed the status of Naval Radioactive Material Permit (NRMP) actions and inspections conducted during the quarter. NRMP actions for NEHC and RASO are listed as enclosures (3) and (4), respectively. The current number of NRMPs is 140, of these, 28 are managed by NEHC, with the balance, 112 managed by RASO.

c. Commander Doremus presented a briefing regarding the depleted uranium recovery plan for the Atlantic Fleet Weapons Training Facility, Vieques, Puerto Rico. His presentation is included as enclosure (5).

- Rear Admiral Granuzzo stressed his utmost concern regarding the physical safety of individuals performing the recovery operations. He indicated that a coordinated approach with Explosive Ordnance Disposal (EOD) personnel as well as on-site range authorities would be necessary to ensure the safety of the recovery team. If, on the other hand, EOD and/or range authorities deemed that the recovery team would be at physical risk by the presence of unexploded ordnance, the DU rounds would remain in place for recovery at a later date when the range underwent final decommissioning.

In consideration of the very low risk associated with leaving the remaining depleted uranium rounds in place on Vieques, Rear Admiral Granuzzo stated that the risk associated with recovering additional depleted uranium rounds must be weighed against the potential of injury to a recovery team member.

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- Mr. Collins, NRC Region II, voiced his agreement with Rear Admiral Granuzzo. The risk presented by the presence of the unexploded ordnance exceeded that of the depleted uranium remaining on the range. The location of the remaining depleted uranium rounds would be noted for recovery at a later date.

- Rear Admiral Granuzzo remarked that he was quite impressed with the technology RASO intended to use during the Vieques DU recovery operation. He asked if commercial contractors had such technology. Commander Doremus assured him that similar equipment existed and was available to contractors for site assessments.

d. Lieutenant Commander Wolff gave a presentation on the proposed Navy Master Materials License (MML) Amendment No. 12. The briefing appears as enclosure (6). The amendment would allow NRMP holders the ability to request that the NRSC consider the credentials of non-Navy employees located at Navy facilities and grant them permission to use radioactive (NRMP) materials when engaged in cooperative activities under the direct supervision of Navy. Each non-Navy employee would be evaluated individually and would be required to meet all existing Federal regulations.

- Rear Admiral Granuzzo asked if those individuals being considered for inclusion under the MML amendment would be under Navy Radiation Safety control. He was assured by Lieutenant Commander Wolff that this would be the case. Individuals would be approved on a case-by-case basis and identified by name to the NRSC. Additionally, qualifications of each individual would be verified beforehand and that all radioactive material user requirements would be met.

e. Commander Pomerville presented a trend analysis of Notice of Violations (NOVs) identified during NRMP inspections conducted during the previous two years. His presentation is included as enclosure(7). It was agreed that NRSC would continue to follow NOV trends and publish findings in informational RASO/NEHC notes; briefed during inspections at other commands with similar programs; and presented at workshops and conferences attended by Navy Radiation Safety Specialists as appropriate. Overall, there was a decreasing trend in the number of NOVs during the past two years. Although there were 25% fewer inspections during CY-98 versus CY-99, there were 43% fewer violations noted.

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- Rear Admiral Granuzzo asked the NRC how they analyzed violation trends. Mr. Collins stated that NRC tracks violations by type of licensee. Rear Admiral Granuzzo reinforced the fact that NOV trend analysis is part of the process of continuous program improvement and that follow-on corrective actions would be taken as deemed necessary.

f. Rear Admiral Granuzzo afforded the NRC an opportunity to discuss any issues of programmatic interest.

- Mr. Collins mentioned that Dr. Richard Meserve had been appointed as Chairman of the NRC. Additionally, Dr. Bruce Mallett has been promoted to Regional Deputy Administrator of Region II in Atlanta.

- Mr. Collins stated that NRC has been observing the actions of the NRSC regarding the gamma radiography program at Pearl Harbor Naval Shipyard, and stated that the NRC remains very interested and is heartened by the appropriateness of the actions which the facility and the NRSC have taken. Furthermore, he stated that the NRSC has stayed on course and has not accepted half measures and is following the correct course of action. He indicated that there is no need nor intention for NRC action at this time.

- Mr. Collins said he appreciated the update on the Vieques recovery plans and agreed that leaving the inadvertently expended depleted uranium rounds in-situ does not present a health hazard. He reiterated that it is prudent to proceed with recovery operations cautiously.

- Mr. Collins mentioned that NRC has revised their Enforcement Policy Manual which will soon be available. Changes reflect an increased emphasis on self-identification of violations by licensees/permittees. Most revisions were in the reactors area vice the materials area.

- A pilot program regarding inspections of medical licensees will soon be available. This pilot emphasizes inspection by concentrating on "performance indicators" which might indicate weakness in program areas.

- The NRC is expected to go "paperless" by January 1, 2000. All related documents and informational sources will be

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available on the Internet. All areas will be available including reactor and material information.

- Rear Admiral Granuzzo asked if all information would be available to the general public to include reactor facility records. Mr. Collins replied that all information would be available with the exception of privacy-related information or corporate confidential information. As such, Mr. Collins mentioned that such privacy or corporate confidential information should be considered when preparing correspondence to the NRC, as it can become part of the public record.

- Dr. Howe mentioned that around summer of CY-00, the 10 CFR Part 35 (Medical Programs) revision will be published in draft form on the Internet. It will remain in a draft form for approximately 6 months after which all experts' recommendations will have been received and evaluated. It is expected that the new 10 CFR Part 35 will be issued in final form in early CY-2001.

- Rear Admiral Granuzzo thanked the NRC for their comments.

3. Rear Admiral Granuzzo adjourned the NRSC Meeting for the Fourth Quarter 1999 at 1150. The date for the next meeting of the NRSC is tentatively scheduled for Wednesday, March 8, 2000 at 1030.


A. A. GRANUZZO
Rear Admiral, U.S. Navy

Copy to:
NRSC Members
COMNAVSEASYS COM (08R)
NRC Reg. II (ATTN: M. Fuller)
NRC Headquarters (ATTN: Dr. D.B. Howe, Mail Stop 6H3)

NAVAL RADIATION SAFETY COMMITTEE MEETING OF 06 December 1999

AGENDA

a. Executive Secretary report on pending action items from NRSC Meeting, 3rd Quarter, September 10, 1999.

1) Old Action Items:

- Expenditure of depleted uranium, Vieques, Puerto Rico.
- Annual Gamma Radiography Report to NRC.
- Gamma Radiography Inspection, Naval Shipyard Pearl Harbor, HI.
- Incineration of Radioisotopes at NNMC Bethesda, MD.

2) New Action Items:

- None to report.

b. Update on permitting and inspection actions - NEHC/RASO.

c. Presentation Period-

- 1) CDR Doremus, MSC, USN.
Depleted Uranium Recovery Plan for Vieques, Puerto Rico.
- 2) LCDR Wolff, MSC, USN.
Navy Master Materials License, Amendment #11.
- 3) CDR Pomerville, MSC, USN
NRSC Notice of Violation (NOV) Trend Analysis

d. NRC Discussion Period - NRC Region II.

Future topics of interest for the NRSC meeting should be referred to CDR Pomerville at (703) 602-2582 or Fax: (703) 602-4786.

The next NRSC Meeting is proposed for March 8, 1999. The first Wednesday of the first week of each quarter.

Enclosure (1)

Naval Radiation Safety Committee Meeting
4th Quarter 1999
December 6, 1999

1. N45 Opening Remarks-

Admiral Granuzzo welcomes NRC Region II and Headquarters Representatives.

Mr. Doug Collins	NRC Region II
Dr. Donna Beth Howe	NRC Headquarters, MML Program Director

2. Executive Secretary NRSC welcomes visitors and introduces NRSC Members:

RADM Granuzzo	Chairman, Naval Radiation Safety Committee Director, Environmental Protection, Safety and Occupational Health Division
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CAPT Blake	Bureau of Medicine and Surgery (Code MED-211) Office of Undersea Medicine and Radiation Health
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CDR Higgins	Executive Secretary, Naval Radiation Safety Committee Head, Radiological Controls and Health Branch
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CDR Doremus	Officer in Charge, Radiological Affairs Support Office Naval Weapons Station, Yorktown, Virginia
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CDR Pomerville	Recording Secretary, Naval Radiation Safety Committee Radiological Controls and Health Branch (N455C)
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LCDR Wolff	Head, Radiation Health Team Navy Environmental Health Center, Norfolk, VA
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LCDR Liotta	Health Physics Program Manager, Safety Division, United States Marine Corps
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Mr. McGown (<i>Ad hoc Member</i>)	Radiation Health Program Manager Naval Nuclear Power Program Naval Sea Systems Command (NAVSEA-08R)
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CDR Farrand (<i>Absent Member</i>)	Director, Radiological Controls Program Office Commander, Naval Sea Systems Command (NAVSEA-04N)
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3. There are 4 **Outstanding Action Items** reported at or carried forward from the previous NRSC Meeting, 3rd Quarter 1999 (September 10, 1999).

Outstanding Action Item #1.

Inadvertent Expenditure of Depleted Uranium Rounds at Vieques Range, PR.

19FEB99	263 DU rounds inadvertently expended at Vieques Range, Puerto Rico.
05MAR99	Discovery reported to NRSC. NRC notified by phone.
10MAR99	Recovery team (57 DU recovered) 10-19 MAR99.
01APR99	Initial written notification provided to NRC (30 Day Report).
01JUN99	1. Progress Report on recovery actions to date to NRC REG II. 2. NRC issues Preliminary Notification of Event or Unusual Occurrence.
02JUN99	DU recovery operations briefed to NRSC and NRC at NRSC Meeting.
05AUG99	Range refurbishment cancelled by AFWTF due to trespassers on range and potential injury of trespassers during EOD sweep/clearing.
19AUG99	Navy issues NOV to US Navy and US Marine Corps for DU incident.
06DEC99	<p>Current Status: Investigation and Litigation Report complete – 15JUN99 Root cause identified-</p> <ol style="list-style-type: none"> 1. Confirmed failure to check Notice of Ammunition Reclassification (NAR) database which identifies the rounds as "War Reserve". <p>Compounding factors:</p> <ol style="list-style-type: none"> 1. Manual transcription error between master database and shipboard database involving use code restrictions. 2. Typographical error which describes "DU rounds" as "training rounds". <p>Corrective Actions Taken to Date:</p> <ol style="list-style-type: none"> 1. Administrative actions taken at the Command level. 2. Ordnance staff counseled for failure to confirm restriction codes. 3. USMC Headquarters releases 25mm DU msg. handling/use/storage. 4. Navy/Marine Corps instructions revised to include restrictions. 5. Self inspection check-list for NRMP compliance was promulgated. 6. Marine Corps incorporates DU training in ordnance training pipeline. <p>Recovery plan briefed to NRSC/NRC by OIC, NAVSEADET RASO</p>
06DEC99	Action Item #1 Pending.

Outstanding Action Item #2.

Gamma Radiography Inspection at Naval Shipyard, Pearl Harbor, HI.

16JUN99	Radiography boundary violation at Naval Shipyard, Pearl Harbor. - During critique of incident a Severity Level III NOV was self identified. - Monitor failed to comply with dosimetry requirements of 20CFR34.47.
09AUG99	NRSC issued Severity Level III NOV to Naval Shipyard, Pearl Harbor
17AUG99	RASO radiography inspector preliminarily identifies 2 Level III violations. CO/RASO initiates 30 Day Stand Down for Training.
08SEP99	RASO Inspection Report released by NRSC. Three Level III NOVs.
01NOV99	NRSC/RASO inspection team returned to PHNSY- 1. PHNSY determines that due to training deficiencies they could not conduct radiography operation as part of inspection.

	2. RASO inspectors postponed inspection completion 3. RASO will return to PHNSY in 01/00 to re-inspect.
06DEC99	Action Item #2 Pending.

Outstanding Action Item #3.

Annual Report on Gamma Radiography Exposures to NRC

12AUG99	NRSC contacted by NRC HQ regarding Annual Radiography Report submission: TLD issue periods exceeded NRC database structure.
17AUG99	1 st Meeting at NDC and NRC Headquarters Staff.
24SEP99	2 nd Meeting with NDC, RASO, SAIC, and NRC Headquarters. Resolution reached: NDC will request radiography commands begin new issue cycle in January to accommodate SAIC programming.
24SEP99	Action Item #3 Closed.

Outstanding Action Item #4.

Accidental Incineration of Radioisotopes From National Naval Medical Center

13AUG99	Long half-lived isotopes discarded as bio-hazard trash. Waste shipped to Stercycle, Baltimore, MD, and incinerated 13AUG99.
17AUG99	Loss first identified by NNMC. Initial notification to NEHC made.
18AUG99	Loss confirmed by NNMC. Voice notification to NRSC made by NEHC.
19AUG99	Voice notification made to NRC Region II by NRSC.
19AUG99	NNMC Radiation Safety Actions: - Training of Radiation Safety and Nuclear Medicine Technicians - Long half-life waste handling modification. Direct transport to storage. - Incorporation of training into Annual Training and QMP. - Exposure to public calculated to be approximately 0.3 mrem.
20AUG99	MD State Department of Radiological Controls contacted by MED-211.
13SEP99	Written notification to NRC by NRSC. No further action required.
13SEP99	Action Item #4 Closed.

Updates on permitting and inspection actions:

NEHC – LCDR Wolff, MSC, USN

RASO – CDR Doremus, MSC, USN

**Presentations: Depleted Uranium Penetrator Recovery Plan for Vieques
CDR Doremus, MSC, USN
Officer-In-Charge, Radiological Affairs Support Office
Yorktown, VA**

**Navy Master Materials License, Amendment #12
LCDR Wolff, MSC, USN
Head, Radiation Health Team
Navy Environmental Health Center, Norfolk, VA**

**Trend Analysis of Notices of Violation Identified During
Naval Radioactive Material Permit Inspections
CDR Pomerville, MSC, USN
Radiological Controls and Health Branch (N455C)**

**Nuclear Regulatory Commission's Report
Mr. Michael Fuller, NRC REGION II, Atlanta, GA.**

**Closing Remarks: Admiral Granuzzo, USN
Chairman, Naval Radiation Safety Committee**

**Next Meeting: Tentatively scheduled for March 8, 2000
First Wednesday of the first full week, last month of each
quarter.**

TECHNICAL SUPPORT CENTER = NAVY ENVIRONMENTAL HEALTH CENTER (NEHC)

Permit Actions	New Issues	Terminations	Amendments	Renewals	Totals
Permit Actions Carried Over from Previous Quarter	0	0	1	0	1
Permit Actions Received During Quarter	0	1	9	0	10
Total Permit Actions "In House" During Quarter	0	1	10	0	11
Actions Signed Out by NRSC	0	1	8	0	9
Quarterly Average Action Processing Time in Days	N/A	1	10	N/A	9
Actions Exceeding NRSC Guidelines *1	0	0	0	0	0
Actions Pending at End of Quarter	0	0	2	0	2

Oldest Pending Permit Actions (Command)	NRMP Number	Days in House	Action
NAVHOSP, GREAT LAKES, IL	12-00211-11NP	41	A
NAVMEDCEN, SAN DIEGO, CA	04-00259-11NP	18	A

Permit Inspections	Total
Inspection Reports Carried over from Previous Quarter	2
Inspections Conducted During Quarter	2
Total Inspection Reports "In House" During Quarter	4
Inspection Reports Signed out by NRSC	4
Quarterly Average Inspection Report Processing Time in Days	27
Longest Inspection Report Processing Time This Quarter in Days	54
Inspection Reports Exceeding NRSC Guidelines *2	0
Inspection Reports Pending at End of Quarter	0

*1 (New Issues, Terminations, Amendments < 6 Months) (Renewals < 12 Months)

*2 (Satisfactory Inspection < 60 days, Unsatisfactory or Containing Level III Violation < 14 days)

TECHNICAL SUPPORT CENTER = RADIOLOGICAL AFFAIRS SUPPORT OFFICE (RASO)

Permit Actions	New Issues	Terminations	Amendments	Renewals	Totals
Permit Actions Carried Over from Previous Quarter	1	0	3	3	7
Permit Actions Received During Quarter	1	7	15	1	24
Total Permit Actions "In House" During Quarter	2*	7	18**	4	31
Actions Signed Out by NRSC	0	7	15	1	22
Quarterly Average Action Processing Time in Days	90	21	9	20	
Actions Exceeding NRSC Guidelines *1	0	0	0	0	0
Actions Pending at End of Quarter	0	0	0	3	3

Oldest Pending Permit Actions (Command)	NRMP Number	Days in House	Action
NAVWEPSTA Yorktown, VA	45-00109-C1NP	180	R
NAVSTA Rota, Spain	77-62836-C1NP	170	R
SPAWARSYSCEN San Diego, CA	04-66001-C1NP	139	R

Permit Inspections	Total
Inspection Reports Carried over from Previous Quarter	11
Inspections Conducted During Quarter	10
Total Inspection Reports "In House" During Quarter	21
Inspection Reports Signed out by NRSC	14
Quarterly Average Inspection Report Processing Time in Days	13
Longest Inspection Report Processing Time This Quarter in Days	30
Inspection Reports Exceeding NRSC Guidelines *2	0
Inspection Reports Pending at End of Quarter	7

* One administratively returned to command.

MCLB Barstow

** Two administratively returned to commands.

NADEP Cherry Point (S), PHNSYD (C)

*1 (New Issues, Terminations, Amendments < 6 Months) (Renewals < 12 Months)

*2 (Satisfactory Inspection < 60 days, Unsatisfactory or Containing Level III Violation < 14 days)

LISTING OF NRMP ACTIONS/INSPECTIONS
4th QUARTER CY-1999

#	DATE	ACTIVITY	STATE CODE	UIC	TYPE CODE	NEHC/ RASO	ACTION
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New Issues: RASO = 0 NEHC = 0

Terminations: RASO = 6 NEHC = 1

1	14 Sep 99	USS McKEE (AS-41)	59	68780	A	RASO	Termination
2	14 Sep 99	USS McKEE (AS-41)	59	68780	C	RASO	Termination
3	28 Sep 99	Naval Weapons Station, Yorktown, VA	45	00109	J1	RASO	Termination
4	28 Sep 99	Public Works Center, Washington Navy Yard, Washington, DC	08	68925	I1	RASO	Termination
5	28 Sep 99	Supervisor of Shipbuilding Conversion & Repair Vallejo Environ. Det., Vallejo, CA	04	64487	J1	RASO	Termination
6	28 Sep 99	Supervisor of Shipbuilding Conversion & Repair Portsmouth, Environ. Det., Charlelton, SC	39	64504	J1	RASO	Termination
7	03 Dec 99	Naval Construction Training Center, Port Hueneme, CA	04	0612A	I1	RASO	Termination
1	04 Oct 99	Naval Medical Center, Portsmouth, VA	45	00183	32	NEHC	Termination

LISTING OF NRMP ACTIONS/INSPECTIONS
4th QUARTER CY-1999

#	DATE	ACTIVITY	STATE CODE	UIC	TYPE CODE	NEHC/ RASO	ACTION
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Amendments: RASO = 15 NEHC = 8

1	14 Sep 99	US Naval Academy, Annapolis, MD	19	00161	B1	RASO	Amendment
2	14 Sep 99	Naval Mobile Construction Battalion SEVEN	23	55117	I1	RASO	Amendment
3	14 Sep 99	20th Naval Construction Regiment, Gulfport, MS	23	55460	I1	RASO	Amendment
4	28 Sep 99	Navy Mobile Construction Battalion FOUR, Port Hueneme, CA	04	55114	I1	RASO	Amendment
5	30 Sep 99	Space and Naval Warfare Systems Center, Charleston, SC	39	65236	C2	RASO	Amendment
6	13 Oct 99	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	T1	RASO	Amendment
7	27 Oct 99	Naval Shipyard & Intermediate Maintenance Facility, Pearl Harbor, HI	53	32253	A1	RASO	Amendment
8	05 Nov 99	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	B1	RASO	Amendment
9	05 Nov 99	Navy EOD Technical Center, Indian Head, MD	19	0464A	W1	RASO	Amendment
10	05 Nov 99	Navy EOD Technical Center, Indian Head, MD	19	0464A	T1	RASO	Amendment
11	05 Nov 99	Navy EOD Technical Center, Indian Head, MD	19	0464A	A1	RASO	Amendment
12	24 Nov 99	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	S1	RASO	Amendment
13	24 Nov 99	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	B1	RASO	Amendment
14	24 Nov 99	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	J1	RASO	Amendment
15	24 Nov 99	Naval Shipyard, Portsmouth, NH	28	00102	A1	RASO	Amendment
1	13 Sep 99	Naval Hospital, Guam	56	68096	11	NEHC	Amendment
2	14 Sep 99	Naval Medical Center, San Diego, CA	04	00259	11	NEHC	Amendment
3	04 Oct 99	Naval Medical Research Unit #3, Cairo, Egypt	61	61751	41	NEHC	Amendment

**LISTING OF NRMP ACTIONS/INSPECTIONS
4th QUARTER CY-1999**

#	DATE	ACTIVITY	STATE CODE	UIC	TYPE CODE	NEHC/ RASO	ACTION
4	06 Oct 99	Navy Drug Screening Laboratory, Great Lakes, IL	12	68849	61	NEHC	Amendment
5	15 Oct 99	Naval Ambulatory Care Center, Newport, RI	38	68086	11	NEHC	Amendment
6	03 Nov 99	Naval Hospital, Guam	56	68096	11	NEHC	Amendment
7	22 Nov 99	Navy Drug Screening Laboratory, Jacksonville, FL	09	68850	61	NEHC	Amendment
8	22 Nov 99	Naval Medical Center, Portsmouth, VA	45	00183	11	NEHC	Amendment

Renewals: RASO = 1 NEHC = 0

1	14 Sep 99	Naval Postgraduate School, Monterey, CA	04	62271	J1	RASO	Renewal

Inspections: RASO = 14 NEHC = 4

1	01 Sep 99	Naval Shipyard, Portsmouth, NH	28	00102	A1	RASO	Inspection
2	01 Sep 99	Naval Submarine Support Facility, New London, CT	06	68316	A1	RASO	Inspection
3	01 Sep 99	Naval Submarine Support Facility, New London, CT	06	68316	C1	RASO	Inspection
4	08 Sep 99	Pearl Harbor Naval Shipyard and Intermediate Maintenance Activity	53	32253	A1	RASO	Inspection
5	14 Sep 99	Puget Sound Naval Shipyard, Bremerton, WA	46	00251	A1	RASO	Inspection
6	14 Sep 99	Naval Intermediate Maintenance Activity, Pacific Northwest, Silverdale, WA	46	68438	A1	RASO	Inspection
7	14 Sep 99	Naval Intermediate Maintenance Activity, Pacific Northwest, Silverdale, WA	46	68438	J1	RASO	Inspection
8	28 Sep 99	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	C1	RASO	Inspection
9	28 Sep 99	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	L1	RASO	Inspection

LISTING OF NRMP ACTIONS/INSPECTIONS
4th QUARTER CY-1999

#	DATE	ACTIVITY	STATE CODE	UIC	TYPE CODE	NEHC/ RASO	ACTION
10	28 Sep 99	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	T1	RASO	Inspection
11	30 Sep 99	Marine Corps Base Hawaii, Kaneohe Bay, HI	53	00334	J1	RASO	Inspection
12	12 Oct 99	Naval Air Station, Key West, FL	09	00213	J1	RASO	Inspection
13	27 Oct 99	Naval Shipyard, Norfolk, VA	45	00181	C1	RASO	Inspection
14	22 Nov 99	Naval Shipyard & Intermediate Maintenance Facility, Pearl Harbor, HI	53	32253	C1	RASO	Inspection
1	14 Sep 99	Naval Hospital, Pensacola, FL	09	00203	11	NEHC	Inspection
2	14 Sep 99	Naval Hospital, Bremerton, WA	46	68095	11	NEHC	Inspection
3	05 Nov 99	Naval Medical Center, Portsmouth, VA	45	00183	11	NEHC	Inspection
4	22 Nov 99	National Naval Medical Center, Bethesda, MD	19	00168	21	NEHC	Inspection

QA Program Actions: RASO = 1 NEHC = 0

1	14 Sep 99	USS McKEE (AS-41)	59	68780	QA	RASO	QA Program Termination
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CURRENT NRMPs 4th QUARTER CY-1999

Type Code	Description	Number
1	Nuclear Medicine (Limited Scope)	13
2	Nuclear Medicine (Broad Scope)	1
3	Teletherapy	0
4	Research (Non-Human Use)	7
5	Irradiators (< 10,000 Curies)	0
6	Navy Drug Screening Laboratories	3
7	Gas Chromatographs	2
8	Special Nuclear Material SNM (<200 grams)	1
9	Other (Dosimeter Calibration)	1
Total NEHC NRMPs		28

Type Code	Description	Number
A	Radiography	14
B	General Industrial (Not Otherwise Coded)	11
C	Calibrator (> 100 Curies)	18
D	Environmental Applications	0
E	Type A Broad Scope	3
F	Type B Broad Scope	1
G	Type C Broad Scope	0
H	Special Nuclear Material SNM (Unsealed, < Critical Mass)	1
I	Portable Gauges	13
J	Analytical Measuring Instruments	21
K	Gas Chromatographs	1
L	DU Munitions Testing (Outdoors/Indoors)	4
M	Subcritical Assemblies	1
N	RTG Power Sources	2
O	Not Used	0
P	Fixed Gauges	1
Q	Irradiators	1
R	Buried Waste (NEESA)	1
S	Source Material	3
T	Radioactive Commodities Handling & Storage	11
U	Not Used	0
V	Special Nuclear Material SNM (< 200 grams)	1
W	Research and Development	4
X	Calibrator (< 100 Curies)	0
Y	Not Used	0
Z	Not Used	0
Total RASO NRMPs		112

GRAND TOTAL NRMPs 140

LISTING OF CURRENT NRMPs (SORTED BY INSPECTION TARGET DATE)
 NRC SUGGESTED INSPECTION WINDOW: (FREQUENCY OF 1 to 3 YEARS +/- 25%)
 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)

#	ACTIVITY	STATE	LID	TYPE CODE	USE CODE	NEHC RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERRIDE (*)	INSPECTIONS SCHEDULED OR COMMENTS
1	Naval Surface Warfare Center, Carderock Division, West Bethesda, MD	19	61533	E	1	RASO	EXISTING	11 Jun 97	12 Jun 99		
2	Naval Sea Systems Command Detachment, Radiological Affairs Support Office, Yorktown,	45	45650	B	1	RASO	EXISTING	26 Sep 96	27 Sep 99		
3	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	B	1	RASO	EXISTING	10 Oct 96	10 Oct 99		
4	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	Q	1	RASO	EXISTING	10 Oct 96	10 Oct 99		
5	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	W	1	RASO	EXISTING	10 Oct 96	10 Oct 99		
6	Naval Shipyard, Norfolk, VA	45	00181	A	1	RASO	EXISTING	19 Nov 98	19 Nov 99		
7	Naval Air Systems Command, NAS, Patuxent River, MD	19	00019	T	2	RASO	EXISTING	05 Dec 96	05 Dec 99		
8	Naval Air Warfare Center, Aircraft Division, Patuxent River, MD	19	00421	W	2	RASO	EXISTING	05 Dec 96	05 Dec 99		
9	Naval Air Systems Command, Patuxent River, MD	19	00019	T	3	RASO	EXISTING	05 Dec 96	05 Dec 99		
10	Naval Research Laboratory, Washington, DC	08	00173	E	1	RASO	EXISTING	12 Dec 97	13 Dec 99		
11	Naval Weapons Station, Concord, CA	04	60036	B	1	RASO	EXISTING	22 Jan 97	23 Jan 00		
12	Strategic Weapons Facility, Atlantic, Kings Bay, GA	10	68733	B	1	RASO	EXISTING	25 Jan 97	25 Jan 00		
13	Public Works Center, Norfolk, VA	45	00187	J	1	RASO	EXISTING	26 Jan 94	26 Jan 00		
14	USS Frank Cable (AS-40)	59	45255	C	1	RASO	EXISTING	31 Jan 97	31 Jan 00		
15	Marine Corps Logistics Base, Barstow, CA	04	38010	C	1	RASO	EXISTING	06 Feb 97	06 Feb 00		
16	Shore Intermediate Maintenance Activity, San Diego, CA	04	65918	A	1	RASO	EXISTING	11 Feb 99	11 Feb 00		
17	Service School Command, Great Lakes, IL	12	0580A	C	1	RASO	EXISTING	12 Feb 97	12 Feb 00		
18	Service School Command, Great Lakes, IL	12	0580A	A	1	RASO	EXISTING	18 Feb 99	18 Feb 00		
19	Navy Mobile Construction Battalion SEVEN-FOUR	23	55488	I	1	RASO	EXISTING	15 Mar 95	14 Mar 00		
20	USS Emory S. Land (AS-39)	59	20635	A	1	RASO	EXISTING	16 Mar 99	16 Mar 00		
21	USS Frank Cable (AS-40)	59	45255	A	1	RASO	EXISTING	29 Mar 99	28 Mar 00		
22	Naval Hospital, Guam	56	68096	1	1	NEHC	EXISTING	08 Apr 97	08 Apr 00		
23	Trident Refit Facility, Kings Bay, GA	10	44466	A	1	RASO	EXISTING	12 Apr 99	11 Apr 00		
24	Shore Intermediate Maintenance Activity, Norfolk, VA	45	32770	A	1	RASO	EXISTING	20 Apr 99	19 Apr 00		
25	Navy EOD Technical Center, Indian Head, MD	19	0464A	T	1	RASO	EXISTING	29 Apr 97	29 Apr 00		
26	Naval Support Station, Mechanicsburg, PA	37	32414	J	1	RASO	EXISTING	03 May 94	02 May 00		

LISTING OF CURRENT NRMPs (SORTED BY INSPECTION TARGET DATE)
 NRC SUGGESTED INSPECTION WINDOW: (FREQUENCY OF 1 to 3 YEARS +/- 25%)
 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)

#	ACTIVITY	STATE	UID	TYPE CODE	USE CODE	NEHC/RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERDUE (Y)	INSPECTIONS SCHEDULED OR COMMENTS
27	Naval Medical Research Unit #2, Jakarta, Indonesia	62	30851	4	1	NEHC	EXISTING	10 May 97	09 May 00		
28	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	B	1	RASO	EXISTING	14 May 97	13 May 00		
29	Director, Strategic Systems Programs, Arlington, VA	45	00030	T	1	RASO	EXISTING	22 May 97	22 May 00		
30	Navy EOD Technical Center, Indian Head, MD	19	0464A	A	1	RASO	EXISTING	24 May 99	23 May 00		
31	Naval Undersea Warfare Center Division, Keyport, WA	46	00253	A	1	RASO	EXISTING	26 May 99	25 May 00		
32	Naval Hospital, Camp Lejeune, NC	32	68093	1	1	NEHC	EXISTING	28 May 97	28 May 00		
33	Naval Ordnance Center, Pacific Division, Fallbrook Detachment, Fallbrook, CA	04	00396	L	1	RASO	EXISTING	08 Jun 95	08 Jun 00		
34	Marine Corps Logistics Base, Albany, GA	10	67004	W	1	RASO	EXISTING	10 Jul 97	09 Jul 00		
35	Naval Hospital, Groton, CT	06	61726	1	1	NEHC	EXISTING	23 Jul 97	23 Jul 00		
36	Naval Hospital, Newport, RI	38	68086	1	1	NEHC	EXISTING	25 Jul 97	25 Jul 00		
37	Naval Medical Research Center, Bethesda, MD	19	32398	4	1	NEHC	EXISTING	30 Jul 97	29 Jul 00		
38	Naval Submarine Support Facility, New London, CT	06	68316	A	1	RASO	EXISTING	11 Aug 99	10 Aug 00		
39	Naval Shipyard, Portsmouth, NH	28	00102	A	1	RASO	EXISTING	12 Aug 99	11 Aug 00		
40	Naval Aerospace Medical Research Laboratory, Pensacola, FL	09	66452	4	1	NEHC	EXISTING	18 Aug 97	17 Aug 00		
41	Naval Shipyard & Intermediate Maintenance Facility, Pearl Harbor, HI	53	32253	A	1	RASO	EXISTING	20 Aug 99	20 Aug 00		
42	Puget Sound Naval Shipyard, Bremerton, WA	46	00251	A	1	RASO	EXISTING	24 Aug 99	23 Aug 00		
43	Naval Intermediate Maintenance Activity, Pacific Northwest, Silverdale, WA	46	68438	A	1	RASO	EXISTING	26 Aug 99	25 Aug 00		
44	Naval Medical Research Unit #3, Cairo, Egypt	61	61751	4	1	NEHC	EXISTING	10 Sep 97	09 Sep 00		
45	Space and Naval Warfare Systems Center, San Diego, CA	04	66001	E	1	RASO	EXISTING	16 Sep 98	15 Sep 00		
46	Naval Aviation Depot, Cherry Point, NC	32	65923	S	1	RASO	EXISTING	17 Sep 97	17 Sep 00		
47	Naval Medical Research Center, Detachment-Toxicology (NMRC/TD), Wright-Patterson AFB,	34	41817	4	1	NEHC	EXISTING	22 Oct 97	21 Oct 00		
48	Naval Weapons Station, Concord, CA	04	60036	L	1	RASO	EXISTING	26 Oct 95	26 Oct 00		
49	Marine Corps Logistics Base, Albany, GA	10	67004	T	1	RASO	EXISTING	04 Nov 97	04 Nov 00		
50	Naval Shipyard, Portsmouth, NH	28	00102	C	1	RASO	EXISTING	20 Nov 97	19 Nov 00		
51	Weapons Support Facility, Yorktown, VA	45	00109	C	1	RASO	EXISTING	21 Nov 97	20 Nov 00		
52	Naval Medical Center, San Diego, CA	04	00259	1	1	NEHC	EXISTING	03 Dec 97	03 Dec 00		

LISTING OF CURRENT NRMPs (SORTED BY INSPECTION TARGET DATE)
 NRC SUGGESTED INSPECTION WINDOW: (FREQUENCY OF 1 to 3 YEARS +/- 25%)
 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)

#	ACTIVITY	STATE	LAD	TYPE CODE	USE CODE	NEHC/RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERDUE (Y)	INSPECTIONS SCHEDULED OR COMMENTS
53	Public Works Center, Pensacola, FL	09	65114	J	1	RASO	EXISTING	05 Dec 94	04 Dec 00		
54	Naval Hospital, Great Lakes, IL	12	00211	1	1	NEHC	EXISTING	12 Jan 98	12 Jan 01		
55	Navy Drug Screening Laboratory, Great Lakes, IL	12	68849	6	1	NEHC	EXISTING	14 Jan 98	14 Jan 01		
56	Naval Medical Research Center Detachment, Lima, Peru	87	44852	4	1	NEHC	EXISTING	28 Jan 98	27 Jan 01		
57	Naval Hospital, Okinawa, Japan	63	68470	1	1	NEHC	EXISTING	28 Jan 98	28 Jan 01		
58	US Naval Academy, Annapolis, MD	19	00161	M	1	RASO	EXISTING	15 Mar 96	15 Mar 01		
59	US Naval Academy, Annapolis, MD	19	00161	V	1	RASO	EXISTING	15 Mar 96	15 Mar 01		
60	Naval Postgraduate School, Monterey, CA	04	62271	J	1	RASO	EXISTING	28 Mar 95	28 Mar 01		
61	Navy Drug Screening Laboratory, Jacksonville, FL	09	68850	6	1	NEHC	EXISTING	13 Apr 98	13 Apr 01		
62	Naval Air Weapons Station, China Lake, CA	04	60530	B	1	RASO	EXISTING	08 May 98	08 May 01		
63	Public Works Center, Pearl Harbor, HI	53	62755	J	1	RASO	EXISTING	19 May 95	19 May 01		
64	Naval Postgraduate School, Monterey, CA	04	62271	H	1	RASO	EXISTING	16 Jun 99	16 Jun 01		
65	Marine Corps Logistics Base, Albany, GA	10	67004	C	1	RASO	EXISTING	06 Aug 98	05 Aug 01		
66	Marine Corps Logistics Base, Albany, GA	10	67004	T	2	RASO	EXISTING	06 Aug 98	06 Aug 01		
67	Marine Corps Logistics Base, Albany, GA	10	67004	T	3	RASO	EXISTING	06 Aug 98	06 Aug 01		
68	Puget Sound Naval Shipyard, Bremerton, WA	46	00251	C	1	RASO	EXISTING	28 Aug 98	27 Aug 01		
69	Naval Dosimetry Center, Bethesda, MD	19	48539	8	3	NEHC	EXISTING	15 Sep 98	14 Sep 01		
70	Naval Dosimetry Center, Bethesda, MD	19	48539	9	1	NEHC	EXISTING	15 Sep 98	14 Sep 01		
71	National Naval Dental Center, Bethesda, MD	19	0608A	4	1	NEHC	EXISTING	16 Sep 98	15 Sep 01		
72	Space and Naval Warfare Systems Center, San Diego, CA	04	66001	C	1	RASO	EXISTING	16 Sep 98	15 Sep 01		
73	Naval Command, Control and Ocean Surveillance Center, ISE, East Coast Division, North	39	65236	C	1	RASO	EXISTING	18 Sep 98	17 Sep 01		
74	Naval Surface Warfare Center, Indian Head Division, Indian Head, MD	19	00174	P	1	RASO	EXISTING	20 Sep 96	20 Sep 01		
75	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	S	1	RASO	EXISTING	20 Oct 98	19 Oct 01		
76	Navy Mobile Construction Battalion FIVE, Port Huene, CA	04	55115	I	1	RASO	EXISTING	25 Oct 96	25 Oct 01		
77	Naval Air Weapons Station, China Lake, CA	04	68937	I	1	RASO	EXISTING	28 Oct 96	28 Oct 01		
78	Naval Oceanographic Office, Stennis Space Center, MS	23	62306	B	1	RASO	EXISTING	07 Dec 98	07 Dec 01		

LISTING OF CURRENT NRMPs (SORTED BY INSPECTION TARGET DATE)
 NRC SUGGESTED INSPECTION WINDOW: (FREQUENCY OF 1 to 3 YEARS +/- 25%)
 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)

#	ACTIVITY	STATE	LIC	TYPE CODE	ISE CODE	NEHC/RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERDUE (*)	INSPECTIONS SCHEDULED OR COMMENTS
79	Naval Mobile Construction Battalion SEVEN	23	55117	I	1	RASO	EXISTING	09 Dec 96	09 Dec 01		
80	31st Naval Construction Regiment, Port Hueneme, CA	04	55752	I	1	RASO	EXISTING	12 Dec 96	12 Dec 01		
81	Naval Construction Training Center, Gulfport, MS	23	65971	I	1	RASO	EXISTING	12 Dec 96	12 Dec 01		
82	Public Works Center, Guam	56	62395	J	1	RASO	EXISTING	12 Jan 96	12 Jan 02		
83	Navy Public Works Center, Yokosuka, Japan	80	65115	J	1	RASO	EXISTING	24 Jan 96	23 Jan 02		
84	Naval Hospital, Camp Pendleton, CA	04	68094	1	1	NEHC	EXISTING	26 Jan 99	26 Jan 02		
85	Navy Drug Screening Laboratory, San Diego, CA	04	68853	6	1	NEHC	EXISTING	28 Jan 99	28 Jan 02		
86	Naval Station Rota, Spain	77	62863	C	1	RASO	EXISTING	04 Mar 99	03 Mar 02		
87	USS Emory S. Land (AS-39)	59	20635	C	1	RASO	EXISTING	16 Mar 99	15 Mar 02		
88	Naval Hospital, Jacksonville, FL	09	00232	1	1	NEHC	EXISTING	24 Mar 99	24 Mar 02		
89	U.S. Space and Naval Warfare Systems Facility Pacific, Yokosuka, JP	80	66120	C	1	RASO	EXISTING	26 Mar 99	25 Mar 02		
90	Material Readiness Battalion, 3D Force Service Support Group, FMF, Pacific	63	29021	C	1	RASO	EXISTING	29 Mar 99	28 Mar 02		
91	Marine Corps Base, Camp Lejeune, NC	32	67001	J	1	RASO	EXISTING	11 Apr 96	11 Apr 02		
92	Naval Air Weapons Station, China Lake, CA	04	68937	L	1	RASO	EXISTING	15 Apr 97	15 Apr 02		
93	Naval Mobile Construction Battalion FORTY, Port Hueneme, CA	04	55418	I	1	RASO	EXISTING	15 May 97	15 May 02		
94	Navy EOD Technical Center, Indian Head, MD	19	0464A	W	1	RASO	EXISTING	24 May 99	24 May 02		
95	Naval Surface Warfare Center, Indian Head Division, Silver Spring, MD	19	00174	S	1	RASO	EXISTING	26 May 99	25 May 02		
96	Naval Undersea Warfare Center Division, Keyport, WA	46	00253	B	1	RASO	EXISTING	26 May 99	26 May 02		
97	Naval Ocean Processing Facility, Whidbey Island, WA	46	68844	B	1	RASO	EXISTING	27 May 99	26 May 02		
98	Naval Postgraduate School, Monterey, CA	04	62271	F	1	RASO	EXISTING	16 Jun 99	15 Jun 02		
99	Naval Command, Control and Ocean Surveillance Center, ISE, East Coast Division, North	39	65236	C	2	RASO	EXISTING	16 Jul 99	15 Jul 02		
100	Naval Hospital, Charleston, SC	39	68084	1	1	NEHC	EXISTING	21 Jul 99	21 Jul 02		
101	Naval Sea Systems Command, Washington, DC	45	00024	T	1	RASO	EXISTING	03 Aug 99	03 Aug 02		
102	US Naval Academy, Annapolis, MD	19	00161	B	1	RASO	EXISTING	10 Aug 99	09 Aug 02		
103	Naval Submarine Support Facility, New London, CT	06	68316	C	1	RASO	EXISTING	11 Aug 99	10 Aug 02		
104	Naval Supply Systems Command, Mechanicsburg, PA	37	00023	T	2	RASO	EXISTING	10 Aug 99	10 Aug 02		

LISTING OF CURRENT NRMPs (SORTED BY INSPECTION TARGET DATE)
 NRC SUGGESTED INSPECTION WINDOW: (FREQUENCY OF 1 to 3 YEARS +/- 25%)
 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)

#	ACTIVITY	STATE	LIC	TYPE CODE	USE CODE	NEHC/RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERDUE (*)	INSPECTIONS SCHEDULED OR COMMENTS
105	Naval Supply Systems Command, Mechanicsburg, PA	37	00023	T	1	RASO	EXISTING	10 Aug 99	10 Aug 02		
106	Naval Hospital, Bremerton, WA	46	68095	1	1	NEHC	EXISTING	13 Aug 99	13 Aug 02		
107	Naval Hospital, Pensacola, FL	09	00203	1	1	NEHC	EXISTING	18 Aug 99	18 Aug 02		
108	Naval Undersea Warfare Center Division, Keyport, WA	46	00253	J	1	RASO	EXISTING	22 Aug 96	22 Aug 02		
109	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	C	1	RASO	EXISTING	27 Aug 99	26 Aug 02		
110	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	T	1	RASO	EXISTING	27 Aug 99	26 Aug 02		
111	Navy Mobile Construction Battalion ONE THIRTY-THREE	23	55451	I	1	RASO	EXISTING	09 Sep 97	09 Sep 02		
112	20th Naval Construction Battalion	23	55460	I	1	RASO	EXISTING	10 Sep 97	10 Sep 02		
113	National Naval Medical Center, Bethesda, MD	19	00168	2	1	NEHC	EXISTING	23 Sep 99	23 Sep 02		
114	Naval Shipyard, Norfolk, VA	45	00181	C	1	RASO	EXISTING	15 Oct 99	14 Oct 02		
115	Naval Medical Center, Portsmouth, VA	45	00183	1	1	NEHC	EXISTING	15 Oct 99	15 Oct 02		
116	Naval Air Weapons Station, China Lake, CA	04	68937	J	1	RASO	EXISTING	28 Oct 96	28 Oct 02		
117	Naval Shipyard & Intermediate Maintenance Facility, Pearl Harbor, HI	53	32253	C	1	RASO	EXISTING	05 Nov 99	04 Nov 02		
118	Navy Mobile Construction Battalion FOUR, Port Hueneme, CA	04	55114	I	1	RASO	EXISTING	07 Nov 97	07 Nov 02		
119	Naval Oceanographic Office, Stennis Space Center, MS	23	62306	B	2	RASO	EXISTING	17 Nov 99	16 Nov 02		
120	Navy Mobile Construction Battalion ONE	23	55101	I	1	RASO	EXISTING	24 Nov 97	24 Nov 02		
121	20th Naval Construction Regiment, Gulfport, MS	23	55460	J	1	RASO	EXISTING	10 Dec 96	10 Dec 02		
122	Public Works Center, Washington Navy Yard, Washington, DC	08	68925	J	1	RASO	EXISTING	11 Dec 96	11 Dec 02		
123	Navy Mobile Construction Battalion THREE, Port Hueneme, CA	04	55103	I	1	RASO	EXISTING	12 Feb 98	12 Feb 03		
124	Naval Construction Battalion Center, Port Hueneme, CA	04	62583	R	1	RASO	EXISTING	01 May 96	02 May 03		
125	Naval Sea Systems Command Detachment, Radiological Affairs Support Office, Yorktown,	45	45650	N	1	RASO	EXISTING	26 Sep 96	26 Sep 03		
126	Naval Sea Systems Command Detachment, Radiological Affairs Support Office, Yorktown,	45	45650	N	2	RASO	EXISTING	26 Sep 96	26 Sep 03		
127	Construction Battalion Unit 406, Naval Air Station, Lemoore, CA	04	66650	I	1	RASO	EXISTING	07 Oct 98	07 Oct 03		
128	Marine Corps Air Station, Yuma, AZ	03	62974	J	1	RASO	EXISTING	04 Dec 97	04 Dec 03		
129	Naval Air Warfare Center, Aircraft Division, Patuxent River, MD	19	00421	J	1	RASO	EXISTING	19 Mar 98	18 Mar 04		
130	Naval Surface Warfare Center, Crane Division, Crane, IN	13	00164	L	1	RASO	EXISTING	27 Aug 99	26 Aug 04		

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 (FREQUENCY OF 5 YEARS OR GREATER +/- 1 YEAR)**

#	ACTIVITY	STATE	LIC	TYPE CODE	USE CODE	NEHC/RASO	EXISTING/NEW ISSUE	LAST INSPECTION	TARGET DATE	OVERDUE (*)	INSPECTIONS SCHEDULED OR COMMENTS
131	Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA	45	00178	J	1	RASO	EXISTING	20 Oct 98	19 Oct 04		
132	Navy Environmental and Preventive Medicine Unit #5, San Diego, CA	04	0546A	7	2	NEHC	EXISTING	01 Dec 97	30 Nov 04		
133	Navy Environmental Preventive Medicine Unit #6, Pearl Harbor, HI	53	0545A	7	1	NEHC	EXISTING	26 Jan 98	26 Jan 05		
134	Naval Facilities Engineering Service Center, Port Hueneme, CA	04	0537A	K	1	RASO	EXISTING	06 May 98	06 May 05		
135	Public Works Center, San Diego, CA	04	63387	J	1	RASO	EXISTING	24 Jun 99	23 Jun 05		
136	Marine Corps Base Hawaii, Kaneohe Bay, HI	53	00334	J	1	RASO	NEW ISSUE	16 Aug 99	15 Aug 05		
137	Naval Intermediate Maintenance Activity, Pacific Northwest, Silverdale, WA	46	68438	J	1	RASO	EXISTING	26 Aug 99	25 Aug 05		
138	Naval Air Station, Key West, FL	09	00213	J	1	RASO	NEW ISSUE	23 Sep 99	22 Sep 05		
139	Indian Head Division, Naval Surface Warfare Center, Yorktown Detachment, Yorktown, VA	45	47652	J	1	RASO	NEW ISSUE				Permit issued 02FEB99. Scheduled for first inspection AUG/SEP99
140	Naval Air Station Joint Reserve Base, New Orleans, LA	17	00206	J	1	RASO	NEW ISSUE				Permit issued 23AUG99. Scheduled for first inspection FEB/MAR 00



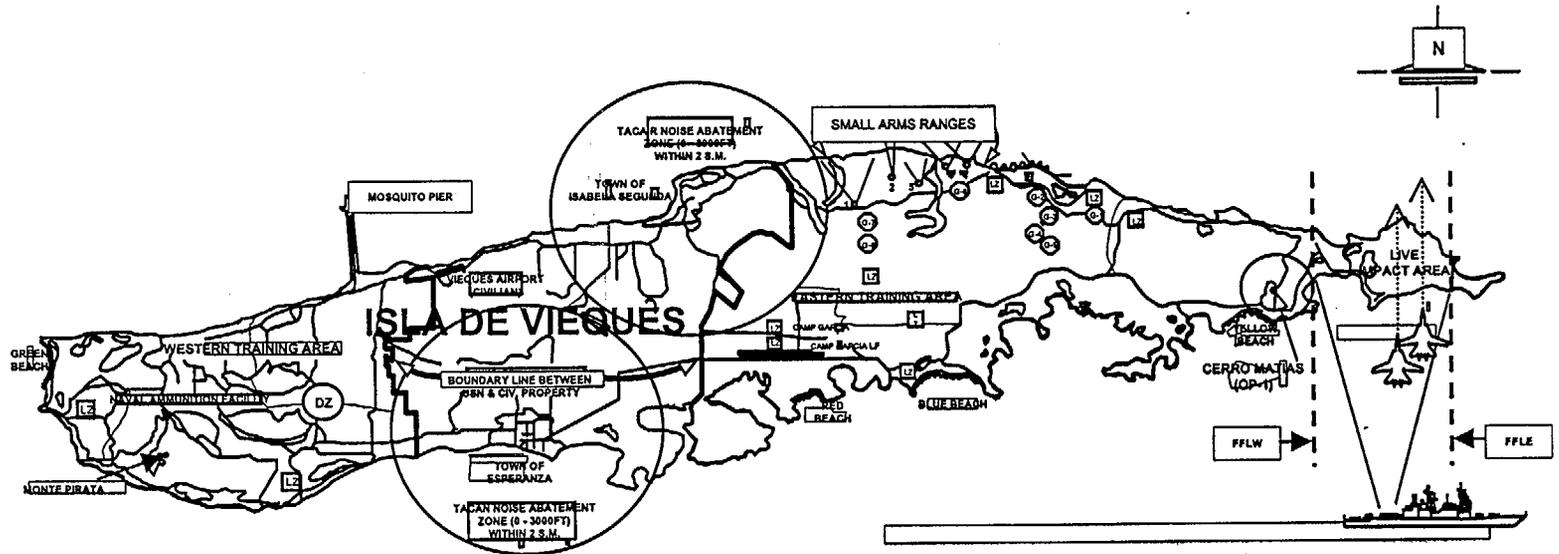
Survey Work Plan

Depleted Uranium (DU) Penetrator
Vieques Naval Target Range
Live Impact Area
Vieques, Puerto Rico

CDR Steve Doremus
OIC - NAVSEADET RASO

UNCLASSIFIED

Naval Radiation Safety Committee



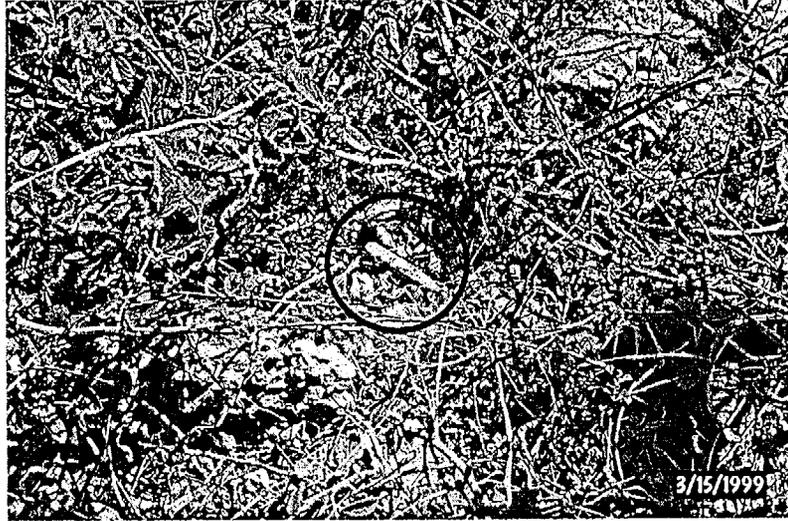
UNCLASSIFIED

Naval Radiation Safety Committee



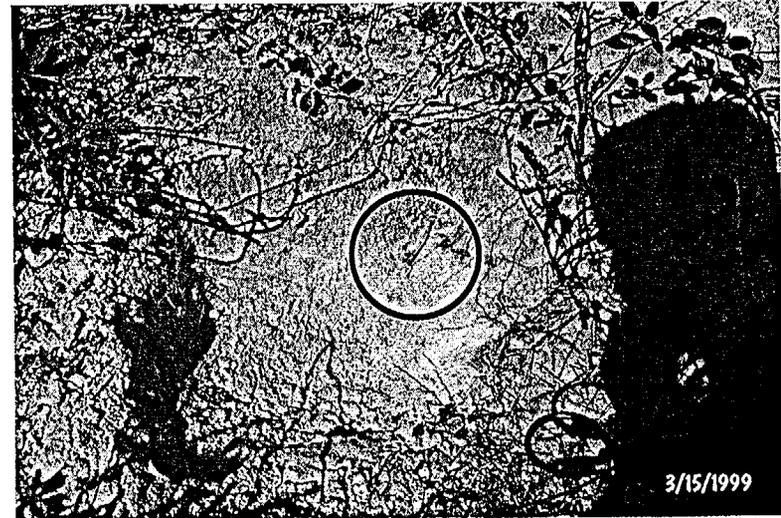
UNCLASSIFIED

Naval Radiation Safety Committee



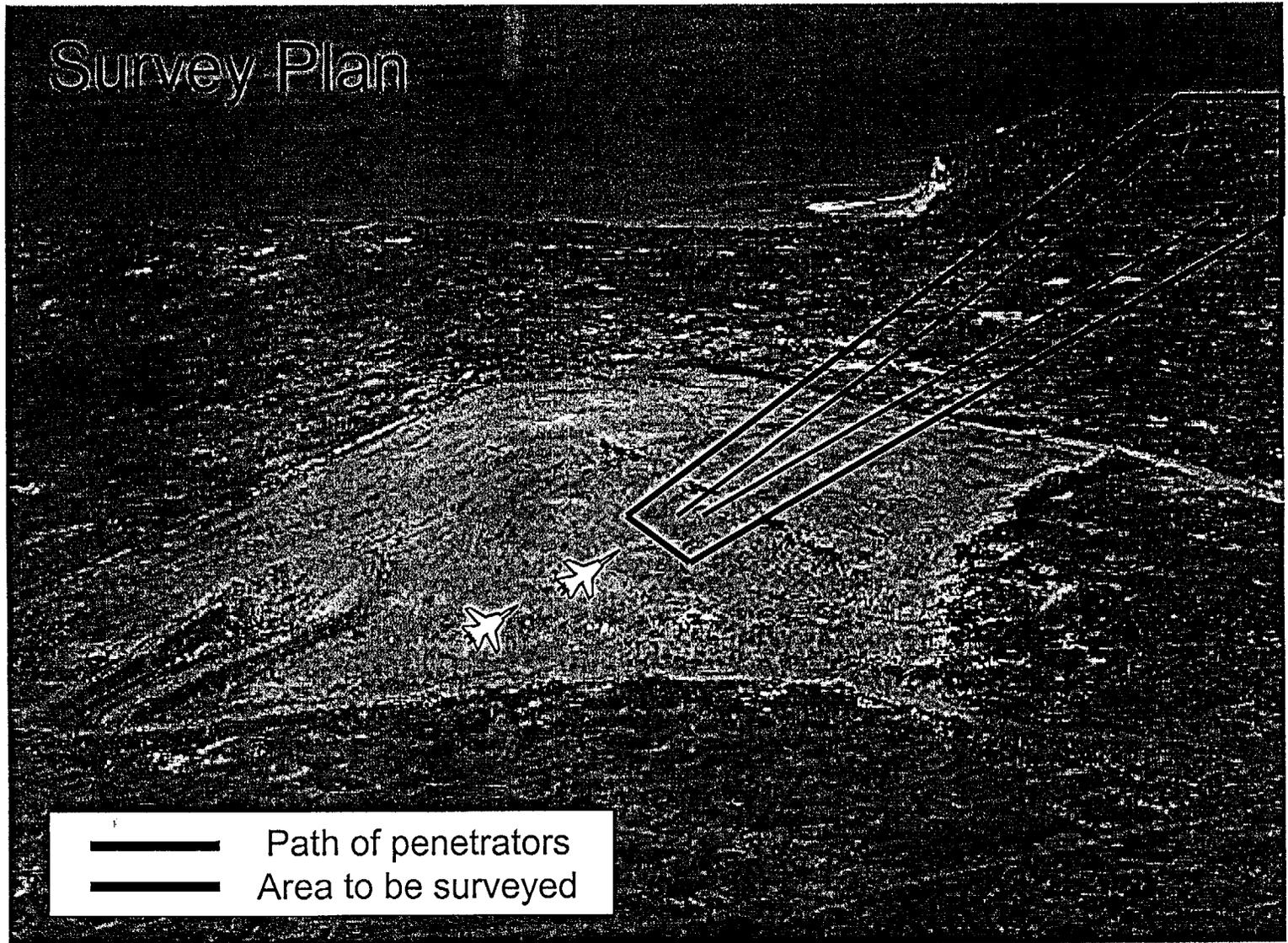
Penetrator
located on the
surface

Penetrator located
(buried) in soil



UNCLASSIFIED

Naval Radiation Safety Committee



UNCLASSIFIED



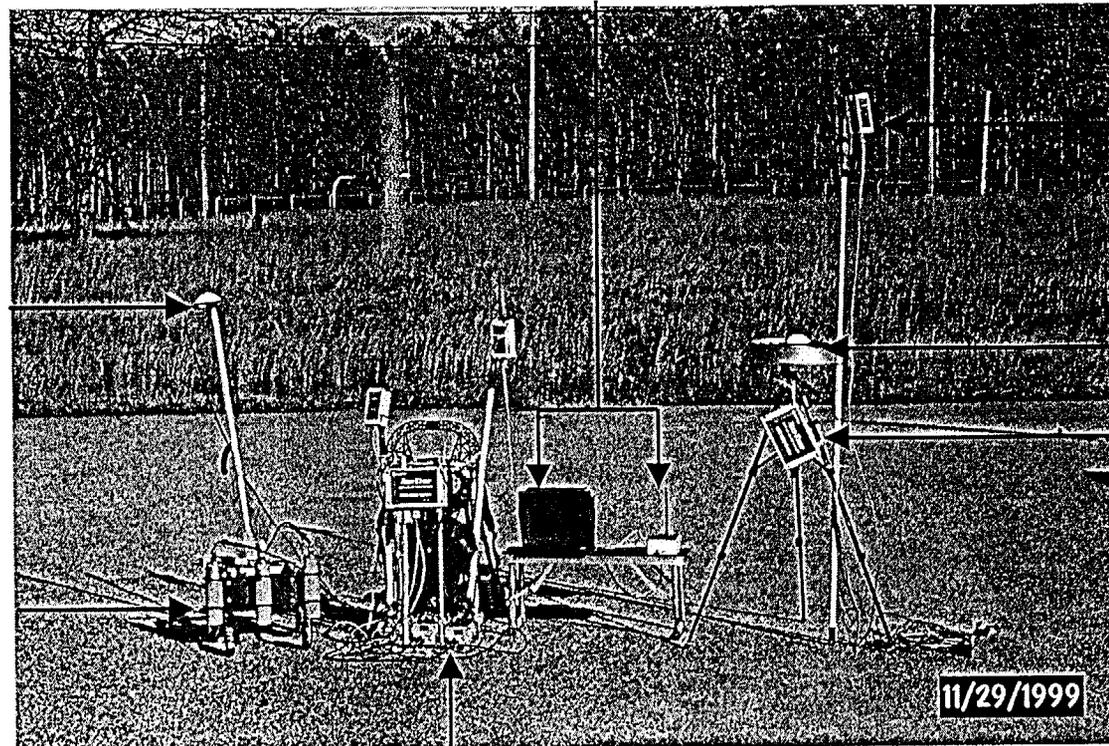
Radiological Scan Survey Equipment

- Scan Survey Equipment Combines:
 - ◆ Global Positioning System (GPS) accurate to within 6 to 18 inches.
 - ◆ NAVTRACK 2200 data management system.
 - ◆ Eberline E-600 Survey Meters and SPA-3, NaI 2"x2" Detectors.

Radiological Scan Survey Equipment



PC and Master Controller



GPS Rover Antenna

2"x2" NaI Detectors on Pushcart

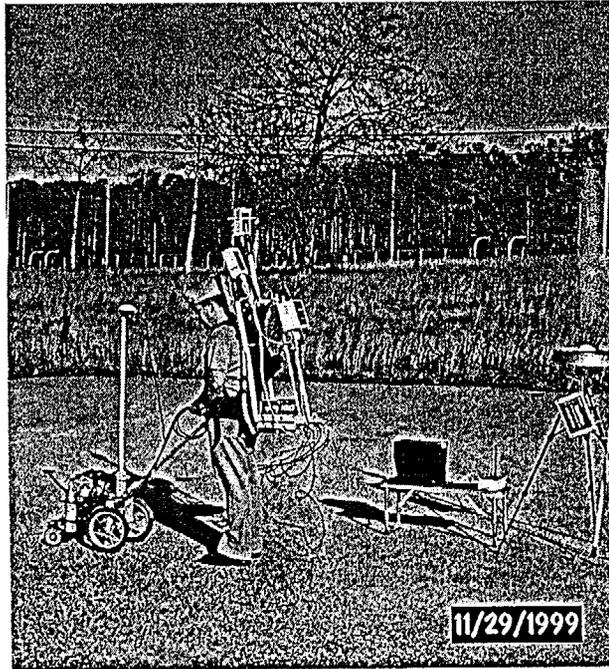
RF Modem

GPS Base Antenna

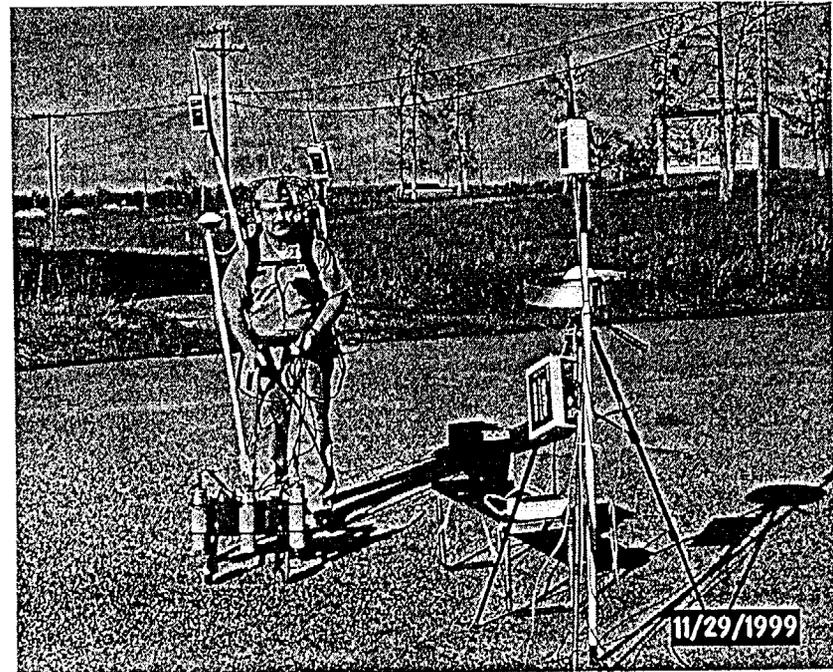
Data Pack

E-600 Survey Meters on Backpack

Radiological Scan Survey Equipment



**...It's not just a job,
it's an adventure!**



Scan Data Analysis

- Potentially contaminated areas will be identified relative to the local area background.
- Areas that exhibit readings above the background (MDA), will be investigated.
- Basic statistical quantities will be calculated for the data in order to identify patterns, relationships and any type anomaly.



Scan Data Analysis

- Graphical review of the data will be performed using:
 - ◆ Posting plots and maps
 - ◆ Frequency plots and maps.
- Graphs will identify areas of heterogeneities in the survey unit and will serve as a visual representation of the symmetry in the data.



Graphical Data Analysis

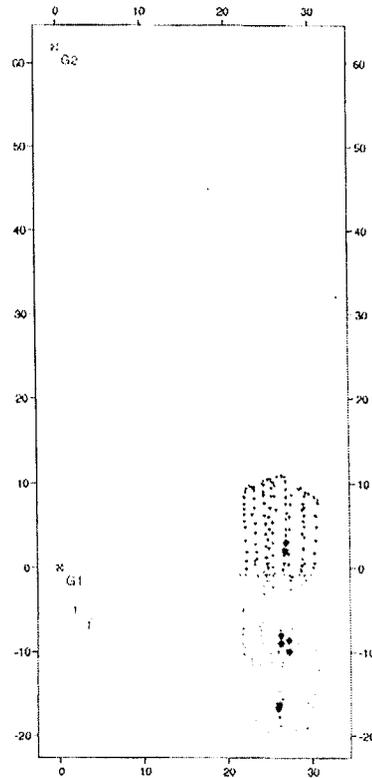
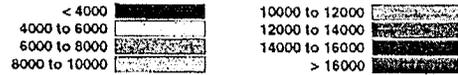


LOGGER Analyze v1.53b Track Map

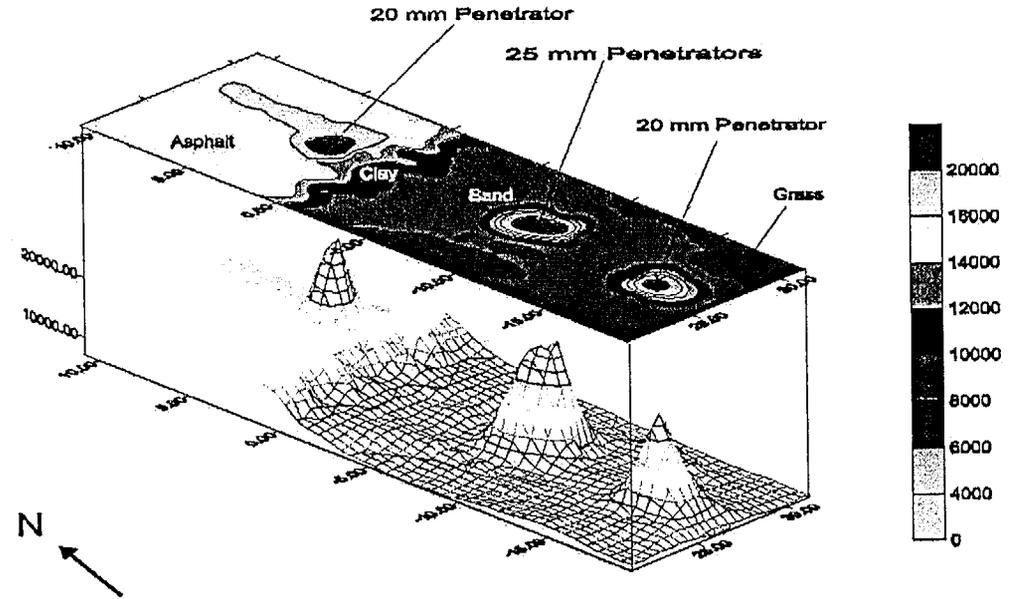
Signal: signal 1 (cpm)

Tim

Threshold:
> 20000 *



PENETRATORS ON THE SURFACE OF VARIOUS MEDIA



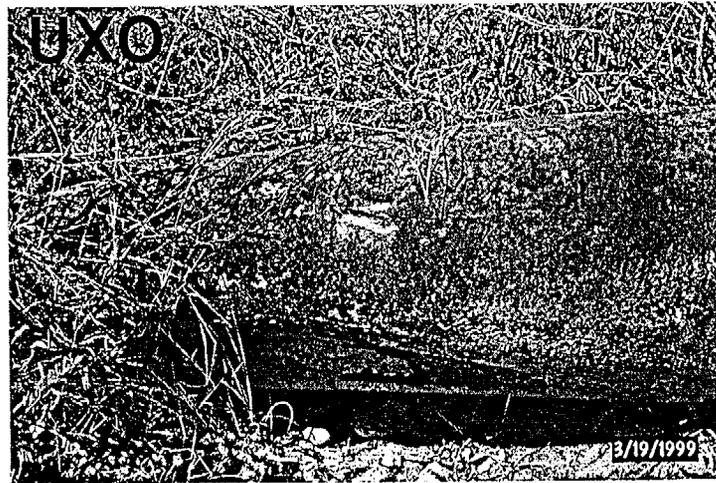


Challenges

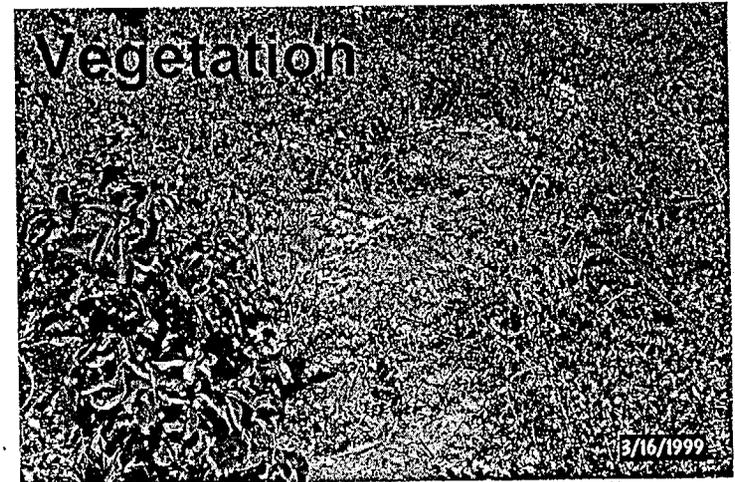
■ Accessibility to the Survey Area

- ◆ Presence of unexploded ordnance.
- ◆ All brush will have to be removed or cut to a height not to exceed four inches above the ground.
- ◆ Detecting DU penetrators.
- ◆ Metal debris and craters.
- ◆ Trespassers.

Naval Radiation Safety Committee



Challenges



UNCLASSIFIED



Conclusion - *Risk Concerns*

- Does the risk from UXO outweigh the risk to an average member of the critical group or survey / cleanup team?
- Note: The critical group means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.



**Navy Master Materials License
Use Of Radioactive Materials**
Amendment Proposal

LCDR S. J. Wolff, MSC, USN
Radiation Health Team
Navy Environmental Health Center
Norfolk, Virginia



Navy Master Materials License - *Current State*



- Condition 10 states:
“(radioactive material use)...under Department of Navy control at locations permitted by the Naval Radiation Safety Committee...”



- Item 3 of Navy application dated 14 August 1986 states:
“...only by Navy and Marine Corps commands at locations authorized by the Naval Radiation Safety Committee.”





Navy Master Materials License - *Amendment Proposal*

- Request for amendment to add:
 - ◆ Non-naval personnel individually approved by the NRSC.
 - ◆ Each person screened for appropriate qualifications and supervision.
 - ◆ All operations to be conducted per the MML, NRMP and applicable Navy and Federal regulations.



Navy Master Materials License - *Amendment Rationale*



■ Improved Utilization of Resources:

- ◆ Dollars and People

■ Cooperative Agreements With:

- ◆ US Government (FDA, NIH)
 - ◆ Nuclear medicine physicians
- ◆ Foreign Governments (Indonesia)
 - ◆ Infectious Disease Research





Trend Analysis of Notices of Violation
Identified During
Naval Radioactive Material Permit
Inspections

CDR J. R. POMERVILLE, MSC, USN
OPNAV N455C
December 6, 1999



Analysis of Notices of Violation (NOVs)

■ 107 Inspections Conducted Over 2 Years

- ◆ RASO: 86 Inspections
- ◆ NEHC: 21 Inspections
- ◆ 53 Inspections Without Violations ($\approx 50\%$)

■ Total of 183 Violations

◆ NEHC	44	24%
◆ RASO	139	76%

Naval Radiation Safety Committee



Severity Category

I	II	III	IV	V
0	0	3	120	60
		(1%)	(66%)	(33%)

- All Level III violations occurred at one location during single inspection.
- All Level V (33%) NOVs are “lowest order” and not recognized by the NRC.



Breakdown of Violations

- Navy-Wide **TOP FIVE** Deficiencies (~70%)
- Medical (NEHC) and Industrial (RASO)
 - Required Logs/Records 36 20%
 - Surveys and Inspections 27 15%
 - Site Specific (Not Coded) 22 12%
 - Transportation 20 11%
 - Training 20 11%

Naval Radiation Safety Committee



NEHC - Medical Permits

✓ Operations and Logs	12	27%
✓ Procedures	5	11%
✓ Quality Management	5	11%



RASO - Industrial Permits

✓ Logs and Records	35	25%
✓ Surveys and Inspections	23	17%
✓ Site Specific (Not Coded)	22	16%





Follow-On Actions

- Publish Trend Analysis
 - ◆ Info-Notes, Web-Sites, RSO Conferences
- Brief Commands During Inspections
- Teach Trends in During Training Courses
 - ◆ NSHS and RASO
 - ◆ Continue NOV Tracking Seeking Trends
- Evaluate Effectiveness on Re-Inspections

**Trend Analysis of Notices of Violation
Identified During
Naval Radioactive Material Permit
Inspections**

**CDR J. R. Pomerville, MSC, USN
OPNAV N455C**

NAVY WIDE

<u>Inspections Performed</u>	107
Total Number of Inspections Conducted by NEHC:	21
Total Number of Inspections Conducted by RASO:	86
Total Number of Inspections with "No" Violations	53
<u>Total Number of Violations</u>	183
Total Number of Level One Violations:	0
Total Number of Level Two Violations:	0
Total Number of Level Three Violations:	3
Total Number of Level Four Violations:	120
Total Number of Level Five Violations:	60

Violation Type	Breakdown Of Violations By Category	Number of Violations	% Total Violations
F	Required Logs and Records	36	20%
E	Surveys and Inspections	27	15%
J	Site Specific (Not Otherwise Coded)	22	12%
I	Transportation	21	11%
C	Training	20	11%
H	Operations	15	8%
A	Command Program	12	7%
G	Facilities and Equipment	11	6%
B	Procedures	8	4%
NJ	Quality Management Program (NEHC)	5	3%
D	Instruments and Personnel Dosimetry	4	2%
X	Hazmat Training	2	1%
Total:		183	

MEDICAL

Type Code	Medical Permits Inspected (NEHC)	Inspections Performed	Inspection Freq. (Yr)
1	Nuclear Medicine (Limited Scope)	10	3
2	Nuclear Medicine (Broad Scope)	3	1
3	Teletherapy	1	1
4	Research (Non-Human Use)	2	3
5	Irradiators (< 10,000 Curies)	0	3
6	Navy Drug Screening Laboratories	2	3
7	Gas Chromatographs	1	7
8	Special Nuclear Material SNM (<200 gm)	1	3
9	Other (Dosimeter Calibration)	1	3

Number Medical Permits Inspected: 21

Number of Violations Cited by NEHC: 44

Violation Type	Violations by Technical Center - NEHC	Number of Violations	% Total Violations
H	Operations	12	27%
B	Procedures	5	11%
NJ	Quality Management Program (NEHC)	5	11%
A	Command Program	4	9%
E	Surveys and Inspections	4	9%
G	Facilities and Equipment	4	9%
I	Transportation	4	9%
D	Instruments and Personnel Dosimetry	3	7%
C	Training	2	5%
F	Required Logs and Records	1	2%
Total:		44	

INDUSTRIAL

Type Code	Industrial Permits (RASO)	Inspections Performed	Inspection Freq. (Yr)
A	Radiography Permits Inspected	31	1
B	General Industrial Permits	5	3
C	Calibrator (> 100 Curies)	18	3
D	Environmental Applications	0	2
E	Type A Broad Scope	3	2
F	Type B Broad Scope	1	2
G	Type C Broad Scope	0	5
H	Special Nuclear Material SNM (Unsealed, < Critical Mass)	1	2
I	Portable Gauges	6	4
J	Analytical Measuring Instruments	8	6
K	Gas Chromatographs	1	7
L	DU Munitions Testing (Out/Indoor)	1	5
M	Subcritical Assemblies	0	3
N	RTG Power Sources	0	7
O	Not Used	0	
P	Fixed Gauges	0	5
Q	Irradiators	0	3
R	Buried Waste (NEESA)	0	7
S	Source Material	2	3
T	Radioactive Commodities Handling & Storage	9	3
U	Not Used	0	
V	Special Nuclear Material SNM (< 200 gm)	0	5
W	Research and Development	0	3
X	Calibrator (< 100 Curies)	0	5
Y	Not Used	0	
Z	Not Used	0	

Number Industrial Permits Inspected: 86

Number of Violations Cited by RASO: 139

INDUSTRIAL

Violation Type	Violations by Technical Center (RASO)	Number of Violations	% Total Violations
F	Required Logs and Records	35	25%
E	Surveys and Inspections	23	17%
J	Site Specific (Not Otherwise Coded)	22	16%
C	Training	18	13%
I	Transportation	17	12%
A	Command Program	8	6%
G	Facilities and Equipment	7	5%
B	Procedures	3	2%
H	Operations	3	2%
X	Hazmat Training	2	1%
D	Instruments and Personnel Dosimetry	1	1%
	Total:	139	

**DEFECIENCIES - 3 or GREATER OCCURRENCES
MEDICAL NRMPs**

<u>Number</u>	<u>Deficiency</u>
4	Annual Program Review Not Conducted or Recorded
4	NRMP Condition Violation
4	Quality Management Program
3	Survey Records
3	Storage/Security
3	Sealed Source Leak Tests
3	Decay in Storage Records

INDUSTRIAL NRMPs

<u>Number</u>	<u>Deficiency</u>
22	Site Specific failure to follow local regulations
7	Internal inspections not conducted in timely manner
6	Available records did not document annual inventory
6	Inventory records did not include all required info
6	Fire Department not provided proper info/lists of materials
6	Emergency phone # not posted, properly coordinated
5	Formal Internal Audit / Inspection procedures not established
4	Survey records did not include all required info
3	RSO written authority for access to CO
3	Radiation Worker Refresher Training
3	At least one simulated accident drill/year
3	Refresher Training did not include all required
3	Instruments other than stated in NRMP used for leak tests

COMPARISON CY-98 VS CY-99

Year	#Insp.	III	IV	V	NEHC Viol.	RASO Viol.	Total Viol.
CY-1998	58	0	73	44	26	91	117
CY-1999	49	3	47	16	18	48	66
Totals	107	3	120	60	44	139	183

Summary:

Inspections evenly spread over two years.

66% of violations fall into Level IV (NRC's lowest level).

33% of violations fall into Level V (Essentially Administrative).

Level III comprise 1% of violations and were all at one facility during the same inspection.

Follow-On Actions:

Publish Trend Analysis as Info-Notes, Web-Sites, and RSO Conferences.

Brief Commands During Inspections.

Teach Trends in During Training Courses at NSHS and RASO.

Continue NOV Tracking Seeking Trends.

Evaluate Effectiveness on Re-Inspections.