



DEPARTMENT OF THE NAVY

CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

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Ser N455/7U595173
10 Apr 1997

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

REPLY TO NRC INSPECTION REPORT 45-23645-01NA/9605

Gentlemen and Ladies:

This is in response to the Nuclear Regulatory Commission, Region II, letter of March 5, 1997, Docket No. 030-29462, Subject: NRC Inspection Report 45-23645-01NA/96-05. The letter requested additional information regarding the Navy's corrective actions to the Notice of Violation issued August 9, 1996 concerning commodities programs of Naval Sea Systems Command and Naval Supply Systems Command, operating under Navy Radioactive Material Permits (NRMP) Nos. 08-00024-T1NP, 45-00023-T1NP, and 45-00023-T2NP. Specific responses to your request are provided in the enclosure.

The Navy continues to review its commodities program. While verification and correction of current inventories has been relatively straightforward, inventory reconciliation from the last forty years is extremely difficult if not impossible due to the absence of procurement and transfer records, and lack of source origination specification in the waste disposal records. These historical disposal records identified the curie content but failed to identify the number and type of devices. We expect to complete our review and commodity inventory reconciliation by the end of August 1997.

The Navy agrees with the NRC's general comment about the need for follow-up on assessing the effectiveness of correcting the failure of key personnel to follow existing procedures. In addition to performing routine inspections that cover these personnel's performance, the Navy is upgrading the training these personnel receive as well as revising the databases and procedures they use to ensure that proper control, transfer and disposal of commodities are properly conducted.

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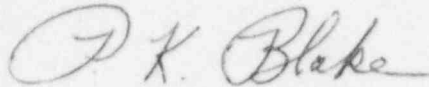
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If you have additional questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script, reading "P. K. Blake".

P. K. BLAKE
Commander, MSC, U.S. Navy
Executive Secretary
Navy Radiation Safety Committee

Encl:

(1) Specific Response to NRC Inspection Report 45-23645-01NA/9605

Copy to:

Regional Administrator, NRC Region II

BUMED (211)

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OIC, RASO

SPECIFIC RESPONSE TO NRC INSPECTION REPORT 45-23545-01NA/96-05

1. Violation A. The licensee transferred byproduct material to persons and did not verify that the transferee was authorized to receive material.

a. Information Requested. Specify if the compasses and ice detection devices transferred to the Army, Coast Guard, and the Defense Logistics Agency have been returned to Navy control or if it has been determined that they have a license to possess this material.

Response. A total of 31 and 2 compasses were transferred by NAVSUP to the Army and Coast Guard, respectively. Neither the Coast Guard nor the Army are authorized to possess these specific devices. The 31 compasses transferred to the Army will be returned to Navy custody within one week. The Coast Guard activity that received the two remaining compasses has been unable to locate them or find disposal records. The Defense Logistics Agency is authorized to possess the ice detection devices transferred to them per Nuclear Regulatory Commission (NRC) licenses 37-30062-01 and 04-29092-01.

b. Information Requested. Submit information regarding how a future recurrence of this violation will be avoided for commodities currently included under the Navy license.

Response. As noted in our letter of September 19, 1996 and February 6, 1997 to you, commodity item managers have been directed by letter to ensure that before transferring radioactive material, the agency or command that is to receive the material holds a license to possess the items. There are also, several databases available to the item managers and users that identify these devices as radioactive and provide required instructions for transfer and disposal. These databases are being revised to incorporate the necessary codes to prohibit the unauthorized transfer or disposal of these items. These revisions will be complete by August 1, 1997. The NAVSUP Radiation Safety Officer and her assistant for the NRMP #'s 45-00023 T1NP and T2NP will review transfer documents during their program reviews and the Radiological Affairs Support Office (RASO) will review transfer documentation during inspections to verify compliance.

c. Information requested. Limiting procurements to only commodities that may be possessed under a general license does not necessarily relieve you from controlling the transfer of these commodities. Provide information regarding what actions you will take to address this issue.

Response. The Navy is revising stock system databases to list the proper transfer and disposal method for these materials stocked in this system. If general licensed commodities are procured, item managers and users of these devices will be informed of the license conditions regarding transfer of the

material. During inspections, inspectors will review compliance with the conditions of the general license.

2. Violation B. The licensee failed to keep records showing the receipt, transfer and disposal of byproduct material possessed and used under NRMP Nos. 45-00023-T1NP, 45-00023-T2NP, and 08-00024-T1NP.

a. Information Requested. Provide the results of your efforts to account for all material possessed under these permits and the date that you expect to complete this effort.

Response. Procurement, transfer and disposal data is summarized to date as an attachment. Inventory reconciliation continues and is expected to be completed by 1 August 1997. Most of the devices authorized by these permits have been in the inventory for 20 to 40 years. For many of the devices, no new purchases have occurred in the last 10 years. An intensive search has been conducted to locate procurement, transfer and disposal records. Unfortunately, much of this historical documentation is no longer available or incomplete.

The following provides some background information and explanations of the data presented in the attachment.

Inventory. The attached inventory data is based on actual numbers counted, procurement documentation that was found or past inventory information that is available. The greatest number determined from this information is recorded as the inventory.

Disposal Records. Disposal records for many of these commodities did not provide the type of information to identify the specific device nor the number of disposed devices. A typical entry on historical manifests would read, gages - 200 mCi total - isotope Pm-147. Since 1996, naval commodity waste generators must provide a detailed inventory which lists the stock number and quantity of each device. This inventory is verified at the time the waste is picked up for disposal. The disposal data for most devices on NRMP Nos. 45-00023-T1NP and 45-00023-T2NP are indicated as zero because of the absence of clear disposal records. The disposal data for devices on NRMP 08-00024-T1NP are based on records retained at the Navy's RADIAC calibration labs. In some cases the documentation did not specify the model type of the device being disposed. Because of this fact, in reconciling the RADIAC inventory all models of a particular RADIAC type (i.e. AN/PDR-43) have been combined.

3. Violation C. The permittee failed to conduct physical inventories every twelve months for material possessed under NRMP Nos. 45-00023-T1NP, 45-00023-T2NP, and 08-00024-T1NP.

Information Requested. Provide the current results of your efforts to account for all material possessed under these permits and the date that you expect to complete this effort.

Response. The current inventory data for all three NRMPs is attached. The inventory data for the devices on NRMP Nos. 45-00023-T1NP and 45-00023-T2NP is based on information received directly from field level activities. The data for the devices on NRMP No. 08-00024-T1NP is based on the information on the Computer Recall Inventory System (CRIS) and inventories conducted by the RADIAC Field Managers at the supply points. We expect to complete reconciliation by August 1, 1997.

4. General Information Requested. Your letter also requested additional information.

a. Information Requested. The primary causes the Navy identified for these violations appeared to be the failure of key personnel to implement existing procedures to control and account for commodities containing licensed material. Provide information as to how you will follow-up to ensure that existing procedures are followed.

Response. Formal inspections of the three permits will be conducted on an annual versus triannual basis for the next three years. Specific inspection items will cover receipt, transfer, disposal and inventory records as well as evaluate management control and compliance with established procedures. Inspections will be conducted at the user, supply and headquarters level. Deficiencies identified will be forwarded to the permittee for action.

b. Other Requested Information. Describe how your corrective actions will prevent an inadvertent transfer of radioactive commodities to a Defense Reutilization and Marketing Office (DRMO).

Response. Guidance is provided in several instructions, readily available for review by item managers and users of radioactive material, that prohibit the transfer of licensed radioactive commodities to a DRMO. The most widely distributed instructions include DODINST 4160.21-M and NAVSUPINST 4000.34B. Disposal procedures are part of each permit application and require the devices to be disposed through the Navy Low Level Radioactive Waste Program. In addition the databases available to the item managers, users, and DRMO's are being modified to identify these devices as radioactive and provide required instructions for demilitarization and transfer. These modifications will be complete by August 1, 1997.

NRMP 08-00024-T1NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL
AN/PDR-18 (Plain, A, and B)
Items 6A. And 6B.
Sr-90 (100-300 uCi)

INVENTORY SUMMARY
A total of 2005 devices were procured between 1951 and 1956. Records indicate that 1890 devices were properly disposed of and no devices transferred. The current inventory is 2 devices. There are 113 devices unaccounted for, or about an average of 0.12% per year over the 45 years they have been in the inventory.

AN/PDR-43 (Plain, A, B, C, D, E, F)
Items 6C., 6D., and 6Q.
Kr-85 (80 uCi-100 uCi)

A total of 9971 devices were procured between 1959 and 1990. Records indicate that 1154 were properly disposed of and no devices were transferred. The current inventory is 8189 devices. There are 628 devices unaccounted for, or about an average of 0.17% per year over the 37 years they have been in the inventory.

AN/PDR-45 (Plain, A, B, C, E, and F)
Items 6E., 6F., 6G., 6N., and 6U.
Sr-90 (40 uCi)
Kr-85 (20 uCi to 180 uCi)

A total of 1223 devices were procured between 1957 and 1985. Records indicate that 167 devices were properly disposed of and no devices were transferred. The current inventory is 693 devices. There are 363 devices unaccounted for, or about an average of 0.76% per year over the 39 years they have been in the inventory.

IM-134/WDQ
Item 6H
Sr-90 (1 uCi)

Only one device was procured sometime before 1988. There is no documentation available to trace this item to an end user. Therefore, one device is unaccounted for.

IM-151/WDQ (Plain and A)
IM-192 (A, B, C, D, E, F, G)
Items 6I. and 6P.
Sr-90 (85 uCi)

A total of 815 devices were procured between 1959 and 1977. Records indicate that 791 devices were properly disposed of and none were transferred. The current inventory is 30 devices. All the devices have been accounted for with six extra units reported due to probable duplicate records of disposal.

NRMP 08-00024-T1NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL	INVENTORY SUMMARY
TS-1189 (Plain, A, B, C, D) Items 6J., 6K., 6L., and 6O. Cs-137 (700 uCi to 1000 uCi)	A total of 317 devices were procured. Records indicate that 122 devices were properly disposed of and none were transferred. The current inventory is 207 devices. All 317 devices have been accounted for with 12 additional devices reported due to probable duplicate disposal records.
CP-1112/PD (Plain, A - J) Items 6M and 6T C-14 (5 uCi to 25 uCi)	A total of 766 devices were procured between 1970 and 1989. Records indicate that 43 devices were properly disposed of and none were transferred. The current inventory is 463 devices. There are 171 devices unaccounted for, or about an average of 0.83% per year over the 27 years they have been in the inventory.
AN/UDM-10 Item 6R. Am-241 (130 uCi)	All AN/UDM-10 have been accounted for and transferred to individual NRMPs held by the RADIAC Calibration Labs.
IM-231B/PD Item 6S. Cs137 (8 uCi)	A total of 400 devices were procured between 1983 and 1990. Records indicate that 34 devices have been properly disposed of and none transferred. The current inventory is 414 devices. There are 48 devices that are accounted for in excess of the procurement documentation.

NRMP 45-00023-T1NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL
Wrist Depth Gauge
Items 6A and 6D
Tl-204 (1.6 mCi)
Pm-147 (7 mCi)

INVENTORY SUMMARY

Records indicate that 1201 of these items were in the inventory in 1985. There are no records of procurement, transfer or disposal since 1985. The current inventory is 33 devices. There are 1168 devices unaccounted for. Most likely these devices were properly disposed of, however, the documentation is missing. Currently, this item is procured by individual commands from a manufacturer generally licensed to distribute these items.

Divers Wrist Watch
Item 6B
Pm-147 (2 mCi)

Records indicate that in 1985 none of these items existed in the inventory. There are no records of procurement, transfers or disposals since 1985. A thorough inventory has been conducted and only 1 device was found. It is most likely that only a few if not just one device was ever procured. Currently, this item is procured by individual commands from a manufacturer generally licensed to distribute these items.

Divers Wrist Compass
Item 6C
Pm-147 (15.5 mCi)

Records indicate that a total of 294 devices were in the inventory in 1985. There are no records of procurement or disposal since 1985. There were 33 devices transferred outside the Navy of which 31 have been located and will be transferred back to Navy custody. There are 25 devices in the current inventory. There are 238 devices unaccounted for.

Depth Gauge
Item 6E
Pm-147 (25 mCi)

Records indicate that 239 devices were in the inventory in 1985. There are no records of procurement, disposals or transfers since 1985. The current inventory is 18 devices. There are 221 devices unaccounted for.

NRMP 45-00023-T1NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL

INVENTORY SUMMARY

Tritium Water Standard
Item 6F.
H-3 (30 uCi)

Records indicate that 1138 of these items were in the inventory in 1985. Since that time 809 have procured, 94 properly disposed of and none transferred. The current inventory is 339. There are 1514 unaccounted for. The total amount of tritium in each standard is 33 times less than the exempt quantity. It would be an exempt source except that the manufacturer does not have a license to distribute exempt quantities of tritium.

NRMP 45-00023-T2NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL

INVENTORY SUMMARY

Aircraft Exit Markers
Item 6A and 6B
H-3 (50 mCi)

These items were procured under the NRC General License for Distribution No. 37-00030-10G. They are the same exit markers that are sold to all airlines. Records indicate that 10 of these items were in the inventory in 1988. However, this inventory was based on what was in the supply system and did not include what was on the aircraft. Since 1988, 129 of these items have been procured. There are no records of disposals or transfers. The current inventory is 51 items. There are 88 items unaccounted for.

Aircraft Exit Marker
Item 6C
H-3 (90 mCi)

Records indicate that 70 of these items were in the inventory in 1988. There are no records of procurement, disposal or transfer since that time. The current inventory is 17 items. There are 53 items unaccounted for. This exit marker was used on the H-34 helicopter which has been an obsolete aircraft since the 1970's. Standard practice is to remove all radioactive and hazardous material before the aircraft is scrapped.

Droque Lights
Item 6D
Kr-85 (25 mCi)

Records indicate that 10 of these items were in the inventory in 1988. This inventory included only what was in the supply system and did not include what was on the aircraft. There are no records of procurement, disposals or transfers since the 1988 inventory. Current inventory is 273 items.

NRMP 45-00023-T2NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL

Ice Detector Probes

Item 6E.

Sr-90 (50 uCi)

INVENTORY SUMMARY

These items were procured under a General License issued by the State of Washington to Sundstrand Data. Records indicate that 105 of these devices were in the inventory in 1988. This inventory only includes what was in the supply system and not what was in the aircraft. Transfer documents indicate that 3 of these devices were transferred to DLA. There are no records of procurement or disposal since 1988. The current inventory is 105 items. An excess of 3 devices are accounted for compared to the 1988 inventory because of the inventory method discussed above.

Toggle Switch

Item 6F.

Pm-147 (300 uCi)

Records indicate that 3 of these items were in the inventory in 1988. This inventory only includes what was in the supply system and did not include what was on the aircraft. There are no records of disposals or transfers since 1988. None of these items currently exist in the inventory. This item was probably a limited buy in that it was replaced in 1982 by a switch not containing radioactive material. Three devices are not accounted for.

Droque Light

Item 6G

H-3 (500 mCi)

Records indicate that 136 of these items were in the inventory in 1988. This inventory did not include what was on the aircraft. Since 1988, 420 of these items have been procured. There are no records of disposals or transfers since 1988. There are 771 of these items currently in the inventory. An excess of 251 items are accounted for compared to the 1988 inventory because of the inventory method discussed above.

NRMP 45-00023-T2NP INVENTORY RECONCILIATION STATUS

DEVICE AND MODEL

INVENTORY SUMMARY

Aircraft Wind Indicator
Item 6H and 6I
H-3 (230 mCi to 400 mCi)

No procurement or inventory data could be located for these items. These items were used on the AV8 Harrier which was removed from service in 1983. Records indicate that at least 37 AV8 Harriers were in service at some time. There are no record of disposals or transfers since 1988 for these items.