



DEPARTMENT OF THE NAVY
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30 Aug 24

Mr. Mike Wutkowski
U.S. Nuclear Regulatory Commission
Region I, DNMS
2100 Renaissance Blvd, Suite 100
King of Prussia, PA 19406-2713

SUBJECT: INFORMATION CONCERNING LEAKING LICENSED MATERIAL

This letter reports a leaking specifically-licensed sealed radioactive source reportable under license condition 15.G of Nuclear Regulatory Commission Master Materials License No. 45-23645-01NA. The source was authorized for distribution and possession under Naval Radioactive Materials Permit No. 04-57025-T2NP, which was issued under the authority of Nuclear Regulatory Commission Master Materials License No. 45-23645-01NA. The enclosed report provides information required by Title 10, Code of Federal Regulations, Part 30.50(c)(2).

If you have additional questions, please do not hesitate to contact me via telephone at (703) 693-0537 or through electronic mail at gregory.r.fairchild.mil@us.navy.mil.

Sincerely,

G. R. FAIRCHILD
Captain, Medical Services Corps,
United States Navy
Executive Secretary
National Radiation Safety Committee

Enclosure: Information Concerning Leaking Sealed Radioactive Source

Copy to: Naval Sea Systems Command (SEA 09R)
Naval Sea Systems Command Detachment, Radiological Affairs Support Office

INFORMATION CONCERNING LEAKING SEALED RADIOACTIVE SOURCE

1. A description of the event, including the probable cause and the manufacturer and model number of any equipment that failed or malfunctioned.

Contamination exceeding the regulatory limit of 0.005 microcuries for specifically-licensed radioactive material was found on In-Flight Blade Inspection System (IBIS), model number 12210-1, serial number 976, removed from Sikorsky CH-53E helicopter main rotor blade serial number A117-02790 which originated from MALS-/MAG-16 in Miramar, California. Specifically, during a preemptive contamination survey prior to return of the asset to the manufacturer, General Nucleonics Inc., contamination levels of approximately 0.256 microcuries were indicated on the asset.

When blades are removed from the aircraft at Fleet Readiness Center East (FRCE), they are shipped to, and temporarily stored at, a Sikorsky/Neovia holding facility, which is in close proximity outside the base. The blades remain in storage at this location until they are brought back to the FRCE, Defense Logistics Agency (DLA) processing facility. DLA removes the blade from their storage and/or shipping container, places it on a trailer for transportation to the FRCE blade shop located on the same base. At the blade shop, FRCE takes possession of the IBIS, removes it from the blade and places the IBIS into storage until it is ready to be shipped back to GNI (this is typically no more than within a two-week period). FRCE performs a contamination survey of multiple IBISs for awareness on the condition of the assets prior to releasing them to DLA for shipping.

The probable cause of the leaking source is unknown. There were no visual defects to the asset itself, the shielded capsule, the rotor blade or the blades shipping container. No incidents and/or events were reported to the asset prior to receipt.

2. The exact location of the event.

Contamination was found on the IBIS at Navy Installation Fleet Readiness Center East blade shop located on Marine Corps Air Station Cherry Point base in Cherry Point, North Carolina.

3. The isotopes, quantities, and chemical and physical form of the licensed material involved.

The leaking radioactive material consisted of one sealed source attached to an IBIS pressure indicator, serial number 976, which was installed on a CH-53E (model number 12210-1) helicopter main rotor blade, serial number A117-02790. The IBIS pressure indicator contained one 500 microcurie Strontium-90 source. The dose rate from the source is 0.8 millirem per hour (mR/hr) at three inches while shielded (its normal position), and 75 mR/hr when unshielded.

4. Date and time of the event.

The leaking source was discovered on Thursday, 25 July 2024 at approximately 12:23 pm.

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5. Corrective actions taken or planned and the results of any evaluations or assessments.

Immediate corrective actions involved performing contamination surveys on the IBIS, the IBIS shielded cap, the blade, the storage area of the asset and the storage area of the blade container. Surveys resulted in positive indication of loose surface contamination isolated to the exterior and interior of the asset with maximum levels of 5.68×10^5 dpm/100 cm² (~0.256 microcuries). Contamination was also found on the blade with initial surveys indicating maximum levels of 2.09×10^5 dpm/100 cm² via direct scan. Both the area with the contaminated asset and the contaminated blade were immediately secured to prevent personnel access.

On Monday, 29 July 2024, supplemental surveys were taken to assess the extent of the contamination on the blade which resulted in indications of fixed contamination isolated to the portion of the blade where the IBIS is mounted and the surrounding area including the IBIS mounting point, the blade root (mounting flange), below the IBIS mounting point, the trailing edge and the bottom of the root blade. The contaminated area encompasses, approximately, an 18 inch diameter in its entirety with maximum fixed contamination levels of 3.18×10^5 dpm/100 cm² (~0.143 microcuries). Both the IBIS and the contaminated portion of the blade were repackaged/covered in double poly, placed in a new shipping container, and secured in a radioactive material storage area where it currently resides awaiting disposition via the Low-Level Radioactive Materials (LLRW) program.

A safety investigation was conducted to determine the causal factors of the leaking source to include review of transportation documentation and system tracing and tracking of blade from originator to current disposition. There were no indications of malfeasance or improper handling which led to the cause of the event, or possibility of a risk of exposure to the public or environment.

6. The extent of exposure of individuals to radiation or to radioactive materials.

After containing all accessible surfaces with contamination, then resurveying, there were no indications of loose contamination on the exterior of the IBIS container, storage locker, exterior of rotor blade and/or storage container of the rotor blade and radiation levels on the asset, the blade and storage areas were consistent with background prior to, during and after this event. This event was discovered and handled by an individual trained to handle this radioactive material specifically, therefore this event posed no risk of exposure to the public or environment.