



DEPARTMENT OF THE ARMY  
HEADQUARTERS US ARMY COMMUNICATIONS AND ELECTRONICS  
MATERIEL READINESS COMMAND AND FORT MONMOUTH  
FORT MONMOUTH, NEW JERSEY 07703

REPLY TO  
ATTENTION OF:

DRSEL-SF-H

11 APR 1980

US Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Dear Sir:

Reference is made to our letter, DRSEL-SF-H, dated 21 February 1980 and to telephone conversations on 26 March 1980 and 3 April 1980 between Mr. Frank Costello, your organization, and Mr. Steven A. Horne, this command, subject: Notification of a Possible Incident. These actions were initiated by this command as a compliance action under US Nuclear Regulatory Commission (NRC) Byproduct Material License Number 29-01022-08 authorizing the possession and use of the AN/UDM-2 Radiac Calibrator Set, by the Department of the Army, and under Title 10, Code of Federal Regulations (10 CFR), Part 21 of NRC regulations.

As indicated during referenced conversations, an increased surveillance program was initiated and the results indicated a potential safety and health problem associated with bloating/bulging sealed sources incorporated into the Dosimeter Discharge Well Assembly portion of the AN/UDM-2 Radiac Calibrator Set when these sources are, in fact, protruding into the dosimeter cavity chamber. A meeting was held on 31 March 1980 to examine this problem and to initiate corrective measures to preclude any possible incident. Attendees at this meeting included representatives of this headquarters' Safety Office and various directorates, Combat Surveillance and Target Acquisition (CS&TA) Laboratory, US Army Electronics Research and Development Command (ERADCOM) representatives, the developers of the AN/UDM-2 Radiac Calibrator Set, and representatives of Headquarters, ERADCOM Safety Office.

Based upon the discussions held during this meeting, the potential problem exists when bloating/bulging sealed sources protruding into the cavity chamber. Continued use of the Dosimeter Discharge Well Assembly portion may cause sufficient wear on the sealed source windows to produce a potential radiation hazard.

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As a result of this meeting, the following actions have been taken/planned:

1. CS&TA Laboratory, ERADCOM, the developer of the AN/UDM-2 Radiac Calibrator Set, has:

(a) Contacted 3M Company, the manufacturer of the sealed sources utilized in the prototype models, for price and availability information regarding the procurement of replacement sources. The sealed sources utilized in the production models were manufactured by Gamma Industries, Inc. and Gulf Nuclear, Inc., Houston, Texas. Further, consideration will be given to the procurement of sources with an activity of 40 millicuries instead of 25 millicuries of <sup>90</sup>Strontium/<sup>90</sup>Yttrium since the probable reason for sources protruding into the cavity chamber is directly related to the radiation output needed for the calibration of various types of dosimeters.

(b) Contacted Oak Ridge National Laboratory to conduct metallurgical, mechanical, radiochemical, pressure, etc., analyses of the bloating sources.

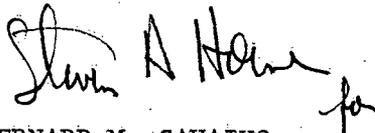
2. The CERCOM Safety Office has:

(a) Provided a message to all users of the AN/UDM-2 Radiac Calibrator Set to discontinue the use of the Dosimeter Discharge Well Assembly portion of the radiac calibrator until modified and recalibrated replacement calibrators are provided (Incl 1).

(b) Provided a three man health physics/maintenance team to Lexington-Blue Grass Depot Activity (LBDA) to inspect all AN/UDM-2 Radiac Calibrator depot assets for sources protruding into the Dosimeter Discharge Well Assembly cavity chamber. All assets found to possess protruding sources will be deadlined and not used until the sources are readjusted by moving the sources from the cavity chamber and then recalibrated. These assets will then be provided as replacement calibrators. All assets presently in the field will be returned to LBDA for inspection and required maintenance.

Upon completion of this recall inspection program we will provide your organization with our findings. We will also keep you apprised of future actions taken to procure replacement sources for these radiac calibrators.

Sincerely yours,



BERNARD M. SAVAIKO  
Chief, Safety Office

CF:  
Cdr, DARCOM  
ATTN: DRCSE-P

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CDR CERCOM FT MONMOUTH NJ//DRSEL-CG//  
 CDR FORSCOM FT MC PHERSON GA//AFLG-REB/AFLG-RES//  
 CDR TRADOC FT MONROE VA//ATLG-MO-EQ/ATCD-O/ATCS-PO//  
 CNGB WASH DC//NGB-ARL-M//  
 CDR USAREUR HEIDELBERG GE//ODCSLOG-SM/AEAGC-RSI//  
 CDR TAMMC (200TH) ZWEIBRUCKEN GE//AERKD-PS/AEAGD-MMC-RA-OP-C//  
 CDR USAEIGHT SEOUL KOREA//DJ-MS-MC//  
 CDR WESTCOM FT SHAFTER HI//APOP-OP//  
 G\*HQDA WASH DC//DAMO-RQD/DALO-SMD//  
 INFO: CDR DARCOM ALEXANDRIA VIRGINIA//DRCSE//  
 HQDA WASHINGTON DC//DAPE-HRS/~~f~~\*DALO-SMM//  
 CDR LBDA LEXINGTON KENTUCKY//SDSRR-LQN//  
 CDCRSC PIRMASENS GE//AERLO-MC/CL//  
 CDR USAMSC-K <sup>WAEGWAN</sup> ~~WAEJGAN~~ KOREA//EANC-MS-C//

UNCLAS

SUBJ DEADLINING OF THE AN/UDM-2 RADIAC CALIBRATOR SET, NSN 6665-00-179-9037

A. FONECON, 3 <sup>APR</sup> ~~Apr~~ 80, BETWEEN MR. L. CRAWFORD, CHIEF, SAFETY OFFICE, DARCOM AND COL OAKES, HQDA (DALO-SMM), SAB.

DRSEL-LE-ES (MR. J. SKURKA)  
 DRSEL-ME-ES (MR. M. FOSS)  
 DRSEL-PA-EE (MR. L. CHIEI)  
 DRSEL-MME-VC (MR. P. SANDBERG)

BERNARD M. SAVAIKO, C, SAFETY OFC

DRSEL-SF, X23926

JOHN K. STONER, JR, MG USA COMMANDING

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B. FONECON, 3 APR 80, BETWEEN MR. CRAWFORD AND MR. B. SILBER, CERCOM SAFETY OFC, SAB.

1. THE CERCOM SAFETY OFC, AS LICENSE MANAGER FOR SUBJ RADIAC CALIBRATOR IAW PARA 1-4(I) OF AR 700-64, RECENTLY EXAMINED NUMEROUS FIELDER RADIAC CALIBRATORS AND DISCOVERED SEVERAL SEALED RADIOACTIVE SOURCES EXTENDED INTO THE CAVITY CHAMBER OF THE DOSIMETER DISCHARGE WELL ASSEMBLY, TS-3495/UDM-2 PORTION OF SUBJ RADIAC CALIBRATOR SET. THIS WELL ASSEMBLY IS UTILIZED TO CALIBRATE THE IM-9E, IM-147 AND IM-93 DOSIMETERS. CONTINUED USE OF THE TS-3495/UDM-2 IN THIS CONDITION MAY CAUSE SUFFICIENT WEAR ON THE SEALED SOURCE WINDOWS TO PRODUCE A POTENTIAL RADIATION HAZARD.

2. TO PREVENT CONTAMINATION AND PERSONNEL EXPOSURE, THE TS-3495/UDM-2 DOSIMETER DISCHARGE WELL ASSEMBLY OF SUBJ RADIAC CALIBRATOR IS TO BE DEADLINED IMMEDIATELY IAW THE REQUIREMENTS OF AR 750-10. HOWEVER, THE TS-3494/UDM-2 DOSE RATE JIG ASSEMBLY PORTION OF SUBJ RADIAC CALIBRATOR IS NOT AFFECTED BY THIS DEADLINING ACTION. REF A & B VERBALLY APPROVED A DEADLINING OF THE TS-3495/UDM-2 PORTION OF SUBJ RADIAC SET.

3. THIS CMD IS IN THE PROCESS OF PROVIDING A HEALTH PHYSICS TEAM

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TO LEXINGTON-BLUE GRASS DEPOT ACTIVITY (LBDA) DURING THE WEEK OF 7 APR 80 TO ASSIST IN THE EXAMINATION AND REPAIR OF ALL LBDA UDM-2 ASSETS AND PREPARATION OF THESE CALIBRATORS AS REPLACEMENTS FOR THOSE PRESENTLY IN THE FIELD. THIS HEADQUARTERS WILL ADVISE EACH MACOM UNDER SEPARATE MSG WHEN REPLACEMENT CALIBRATORS WILL BE PROVIDED AND WHEN TO SCHEDULE THE RETURN OF DEADLINED CALIBRATORS TO LBDA.

4. REQUEST WIDEST POSSIBLE DISSEMINATION OF THIS DEADLINING ACTION WITHIN YOUR CMD.

5. QUESTIONS, OR ASSISTANCE RELATIVE TO THIS ACTION SHOULD BE DIRECTED TO MR. S. HORNE, ATTN: DRSEL-SF-H, AUTOVON 992-3493, COMMERCIAL (201) 532-3493.