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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA ST., N.W., SUITE 3100  
ATLANTA, GEORGIA 30303

JUN 22 1979

In Reply Refer To:  
RII:JPO  
70-1113

General Electric Company  
Attn: Mr. R. J. Alkema, General Manager  
Nuclear Fuel Department  
P. O. Box 780  
Wilmington, North Carolina 28401

Gentlemen:

The enclosed Circular 79-09, is forwarded to you for information. If there are any questions related to your understanding of the suggested actions, please notify the contact listed in the enclosure to the circular.

Sincerely,

for James P. O'Reilly  
Director

Enclosures:

- 1. IE Circular No. 79-09
- 2. Listing of IE Circulars  
Issued in Last Twelve  
Months

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

June 22, 1979

IE Circular No. 79-09

OCCURRENCES OF SPLIT OR PUNCTURED REGULATOR DIAPHRAGMS IN CERTAIN SELF-CONTAINED BREATHING APPARATUS

Description of Circumstances:

The Nuclear Regulatory Commission (NRC) has been informed by mailgram (copy enclosed) from the National Institute of Occupational Safety and Health (NIOSH) of the high rate of regulator diaphragm failures in the Scott Air Pak II/IIA and Presur-Pak II/IIA self-contained breathing apparatus. The failures, ranging from pin holes in the diaphragm to complete diaphragm rupture, have been identified in about 10 percent of the units by the NIOSH field survey. Tests of the Scott apparatus by NIOSH showed reduced respiratory protection in the Demand-Mode and a loss of service time (but no loss of protection) in the Pressure Demand-Mode.

Notice to Licensees:

Many major licensees use the types of Scott apparatus described above. Users of the devices should take the following action:

1. Establish a program for examination of the described respiratory devices in accordance with the enclosed NIOSH mailgram; or
2. Incorporate the provisions of the NIOSH mailgram into your current program for inspection of the described devices.

No written response to this Circular is required. If you require additional information regarding this subject, please contact the individual specified in the enclosed mailgram.

Enclosure:  
Mailgram

7906290237

Dupe

345 065

GSA SWITCHING CTR  
P O BOX 430  
ROMNEY, WV 26757



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00592 MLTN VA 05/02/79

NSHA

MR. JERRY CAPLIN  
USNRC  
WASHINGTON, DC 20555

RESPIRATOR USERS WARNING

THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) WANTS TO ADVISE USERS OF SCOTT AIR PAK II/IIA AND PRESUR-PAK II/IIA SELF-CONTAINED BREATHING APPARATUS OF THE OCCURRENCES OF SPLIT OR PUNCTURED REGULATOR DIAPHRAGMS. NIOSH TESTS INVESTIGATING THE EFFECT OF SUCH DEFECTS SHOWED REDUCED RESPIRATORY PROTECTION ON DEMAND-MODE APPARATUS. THESE SAME TESTS ALSO SHOWED NO LOSS IN PROTECTION, BUT A LOSS IN SERVICE TIME WHEN IN THE PRESSURE DEMAND-MODE. NOTE: THE PRESSURE DEMAND UNIT IS NOT APPROVED WHILE IN THE DEMAND MODE; THE DEMAND MODE IS TO BE USED FOR DONNING PURPOSES ONLY.

NIOSH BEGAN THIS INVESTIGATION FOLLOWING THE RECENT DEATH OF THREE FIREFIGHTERS WHO WERE WEARING THIS TYPE OF RESPIRATOR, ALTHOUGH IT HAS NOT BEEN ESTABLISHED THAT THE DEATHS WERE DUE TO DAMAGED REGULATOR DIAPHRAGMS. A SAMPLING OF THE APPARATUS IN THE FIELD HAS SHOWN AT LEAST 10% OF THE UNITS EXAMINED HAVE RUPTURED OR PUNCTURED DIAPHRAGMS.

USERS SHOULD EXAMINE THEIR SCOTT APPARATUS FOR POSSIBLE DAMAGED DIAPHRAGMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE USER SHOULD CHECK THE DIAPHRAGM BEFORE EACH USE BY CLOSING BOTH THE MAIN LINE AND BYPASS VALVES AND BLOWING THROUGH THE REGULATOR OUTLET PORT. IT SHOULD BE POSSIBLE TO MAINTAIN A SLIGHT POSITIVE PRESSURE IN THE REGULATOR. THE USER SHOULD CHECK THE REGULATOR DIAPHRAGM AFTER EACH USE AND DURING MONTHLY INSPECTIONS OF THE COMPLETE APPARATUS. IT IS NOT KNOWN IF FAILURE OCCURS DURING ASSEMBLY, STORAGE, OR USE OF THE RESPIRATOR REGULATOR. THEREFORE, EXTREME CAUTION MUST BE EMPLOYED WHEN USING THE RESPIRATOR. IN CHECKING THE OPERATION OF THE RESPIRATOR, USERS ARE CAUTIONED NOT TO BLOCK THE FLOW OF AIR FROM THE REGULATOR WHEN THE BYPASS VALVE IS OPEN, BECAUSE SUBSTANTIAL OBSTRUCTION MAY RUPTURE OR DISLUDGE THE DIAPHRAGM. IF THE USER OBSERVES A LOOSE OR DISLODGED REGULATOR COVER, THE COVER MUST BE REMOVED AND THE DIAPHRAGM INSPECTED BEFORE REASSEMBLY

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▶ OF THE REGULATOR.

NIOSH HAS REQUESTED THE MANUFACTURER STOP ALL SALES OF THE RESPIRATOR PENDING DETERMINATION OF THE REASON FOR AND NECESSARY CORRECTIVE ACTION TO PREVENT DIAPHRAGM FAILURE. FOR FURTHER TECHNICAL INFORMATION CONTACT: MR. RICHARD RONK, NIOSH, 444 CHESTNUT RIDGE ROAD, MORGANTOWN, WV 26505. PHONE: (302) 599-7337.

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ANTHONY ROBBINS, M.D.  
DIRECTOR, NIOSH  
ROCKVILLE MD

(AKS RUEVFCZ 0-26-01-036883)  
21:19 EST

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LISTING OF IE CIRCULARS ISSUED IN  
LAST TWELVE MONTHS

Circular No.	Subject	Date of Issue	Issued To
78-10	Control of Sealed Sources Used in Radiation Therapy	6/14/78	All Medical Licensees in Categories G and G1
78-11	Recirculation M-G Set Overspeed Stop	6/15/78	All Holders of BWR OLs or CPs
78-12	HPCI Turbine Control Valve Lift Rod Bending	6/30/78	All Holders of BWR OLs or CPs for plants with HPCI Terry Turbine
78-13	Inoperability of Multiple Service Water Pumps	7/10/78	All Holders of Reactor OLs and CPs except for plants located in: AL, AK, CA, FL, GA, LA, MS, SC
78-14	HPCI Turbine Reversing Chamber Hold Down Bolting	7/12/78	All Holders of BWR OLs or CPs for plants with a HPCI Terry Turbine excepting Duane Arnold and Monticello
78-15	Checkvalves Fail to Close In Vertical Position	7/20/78	All Holders of Reactor OLs or CPs
78-16	Limitorque Valve Actuators	7/26/78	All Holders of Reactor OLs or CPs
78-17	Inadequate Guard Training/Qualification and Falsified Training Records	10/13/78	All Holders of and applicants for Reactor OLs
78-18	UL Fire Test	11/6/78	All Holders of Reactor OLs or CPs

LISTING OF IE CIRCULARS ISSUED IN  
LAST TWELVE MONTHS

Circular No.	Subject	Date of Issue	Issued to
78-19	Manual Override (Bypass) of Safety Actuation Signals	12/28/78	All Holders of CPs
79-01	Administration of Unauthorized Byproduct Material to Humans	1/12/79	All Medical Licensees except Teletherapy Medical Licensees and each Radiopharmaceutical Suppliers
79-02	Failure of 120 Volt Vital AC Power Supplies	2/16/79	All Holders of Reactor OLs and CPs
79-03	Inadequate Guard Training- Qualification and Falsified Training Records	2/23/79	All Holders of and applicants for Special Nuclear Material Licenses in Safeguards Group I
79-04	Loose Locking Nut On Limitorque Valve Operators	3/16/79	All Holders of Reactor OLs or CPs
79-05	Moisture Leakage In Stranded Wire Conductors	3/20/79	All Holders of Reactor OLs or CPs
79-06	Failure to Use Syringe and Battle Shields in Nuclear Medicine	4/19/79	All Holders of Medical Licensees except teletherapy licensees
79-07	Unexpected Speed Increase of Reactor Recirculation MG Set Resulted in Reactor Power Increase	5/2/79	All Holders of BWR OL's or CP's
79-08	Attempted Extortion - Low Enriched Uranium	5/18/79	All Fuel Facilities Licensed by NRC