UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

September 2, 1994

NRC GENERIC LETTER 94-04: VOLUNTARY REPORTING OF ADDITIONAL OCCUPATIONAL RADIATION EXPOSURE DATA

Addressees

All holders of operating licenses or construction permits for nuclear power reactors, radiography licensees, fuel processing licensees, fabricating and reprocessing licensees, manufacturers and distributors of byproduct material, independent spent fuel storage installations, facilities for land disposal of low-level waste, and geologic repositories for high-level waste.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this generic letter to request that all addressees provide to the NRC a voluntary report containing the occupational radiation exposure data as described below.

Background

The provisions of § 20.2206 of 10 CFR Part 20 require seven categories of NRC licensees to submit occupational radiation exposure reports. The seven categories are as follows: commercial nuclear power reactors; industrial radiographers; fuel processors, fabricators and reprocessors; manufacturers and distributors of byproduct material; independent spent fuel storage installations; facilities for land disposal of low-level waste; and geologic repositories for high-level waste. Each of these approximately 500 licensees submits exposure reports for each of its monitored employees. This data is computerized by the NRC, and forms the basis for the Radiation Exposure Information Reporting System (REIRS).

An analysis of the REIRS database is presented in the annual volumes of NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities." The analysis provides licensees with an opportunity to compare ALARA performance at their facilities with that of similar facilities. The data are also used to evaluate occupational doses against national and international radiation protection recommendations to determine if further reductions in the occupational dose limits in 10 CFR Part 20 are needed to achieve the recommended levels. The REIRS database also provides a historical view of radiation exposure at NRC licensed facilities

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over the last quarter century. The NRC database can be used to provide complete individual exposure history to employers to assist them in demonstrating compliance with the occupational radiation exposure requirements regarding exposure histories for required individuals. Finally, REIRS is the largest database of radiation exposures at occupational levels. This makes it a very valuable epidemiological resource in determining the actual risk of exposure at occupational levels.

One of the goals fulfilled through the collection of this additional data is to supplement the information available through the Part 20 reporting and recordkeeping requirements so that the information vital to carrying out epidemiological studies will be available. This goal was stated in the statement of consideration to 10 CFR 20.1001 through 20.2402 published in the Federal Register on May 21, 1991 (56 FR 23386). The utility of this information is in conducting such studies and the intention of the National Cancer Institute to conduct these studies was discussed in an April 20, 1994 letter to Bill M. Morris, Director of the Division of Regulatory Applications, Office of Nuclear Regulatory Research from Dr. John Boice, Chief of the Radiation Epidemiology Branch, National Cancer Institute. In the letter, Dr. Boice states that it is the current workers who have been employed for many years who are most critical to a successful epidemiological study.

Description of Circumstances

Under the previous requirements of 10 CFR Part 20.1 through 20.602, seven classes of licensees were required to submit termination reports containing occupational radiation exposure data for the entire period of work or employment to the NRC when individuals terminated employment or a work assignment at their facilities. Thus, at the end of a worker's employment, the individual's entire exposure record would be part of NRC's exposure database. In addition, these licensees were required to submit a statistical summary of the exposures of all individuals occupationally exposed at their facilities.

Under the new requirements of 10 CFR 20.1001 through 20.2402, which became mandatory on January 1, 1994, these licensees are now required to annually submit occupational radiation exposure data to the NRC for all persons occupationally exposed at their facilities, during that year, for whom monitoring is required. Termination reports are no longer required. Thus, as of April 1994 and every April thereafter, the required exposure data for employees for the previous year is to be submitted to the NRC. With this change in reporting requirements, the exposure data for current employees, from the time of their initial employment to the date of implementation of the new requirements of 10 CFR Part 20.1001 through 20.2402 would not be reported. Complete data would only be available for employees who finished their careers prior to the new requirements or new employees who only worked under the new requirements. Complete data would not be available for any employee who worked under both the new and old reporting requirements. This gap in the radiation exposure data would limit the usefulness of the REIRS database for

(1) epidemiology as described by Dr. Boice, (2) supporting decisions on the necessity and appropriateness of new regulatory requirements for occupational exposure, and (3) facilitating determinations by new employers of prior occupational exposure as required by 10 CFR 20.2104.

Discussion

The Nuclear Regulatory Commission, as well as national and international organizations such as the International Commission on Radiation Protection (ICRP) and the National Commission on Radiation Protection and Measurements (NCRP), derives information on occupational exposures from the REIRS database and uses this information to establish limits on occupational exposure to ionizing radiation. If the REIRS database is known to be incomplete, it will not be reliable for determining actual lifetime exposures. This will have three major consequences. First, NRC would not be able to continue to provide complete exposure histories to individuals to facilitate the movement of transient workers from one licensee to another. Second, actual lifetime exposures could not be determined for the occupationally exposed workers in the seven categories of licensees. Without this information, NRC may have difficulty in evaluating whether further limitations on occupational doses are needed to achieve dose levels recommended by the ICRP. Finally, a large reliable database, available to the National Cancer Institute for epidemiological studies on occupationally exposed workers, would not be available for decades. The ability of agencies such as NCI to rely upon these data of doses at occupational levels would be lost.

Requested Information

In an effort to provide for a complete and reliable database, the NRC is requesting that the seven classes of licensees included in the REIRS database provide a voluntary report of the data missed as a result of the change in regulations. This report is requested to include the occupational radiation exposure data of all current licensee employees from the date of employment to the day prior to implementation of the new requirements of 10 CFR Part 20.1001 through 20.2402 which were otherwise unreported under the reporting requirements of 10 CFR 20.1-20.602. The information requested is that normally included on NRC Form 5.

Voluntary Response Requested

Within 180 days from the date of this generic letter, all addressees are requested to submit a voluntary report containing data for each monitored individual from the date of employment to the day prior to the implementation of the new requirements of 10 CFR Part 20.1001 through 20.2402. Data previously reported on termination reports need not be included. It is

preferable that the data be reported by monitoring year, but a single monitoring period spanning several years is acceptable. If possible, the data should be submitted electronically.

While the NRC will accept these data in any format, a suggested format as well as an electronic format is provided in Enclosure 1 in an effort to simplify submission of the requested data. The electronic format is the preferred format for the submission of the data.

In addition, a cover letter should be included which gives the name of the licensee, the NRC license number, the name of a person to contact in case there are questions, and the phone number at which that individual can be reached (the same information requested as part of NRC Form 5).

Address all reports to the U.S. Nuclear Regulatory Commission, ATTN: REIRS Project Manager, Mail Stop T-9 C24, Washington, DC 20555.

Backfit Discussion

This generic letter only requests voluntary submittal of information. Therefore the staff has not performed a backfit analysis.

A notice of opportunity for public comment was not published in the Federal Register because of the voluntary nature of the information request.

Paperwork Reduction Act Statement

The voluntary information collections contained in this request are covered by the Office of Management and Budget, clearance number 3150-0011, which expires July 31, 1997. The public reporting burden for this voluntary collection of information is estimated to average 10 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this voluntary collection of information, including suggestions for reducing this burden, to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0011), Office of Management and Budget, Washington, D.C. 20503.

Compliance with the following request for information also is purely voluntary. The information would assist NRC in evaluating the cost of complying with this generic letter.

The licensee staff time and costs to prepare the requested reports and documentation.

If you have any questions about this matter, please contact the technical contact listed below.

Carl J. Paperiello, Director
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Material Safety and Safeguards

Roy P. Zimmerman
Associate Director for Projects
Office of Nuclear Reactor Regulation

Attachments:
1. Format for the Occupational Radiation Exposure Data Report
2. List of Recently Issued NRC Generic Letters

Attachments Filed in Jacket.

Technical contact: Charleen T. Raddatz, RES
(301) 415-6215

FORMAT FOR THE OCCUPATIONAL RADIATION EXPOSURE DATA REPORT

Electronic Format

Electronic submittal should be on 3.5" or 5.25" PC diskettes or 8 mm magnetic tape. Each disk, tape, or cartridge submitted should include a transmittal letter. Each letter should contain the file name, date created, operating system, the name and phone number of a person knowledgeable about each file, any other pertinent instructions, signature, and date.

File Structure

Each diskette should contain two file types. The first file type should be a single header record which provides information about the source of the data file. The second file type should be an exposure record for each monitoring period for each monitored individual. Each record should contain only ASCII or EBCDIC printable characters, terminated with a carriage return (CR) and a line feed (LF). All empty space should be padded with spaces. Text strings are expected to be left justified in a field and numbers are expected to be right justified in a field.

Header Record (occurs only once on each diskette, tape, or cartridge)

FIELD	WIDTH	START COL.	END COL.	DESCRIPTION
Primary_License	13	1	13	Primary NRC license number
Preparation_Date	8	15	22	Date the record was written to the data file formatted as 'YYYYMMDD'
Licensee_Name	72	24	95	Name of the NRC licensed facility
Contact	72	97	168	Name of the person to contact for information about this data file
Phone_Number	14	170	183	Contact's phone number
Other_license_1	13	185	197	Other NRC license number
Other_license_2	13	199	211	Other NRC license number
Other_license_3	13	213	225	Other NRC license number
Other_license_4	13	227	239	Other NRC license number
Other_license_5	13	241	253	Other NRC license number
Other_license_6	13	255	267	Other NRC license number
Other_license_7	13	269	281	Other NRC license number
Other_license_8	13	283	295	Other NRC license number
Other_license_9	13	297	309	Other NRC license number
Other_license_10	13	311	323	Other NRC license number

Exposure Record (one for each individual, for each monitoring period)

FIELD	WIDTH	START COL.	END COL.	DESCRIPTION
Employee_ID	12	1	12	Social Security Number (or Other ID number)
Primary_License	13	13	25	Primary License Number
First_Name	25	26	50	Employee's first name (no nicknames)
Middle_Initial	1	51	51	Employee's middle initial
Last_Name	25	52	76	Employee's last name. Titles such as "Jr" should be separated from the last name by a space. No punctuation should be used in the title.
Sex	1	77	77	'M' = Male, 'F' = Female
Birth_Date	8	78	85	Employee's date of birth (YYYYMMDD)
Monitoring_Start	8	86	93	Date Monitoring began (YYYYMMDD)
Monitoring_End	8	94	101	Date Monitoring ended (YYYYMMDD). If possible, report in one year increments. The end date for the last monitoring period for a given individual would be on or before the day immediately prior to implementation of the revised Part 20.
WB_Dose	8	102	109	Total whole body deep dose in rem for the entire period, including x, gamma, and neutron dose. This should be formatted '9999.999'.

If hard copy reports are to be submitted, the following information is needed for each monitored individual:

Last Name	First Name	Init	SSN	Sex	Date of Birth	Date Monitoring Began	Date Monitoring Ended	Whole Body Dose (rem)

LIST OF RECENTLY ISSUED GENERIC LETTERS

Generic Letter	Subject	Date of Issuance	Issued To
94-03	INTERGRANULAR STRESS CORROSION CRACKING OF CORE SHROUDS IN BOILING WATER REACTORS	07/25/94	ALL HOLDERS OF OLs OR CPs FOR BOILING WATER REACTORS EXCEPT FOR BIG ROCK POINT, WHICH DOES NOT HAVE A CORE SHROUD.
94-02	LONG-TERM SOLUTIONS AND UPGRADE OF INTERIM OPERATING RECOMMENDATIONS FOR THERMAL-HYDRAULIC INSTABILITIES IN BOILING WATER REACTORS	07/11/94	ALL HOLDERS OF OLs FOR BOILING WATER REACTORS EXCEPT BIG ROCK POINT
94-01	REMOVAL OF ACCELERATED TESTING AND SPECIAL REPORTING REQUIREMENTS FOR EMERGENCY DIESEL GENERATORS	05/31/94	ALL HOLDERS OF OLs FOR NPRs
86-10, SUPP. 1	FIRE ENDURANCE TEST ACCEPTANCE CRITERIA FOR FIRE BARRIER SYSTEMS USED TO SEPARATE REDUNDANT SAFE SHUTDOWN TRAINS WITHIN THE SAME FIRE AREA (SUPP. 1 TO GL 86-10, "IMPLEMENTATION OF FIRE PROTECTION REQUIREMENTS")	03/25/94	ALL HOLDERS OF OLs OR CPs FOR NPRs
89-10, SUPP. 6	INFORMATION ON SCHEDULE AND GROUPING, AND STAFF RESPONSES TO ADDITIONAL PUBLIC QUESTIONS	03/08/94	ALL LICENSEES OF OPERATING NUCLEAR POWER PLANTS AND HOLDERS OF CONSTRUCTION PERMITS FOR NPRs
93-08	RELOCATION OF TECHNICAL SPECIFICATION TABLES OF OF INSTRUMENT RESPONSE TIME LIMITS	12/29/93	ALL HOLDERS OF OLs FOR NPRs

OL = OPERATING LICENSE
CP = CONSTRUCTION PERMIT
NPR = NUCLEAR POWER REACTORS

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Office of Nuclear Material Safety and Safeguards

Roy P. Zimmerman
Associate Director for Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Format for the Occupational Radiation Exposure Data Report
2. List of Recently Issued NRC Generic Letters

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Charleen T. Raddatz, RES
(301) 415-6215

See next page for previous concurrences - Memorandum from E.S. Beckjord, Director, Office of Nuclear Regulatory Research to E.L. Jordan, Chairman, Committee to Review Generic Requirements dated July 13, 1994.

OFFICE	OGCB	AB:OGCB/DORS	D:DORS/NRR	D:IMNS/NMSS	ADP:NRR
NAME	NECampbell	ELBoolittle	BKGrimes	CJPaperiello	RPZimmerman
DATE	08/19/94	08/19/94	08/ /94	08/ /94	08/ /94

OFFICIAL RECORD COPY

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Reference: Memorandum from B.M. Morris to E.L. Doolittle, dated August 11, 1994 titled "Voluntary Reporting of Additional Occupational Radiation Exposure Data"

*See previous concurrence

OFFICE	*OGCB	*AC:OGCB/DORS	D:DORS/NRR	D:IMNS/NMSS	ADP:NRR
NAME	NECampbell	ELDoolittle	BKGrimes	CJPaperiello	RPZimmerman
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Office of Nuclear Material Safety and Safeguards

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OFFICE	*OGCB	*AC:OGCB/DORS	D:DORS/NRR	D:IMNS/NMSS	ADP:NRR
NAME	NECampbell	ELDoolittle	BKGrimes	CJPaperiello	RPZimmerman
DATE	08/19/94	08/19/94	08/31/94	08/31/94	09/ 1 /94

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