



STATE OF FLORIDA  
DEPARTMENT OF HEALTH  
BUREAU OF RADIATION CONTROL



# REGULATORY GUIDE

## *Regulatory Guide 6.7* *Revision 1*

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## **INSTRUCTIONS FOR RECORDING AND REPORTING OCCUPATIONAL RADIATION EXPOSURE DATA**

### **A. INTRODUCTION**

In Part III ("Standards for Protection Against Radiation") of Chapter 64E-5, Florida Administrative Code (F.A.C.), section 64E-5.315, F.A.C., requires licensees to provide radiation monitoring for all occupationally exposed individuals who might receive a dose in excess of 10 percent of the limits in sections 64E-5.304, 64E-5.310, or 64E-5.311, F.A.C.. In section 64E-5.339, F.A.C., licensees are required to maintain records of the radiation exposures of all individuals for whom personnel monitoring is required (pursuant to section 64E-5.315, F.A.C.). According to section 64E-5.308, F.A.C., and subsection 64E-5.308(7), F.A.C., the dose in the current monitoring year must be determined for all persons who must be monitored, and this information must be recorded on DOH Form DH 1623 or equivalent. In addition, section 64E-5.338, F.A.C., requires that, prior to allowing an individual to participate in a planned special exposure, records of all prior exposures must be acquired. Records of prior dose must be maintained on DOH Form DH 1623 or its equivalent. This guide describes an acceptable program for the preparation, retention, and reporting of records of occupational radiation exposures.

### **B. DISCUSSION**

This guide is structured to reflect the process a licensee would go through in deciding whether or not monitoring for occupational exposure to radiation is required under Chapter 64E-5, F.A.C., Part III. The guide describes acceptable methods for determination of prior exposures, records of monitoring provided, and reporting that are needed to comply with Chapter 64E-5, F.A.C., Part III. DOH Forms DH 1623 and DH 1622 are provided.

In order to avoid confusion with the acronym for effective dose equivalent (EDE), the abbreviation LDE is used to represent the eye (lens) dose equivalent, as defined in Chapter 64E-5, F.A.C., Part III. The term total organ dose equivalent (TODE) means the sum of the deep dose equivalent and the committed dose equivalent to the organ receiving the highest dose as described in paragraph 64E-5.339(1)(f), F.A.C.

Regulatory guides are issued to describe and make available to the public acceptable methods of implementing specific parts of Chapter 64E-5, Florida Administrative Code ("State of Florida Control of Radiation Hazard Regulations") to delineate techniques used by the staff in evaluating specific problems or postulating accidents, or to provide guidance to applicants or licensees. Regulatory guides are not a substitute for regulations and compliance with them is not required unless specifically referenced in a radioactive materials license. Methods or solutions different from those set forth in the guides will be acceptable if they provide a basis for the Bureau of Radiation Control to make necessary determinations to issue, renew, amend, or terminate a license, or to establish standards of protection.

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## **C. REGULATORY POSITION**

### **1. Determination of Monitoring Requirements**

According to section 64E-5.315, F.A.C., if an adult is likely to receive in one year a dose greater than 10 percent of any applicable limit, monitoring is required. The licensee should perform an evaluation of the dose the individual is likely to receive prior to allowing the individual to receive the dose. This evaluation need not be made for every individual; evaluations can be made for employees with similar job functions or work areas. Further guidance on evaluating the need to provide monitoring is provided in Regulatory Guide 3.34, "Monitoring Criteria and Methods To Calculate Occupational Doses."

#### **1.1 If Monitoring is not Required**

If this prospective evaluation shows that the individual is not likely to exceed 10 percent of any applicable limit, there are no recordkeeping or reporting requirements in regard to the individual's exposure. For individuals who received exposure at other facilities in the current year, the previous dose need not be considered in this prospective evaluation. Only dose that could be received at the facility performing the evaluation need be considered when determining the need for monitoring and, therefore, the recordkeeping and reporting requirements. If it is determined that monitoring is not required and a subsequent evaluation shows that the 10 percent threshold has or will be exceeded, the dose received when monitoring was not provided should be estimated, recorded, and reported. These estimates can be based on any combination of work location radiation monitoring or survey results, monitoring results of individuals in similar work situations, or other estimates to produce a "best estimate" of the actual dose received.

If monitoring is not required to demonstrate compliance with all limits but is required relative to one or more specific limits, the licensee should enter "NR" in the blocks on DOH Forms DH 1623 and DH 1622 to indicate the areas for which monitoring was not required (e.g., extremity or skin doses). Where monitoring was provided but not measurable, the licensee should enter "ND" for "Not Detectable."

#### **1.2 If Monitoring is Required**

If the prospective evaluation shows that the individual is likely to exceed 10 percent of an applicable limit, monitoring is required (section 64E-5.315, F.A.C.). Recording and reporting of the results of monitoring performed, regardless of the actual dose received, is required by subsection 64E-5.339(1), F.A.C.

#### **1.3 Documentation of Prior Exposures**

For those individuals for whom monitoring is required, determination of current year exposure at other facilities is required by section 64E-5.307, F.A.C., and subsection 64E-5.308(7), F.A.C. To document the determination of current year exposure, the individual to be monitored must provide a DOH Form DH 1623 signed by the individual or a written statement that includes the names of all facilities that provided monitoring for occupational exposure to radiation during the current year and an estimate of the dose received. Although not required by the regulations, it is considered good health physics practice to verify the information provided by the individual. Verification may be documented with:

- A DOH Form DH 1622 for each listed monitoring period, or
- Electronic, telephone, or facsimile transfer of dose data provided by licensees listed on the written statement, or
- A DOH Form DH 1623 countersigned by a licensee or current employer.

### 1.3 Documentation of Prior Exposures (contd.)

In addition, paragraph 64E-5.308(1)(b), F.A.C., requires that licensees attempt to obtain the records of lifetime cumulative occupational radiation dose. To demonstrate compliance with this requirement, the individual to be monitored may provide a written estimate of the cumulative lifetime dose or an up-to-date DOH Form DH 1623 signed by the individual. This information need not be verified so long as the individual does not participate in a planned special exposure.

DOH Forms DH 1623 and DH 1622 and termination letters or reports, which report the results of monitoring prior to implementation of the revised Chapter 64E-5, F.A.C., Part III, may be used without recalculating dose according to the requirements of the revised Chapter 64E-5, F.A.C., Part III. For the purpose of assessing prior dose, whole body dose in rem as reported on an earlier DOH Form DH 1623 and DH 1622 can be considered equivalent to total effective dose equivalent (TEDE).

### 1.4 Records of Prior Exposure for Persons Participating in Planned Special Exposures

If there are any periods of exposure during the life of the monitored individual that have not been determined and documented, participation in a planned special exposure is not permitted.

### 1.5 Individuals with No Social Security Number

Doses to individuals who do not have a social security number, such as citizens of foreign countries, should be reported using another unique identification number. It is important to record the type of identification used in the data block labeled "ID type" that follows the "Identification Number" data block on DOH Forms DH 1623 and DH 1622.

The appropriate code listed below should be inserted in the block labeled "ID Type."

ID Type	CODE
U. S. Social Security Number	SSN
Passport Number	PPN
Canadian Social Insurance Number	CSI
Work Permit Number	WPN
INDEX Identification Number	IND
Other	OTH

The use of licensee generated identification numbers should be avoided whenever possible.

## 2. Records of Monitoring Results for Individuals for Whom Monitoring is Required

The preparation of DOH Form DH 1622 with the information clearly and legibly shown, or the collection of all the information requested by DOH Form DH 1622 is required by section 64E-5.339, F.A.C.. Such a record must be maintained for each individual for whom personnel monitoring is required by section 64E-5.315, F.A.C. Instructions and additional information pertinent to each item are contained on DOH Form DH 1622.

## **2.1 Multiple Badges**

Further guidance on interpreting the results of multiple dosimetric devices placed at different locations within a single dose category is provided in Regulatory Guide 3.34, "Monitoring Criteria and Methods to Calculate Occupational Doses."

## **2.2 Dose Calculations for CDE and TODD to the Maximally Exposed Organ**

Licensees are required by paragraph 64E-5.339(1)(f), F.A.C., to record the total organ dose equivalent (TODE), which is the sum of the deep dose equivalent (DDE) and the committed dose equivalent (CDE) to the organ receiving the highest dose. Organ doses need not be calculated if the committed effective dose equivalent (CEDE) does not exceed 1 rem and there are no overexposures in any dose category within the monitoring year, including doses previously reported by other licensees. In this case, the licensee may record "NC" for "Not Calculated" in Items 16 and 18 on DOH Forms DH 1623 and DH 1622. If during the course of the year the dose to date for the year exceeds 1 rem CEDE or the individual receives an overexposure in another dose category, the CDE to the maximally exposed organ must be calculated, recorded, and reported.

When CDE and TODD to the maximally exposed organ must be calculated, the licensee should refer to Regulatory Guide 3.34, "Monitoring Criteria and Methods to Calculate Occupational Doses."

## **2.3 Dose to the Embryo/Fetus**

A declared pregnant worker is a worker who has voluntarily informed her employer in writing of her pregnancy and the estimated month and year of conception. The embryo/fetus' dose for the entire gestation period must be recorded [subsection 64E-5.339(4), F.A.C.], but need not be included on DOH Forms DH 1623 and DH 1622. Multiple records are not required in the case of twins, triplets, etc. Any dose measured to demonstrate compliance with section 64E-5.311, F.A.C., must be recorded.

Licensees should be sensitive to the issue of personal privacy with regard to embryo/fetus dose. If requested by the monitored woman, a letter report may be provided to subsequent licensees to document prior embryo/fetus dose. Further guidance on assessing dose to the embryo/fetus is provided in Regulatory Guide 3.36, "Radiation Dose to the Embryo/Fetus."

## **D. IMPLEMENTATION**

The purpose of this section is to provide information to applicants and licensees regarding the department's plan for using this regulatory guide.

Except in those cases in which an applicant proposes an acceptable alternative method for complying with specified portions of the department's regulations, the methods described in this guide will be used in the evaluation of applications for new licenses, license renewals, and license amendments and for evaluating compliance with Chapter 64E-5, F.A.C.