

**RULES OF THE STATE OF FLORIDA
DEPARTMENT OF HEALTH
CHAPTER 64E-5
CONTROL OF RADIATION HAZARD REGULATIONS**

This copy of the regulations do not contain certain parts applicable to a particular section. Contact the applicable Bureau of Radiation Control Section or the Bureau of Epidemiology – Radon and Indoor Air Quality Program for a copy of parts not herein contained.

PARTS I, III, IV, V, VII, VIII, IX, XVI and Attachments

Department of Health
Bureau of Radiation Control
Radiation Machine Program
Bin #C21
4052 Bald Cypress Way
Tallahassee, FL 32399-1741

Telephone: (850) 245-4888

Fax: (850) 617-6442

RadiationControl@FLHealth.gov

PARTS I, II, III, IV, VI, IX, X, XI, XIII, XIV, XV and Attachments

Department of Health
Bureau of Radiation Control
Radioactive Materials Program
Bin #C21
4052 Bald Cypress Way
Tallahassee, FL 32399-1741

Telephone: (850) 245-4545

Fax: (850) 921-6364

RadiationContol@FLhealth.gov

PART X (Environmental Monitoring)

Department of Health
Bureau of Radiation Control
Environmental Radiation Programs
P.O. Box 680069
Orlando, FL 32868-0069

Telephone: (407) 297-2096

Fax: (407) 297-2085

RadiationContol@FLhealth.gov
24 Hour Emergency: (407)297-2095

PARTS XII (Radon)

Department of Health
Bureau of Environmental Health
Radon Program
Bin #A21
4052 Bald Cypress Way Tallahassee,
FL 32399-1720

Telephone: (850) 245-4288

phtoxicology@flhealth.gov

This is an “unofficial” copy that has been re-formatted for ease of use and to provide attachments. Electronic versions of these regulations are posted on the Bureau’s website: www.floridahealth.gov/environmental-health/radiation-control. Chapter 64E-5 and all other Florida Administrative Codes are available at <https://www.flrules.org/>.

Chronology of Rule Revisions

Revision	Effective Date	Sections Affected
R1	05-18-1998	64E-5.101, 64E-5.204, 64E-5.213, 64E-5.214, 64E-5.319, 64E-5.332, 64E-5.333, 64E-5.334, 64E-5.347, 64E-5.402, 64E-5.422, 64E-5.502, 64E-5.504, 64E-5.510, 64E-5.617, 64E-5.902, 64E-5.1513, Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest, July 1997.
R2	10-8-2000	64E-5.101, 64E-5.201, 64E-5.203, 64E-5.204, 64E-5.214, 64E-5.216, 64E-5.301, 64E-5.303, 64E-5.304, 64E-5.309, 64E-5.311, 64E-5.312, 64E-5.314, 64E-5.315, 64E-5.323, 64E-5.326, 64E-5.334, 64E-5.339, 64E-5.344, 64E-5.345, 64E-5.414, 64E-5.420, 64E-5.422, 64E-5.505, 64E-5.622, 64E-5.625, 64E-5.643, 64E-5.645, 64E-5.1103, 64E-5.1112, 64E-5.1310, 64E-5.1406, 64E-5.1418, 64E-5.1502, 64E-5.1513 Radioactive Material Requiring Labeling, May 2000
R3	8-6-2001	64E-5.101, 64E-5.201, 64E-5.603, 64E-5.606. 64E-5.626, 64E-5.627, 64E-5.630
R4	9-11-2001	64E-5.401 - 64E-5.422 repealed and replaced with sections 64E-5.423, 64E-5.424, 64E-5.425, 64E-5.426, 64E-5.427, 64E-5.428, 64E-5.429, 64E-5.430, 64E-5.431, 64E-5.432, 64E-5.433, 64E-5.434, 64E-5.435, 64E-5.436, 64E-5.437, 64E-5.438, 64E-5.439, 64E-5.440, 64E-5.441
R5	12-19-2001	64E-5.101, 64E-5.214, 64E-5.221, 64E-5.222, 64E-5.223, 64E-5.224, 64E-5.225, 64E-5.226, 64E-5.901, Notice to Employees 3/01
R6	9-28-2006	64E-5.101, 64E-5.204, 64E-5.206, 64E-5.210, 64E-5.213, 64E-5.304, 64E-5.318, 64E-5.319, 64E-5.427, 64E-5.429, 64E-5.434, 64E-5.440, 64E-5.441, 64E-5.1104, 64E-5.1107, 64E-5.11071, 64E-5.11072, 64E-5.11073, 64E-5.1112, 64E-5.1119, 64E-5.1311, 64E-5.1502, Bureau of Radiation Control Respiratory Protection Factors May 2006, Transfers of Industrial Devices Report 10-2003
R7	8-18-2007	64E-5.101, 64E-5.204, 64E-5.210, 64E-5.502, 64E-5.504, 64E-5.506, 64E-5.511, 64E-5.1508, Transfers of Industrial Devices Report 04/2007, Radiation Machine Facility Registration DH 03/2007
R8	2-28-2008	64E-5.101, 64E-5.206, 64E-5.206, 64E-5.210, 64E-5.216, New 64E-5.350, New 64E-5.351, 64E-5.430, 64E-5.440, 64E-5.441, 64E-5.1003, 64E-5.11702, 64E-5.1501, 64E-5.1502
R9	3-12-2009	New 64E-5.1601, 64E-5.1602, 64E-5.1603, 64E-5.1604

R10	02-11-2010	64E-5.101, 64E-5.207, 64E-5.210, 64E-5.213, 64E-5.216, 64E-5.312, 64E-5.331, 64E-5.344, 64E-5.345, 64E-5.601, New 64E-5.6011, 64E-5.602, 64E-5.603, 64E-5.604, 64E-5.605, 64E-5.606, 64E-5.607, 64E-5.608, 64E-5.609, 64E-5.610, 64E-5.611, 64E-5.612, 64E-5.614, 64E-5.615, 64E-5.616, 64E-5.617, 64E-5.618, 64E-5.621, 64E-5.622, 64E-5.624, 64E-5.625, New 64E-5.6251, 64E-5.626, 64E-5.627, 64E-5.628, 64E-5.629, 64E-5.630, 64E-5.631, 64E-5.633, New 64E-5.6331, New 64E-5.6332, 64E-5.634, 64E-5.635, 64E-5.636, 64E-5.637, 64E-5.638, 64E-5.639, 64E-5.640, 64E-5.641, New 64E-5.6411, New 64E-5.6412, 64E-5.642, New 64E-5.6421, New 64E-5.6422, New 64E-5.6423, 64E-5.643, 64E-5.644, 64E-5.645, 64E-5.647, 64E-5.648, 64E-5.649, 64E-5.650, Repealed 64E-5.651, 64E-5.652, 64E-5.653, 64E-5.654, 64E-5.655, 64E-5.656, 64E-5.657, 64E-5.658, New 64E-5.659, New 64E-5.660, New 64E-5.661, New 64E-5.662, New 64E-5.663, New 64E-5.664, 64E-5.1301, New 64E-5.1320, Application for Radioactive Materials License Non-Human Use, DH Form 1054 12/09, (See 64E-5.207), Application for Radioactive Materials Human Use DH Form 1322 12/09 (See 64E-5.207), New Federal Policy for the Protection of Human Subjects (Federal Policy), as described in 45 CFR Part 46, dated 11/9/2009 (See 64E-5.601)
R11	5-8-2013	64E-5.101, 64E-5.504
R12	12-26-2013	64E-5.101, 64E-5.203, 64E-5.204, 64E-5.206, 64E-5.210, 64E-5.213, 64E-5.216, 64E-5.304, 64E-5.306, 64E-5.307, 64E-5.313, 64E-5.315, 64E-5.326, 64E-5.330, 64E-5.331, 64E-5.344, 64E-5.350, 64E-5.351, 64E-5.6011, 64E-5.607, 64E-5.609, 64E-5.614, 64E-5.6251, 64E-5.626, 64E-5.627, 64E-5.629, 64E-5.630, 64E-5.632, 64E-5., 64E-5.633, 64E-5.6412, 64E-5.6422, 64E-5.643, 64E-5.645, 64E-5.649, 64E-5.650, 64E-5.652, 64E-5.653, 64E-5.654, 64E-5.655, 64E-5.656, 64E-5.660, 64E-5.661, 64E-5.662, 64E-5.663, 64E-5.810, 64E-5.1115, 64E-5.1317, 64E-5.1419, 64E-5.1420, 64E-5.1501, 64E-5.1502
R13	6-3-2015	64E-5.220, 64E-5.508, 64E-5.510, 64E-5.511, 64E-5.801, 64E-5.1602
R14	7-1-2015	64E-5.206, 64E-5.217
R15	3-21-2016	64E-E-5.502, 64E-5.801, 64E-5.1602

PART I GENERAL PROVISIONS

R12	64E-5.101	..... Definitions	I-1
	64E-5.102	..... Exemptions	I-25
	64E-5.103	..... Records	I-26
	64E-5.104	..... Tests	I-26
	64E-5.105	..... Prohibited Use	I-26
	64E-5.106	..... Units of Exposure and Dose	I-27

PART II LICENSING OF RADIOACTIVE MATERIALS

R2	64E-5.201	..... Licensing of Radioactive Material	II-1
	64E-5.202	..... Source Material - Exemptions	II-2
R12	64E-5.203	..... Radioactive Material Other than Source Material - Exemptions	II-4

SUBPART A LICENSE TYPES AND FEES

R12	64E-5.204 Types of Licenses	II-13
-----	-----------	-------------------------------	-------

SUBPART B GENERAL LICENSES

	64E-5.205	..... General Licenses - Source Material	II-18
R14	64E-5.206	..... General Licenses - Radioactive Material Other Than Source Material	II-20

SUBPART C SPECIFIC LICENSES

R10	64E-5.207	..... Filing Application for Specific Licenses	II-36
	64E-5.208	..... General Requirements for the Issuance of Specific Licenses	II-36
	64E-5.209	..... Special Requirements for Specific Licenses of Broad Scope	II-37
R12	64E-5.210	..... Special Requirements for a Specific License to Manufacture, Assemble, Repair or Distribute Commodities, Products or Devices which Contain Radioactive Material	II-41
	64E-5.211	..... Special Requirements for Issuance of Specific Licenses for Source Material Milling	II-61
	64E-5.212	..... Issuance of Specific Licenses	II-65
R12	64E-5.213	..... Specific Terms and Conditions of Licenses	II-65
R5	64E-5.214	..... Expiration and Termination of Licenses and Decommissioning of Buildings and Outdoor Areas	II-68
	64E-5.215	..... Transfer of Material	II-73

SUBPART D RECIPROCITY

R12	64E-5.216 Reciprocal Recognition of Licenses for By-Product, Source, Naturally Occurring and Accelerator Produced Radioactive Material, and Special Nuclear Material in Quantities not Sufficient to Form a Critical Mass	II-75
-----	-----------	---	-------

SUBPART E BONDING

R14	64E-5.217 Bonding of Persons Licensed Pursuant to Subpart C	II-77
-----	-----------	---	-------

SUBPART F INSPECTION AND ENFORCEMENT

	64E-5.218	..... Performance of Inspections	II-81
	64E-5.219	..... Emergency Planning	II-82
R13	64E-5.220	..... Radioactive Quantities	II-86

Part II Licensing of Radioactive Materials (continued)

SUBPART G RADIOLOGICAL CRITERIA FOR LICENSE TERMINATION

R5	64E-5.221	..... Radiological Criteria for License Termination	II-90
R5	64E-5.222	..... Radiological Criteria for Unrestricted Use	II-90
R5	64E-5.223	..... Radiological Criteria for License Termination Under Restricted Conditions	II-90
R5	64E-5.224	..... Alternate Criteria for License Termination	II-92
R5	64E-5.225	..... Public Notification and Public Participation	II-93
R5	64E-5.226	..... Minimizing Contamination	II-93
	Schedule A	..... Exempt Concentrations	II-94
	Schedule B	..... Exempt Quantities	II-99
	Schedule D	..... Limits for Broad License	II-105

PART III STANDARDS FOR PROTECTION

SUBPART A GENERAL PROVISIONS

R2	64E-5.301	..... Standards for Protection Against Radiation	III-1
	64E-5.302	..... Implementation	III-1

SUBPART B RADIATION PROTECTION PROGRAMS

R2	64E-5.303 Radiation Protection Programs	III-2
----	-----------	---	-------

SUBPART C OCCUPATIONAL DOSE LIMITS

R6	64E-5.304	..... Occupational Dose Limits for Adults	III-2
	64E-5.305	..... Compliance with Requirements for Summation of External and Internal Doses	III-3
R12	64E-5.306	..... Determination of External Dose from Airborne Radioactive Material	III-4
R12	64E-5.307	..... Determination of Internal Exposure	III-5
	64E-5.308	..... Determination of Prior Occupational Dose	III-6
R2	64E-5.309	..... Planned Special Exposures	III-8
	64E-5.310	..... Occupation Dose Limits for Minors	III-9
R2	64E-5.311	..... Dose to an Embryo Fetus	III-9

SUBPART D RADIATION DOSE LIMITS FOR INDIVIDUAL MEMBERS OF THE PUBLIC

R10	64E-5.312	..... Dose Limits for Individual Members of the Public	III-10
R12	64E-5.313	..... Compliance with Dose Limits for Individual Members of the Public	III-11

SUBPART E SURVEYS AND MONITORING

R2	64E-5.314	..... General	III-12
R12	64E-5.315	..... Conditions Requiring Individual Monitoring of External and Internal Occupational Dose	III-13

SUBPART F CONTROL OF EXPOSURE FROM EXTERNAL SOURCES IN RESTRICTED AREAS

	64E-5.316	..... Control of Access to High Radiation Areas	III-14
	64E-5.317	..... Control of Access to Very High Radiation Areas	III-15

SUBPART G RESPIRATORY PROTECTION AND CONTROLS TO RESTRICT INTERNAL EXPOSURE IN RESTRICTED AREAS

R6 64E-5.318 Use of Process or Other Engineering Controls III-15
R6 64E-5.319 Use of Individual Respiratory Protection Equipment III-16

SUBPART H STORAGE AND CONTROL OF LICENSED OR REGISTERED SOURCES OF RADIATION

64E-5.320 Security of Stored Sources of Radiation III-18
64E-5.321 Control of Sources of Radiation Not in Storage III-18

SUBPART I PRECAUTIONARY PROCEDURES

64E-5.322 Caution Signs III-19
R2 64E-5.323 Posting Requirements III-20
64E-5.324 Exceptions to Posting Requirements III-20
64E-5.325 Labeling Containers and Radiation Machines III-21
R12 64E-5.326 Exemptions to Labeling Requirements III-21
64E-5.327 Procedures for Receiving and Opening Packages III-22

SUBPART J WASTE MANAGEMENT

64E-5.328 General Requirements III-23
64E-5.329 Method of Obtaining Approval of Proposed Disposal Procedures III-24
R12 64E-5.330 Discharge by Release into Sanitary Sewerage III-24
R12 64E-5.331 Disposal of Specific Wastes III-25
R1 64E-5.332 Transfer for Disposal and Manifests III-26a
R1 64E-5.333 Classification and Characteristics of Low Level Radioactive Waste
for Near-Surface Land Disposal, Labeling and Manifest Requirements III-27

SUBPART K RECORDS

R2 64E-5.334 General Provisions III-36
64E-5.335 Records of Radiation Protection Programs III-36
64E-5.336 Records of Surveys III-36a
64E-5.337 Records of Tests for Leakage or Contamination of Sealed Sources III-36a
64E-5.338 Records of Planned Special Exposures III-37
R2 64E-5.339 Records of Individual Monitoring Results III-37
64E-5.340 Records of Waste Disposal or Transfers III-38
64E-5.341 Records of Testing Entry Control Devices for Very High Radiation Areas III-38
64E-5.342 Form of Records III-39

SUBPART L REPORTS

64E-5.343 Reports of Stolen, Lost, or Missing Licensed or
Registered Sources of Radiation III-39
R12 64E-5.344 Notification of Incidents III-40
R10 64E-5.345 Reports of Exposure, Radiation Levels, Concentrations of Radioactive Materials
Exceeding the Constraints or Limits, and Medical Events and Dose to an
Embryo/Fetus or a Nursing Child III-44a
64E-5.346 Reports of Planned Special Exposures III-46
R1 64E-5.347 Notifications and Reports to Individuals III-46
64E-5.348 Reports of Leaking or Contaminated Sealed Sources III-46
64E-5.349 Vacating Premises III-46
R12 64E-5.350 Reports of Transactions Involving Nationally Tracked Sources III-47
R12 64E-5.351 Nationally Tracked Source Thresholds. III-50

PART IV RADIATION SAFETY REQUIREMENTS FOR INDUSTRIAL RADIOGRAPHIC OPERATIONS

Sections 64E-5.401 – 64E-5.422 repealed and replaced with sections 64E-5.423 – 64E-5.441

R4	64E-5.423	Definitions	IV-1
R4	SUBPART D EQUIPMENT CONTROL (formerly Subpart A)		
R4	64E-5.424	Requirements for Industrial Radiography Equipment Using Sealed Sources	IV-3
R4	64E-5.425	Locking of Sources of Radiation, Storage Precautions, and Surveillance	IV-5
R4	64E-5.426	Radiation Survey Instruments	IV-6
R6	64E-5.427	Leak Testing, Repairing, Tagging, Opening, Modifying and Replacing Sealed Sources and Devices	IV-6
R4	64E-5.428	Quarterly Inventory	IV-7
R6	64E-5.429	Source Movement Logs, Daily Survey Reports, and Individual Dosimeter Logs	IV-8
R8	64E-5.430	Inspection and Maintenance	IV-9
R4	64E-5.431	Permanent Radiographic Installations	IV-10
R4	SUBPART E RADIATION SAFETY REQUIREMENTS (formerly Subpart B)		
R4	64E-5.432	Radiation Protection Program	IV-11
R4	64E-5.433	Radiation Safety Officer	IV-13
R6	64E-5.434	Training, Testing, Certification, and Audits	IV-14
R4	64E-5.435	Conducting Industrial Radiographic Operations	IV-17
R4	64E-5.436	Operating and Emergency Procedures	IV-17
R4	64E-5.437	Personnel Monitoring	IV-18
R4	SUBPART F PRECAUTIONARY PROCEDURES IN RADIOGRAPHIC OPERATIONS (formerly Subpart C)		
R4	64E-5.438	Radiation Surveys	IV-20
R4	64E-5.439	Posting	IV-21
R8	64E-5.440	Records	IV-21
R8	64E-5.441	Reporting Requirements	IV-23

PART V X-RAYS IN THE HEALING ARTS

	64E-5.501	Definitions	V-1
R15	64E-5.502	General Requirements	V-10a
	64E-5.503	General Requirements for all Diagnostic X-ray Systems	V-17
R11	64E-5.504	Fluoroscopic X-ray Systems	V-23
R2	64E-5.505	Diagnostic Radiography Systems, Other than Fluoroscopic, Mammographic, Dental Intraoral or Veterinary Systems	V-30
R7	64E-5.506	Intraoral Dental Radiographic Systems	V-34
	64E-5.507	Therapeutic X-ray Systems of Less Than 1 MeV	V-36
R13	64E-5.508	X-ray and Electron Therapy Systems with Energies of 1 MeV and Above	V-43
	64E-5.509	Veterinary Medicine X-ray Operations	V-55
R13	64E-5.510	Mammographic Systems	V-56
R15	64E-5.511	Registration of Radiation Machines	V-60

PART VI USE OF RADIONUCLIDES IN THE HEALING ARTS

R10 64E-5.601 License Required VI-1
 R12 64E-5.6011 Definitions VI-3
 R10 64E-5.602 License Amendments VI-5
 R10 64E-5.603 Notification VI-6

SUBPART A GENERAL ADMINISTRATIVE REQUIREMENTS

R10 64E-5.604 ALARA Program VI-6
 R10 64E-5.605 Radiation Safety Officer VI-7
 R10 64E-5.606 Radiation Safety Committee VI-9
 R12 64E-5.607 Authority and Responsibilities VI-11
 R10 64E-5.608 Supervision VI-13
 R12 64E-5.609 Visiting Authorized User, Visiting Authorized Medical Physicist or Visiting RSO..... VI-15
 R10 64E-5.610 Mobile Medical Service Requirements..... VI-16
 R10 64E-5.611 Quality Management Program and Notifications, Records and
 Reports of Medical Events. VI-17
 R10 64E-5.612 Suppliers VI-19

SUBPART B GENERAL TECHNICAL REQUIREMENTS

R10 64E-5.613 Quality Control of Diagnostic Instrumentation..... VI-20
 R12 64E-5.614 Possession, Use, Calibration, and Check of Dose Calibrators
 In the Use of Unsealed Radiopharmaceuticals..... VI-20
 R10 64E-5.615 Calibration and Check of Survey Instruments..... VI-22
 R10 64E-5.616 Determination of Dosages of Unsealed Radioactive Materials for Medical Use..... VI-24
 R10 64E-5.617 Authorization for Calibration, Transmission and Reference Sources VI-24
 R10 64E-5.618 Requirements for Possession of Sealed Sources and
 Brachytherapy Sources..... VI-25
 64E-5.619 Syringe Shields and Labels VI-27
 64E-5.620 Vial Shields and Labels..... VI-27
 R10 64E-5.621 Surveys for Contamination and Ambient Radiation Dose Rate VI-28
 R10 64E-5.622 Release of Patients or Human Research Subjects Treated with
 Radiopharmaceuticals, Implants, or Remote Afterloader Units VI-29
 64E-5.623 Storage of Volatiles and Gases VI-30
 R10 64E-5.624 Decay in Storage VI-30
 R10 64E-5.625 Safety Instruction and Precautions for Liquid Iodine Radiopharmaceutical
 Therapy, Manual Brachytherapy, Remote Afterloader Units, Teletherapy Units,
 and Gamma Stereotactic Radiosurgery VI-31
 R12 64E-5.6251 Manual Therapy Related Computer Systems VI-34

SUBPART C UPTAKE, DILUTION, AND EXCRETION

R12 64E-5.626 Use of Radiopharmaceuticals for Uptake, Dilution, or Excretion Studies VI-35

SUBPART D IMAGING AND LOCALIZATION

R12 64E-5.627 Use of Unsealed Radiopharmaceuticals, Generators, and Reagent Kits for
 Imaging and Localization Studies VI-26
 R10 64E-5.628 Generators VI-39
 R12 64E-5.629 Control of Aerosols and Gases VI-41

SUBPART E RADIOPHARMACEUTICALS FOR THERAPY

R12 64E-5.630..... Use of Radiopharmaceuticals for Therapy..... VI-42

SUBPART F SEALED SOURCES FOR DIAGNOSIS

R10 64E-5.631 Use of Sealed Sources for Diagnosis VI-44

SUBPART G SOURCES FOR BRACHYTHERAPY

R12 64E-5.632..... Use of Sources for Manual Brachytherapy VI-45
 R12 64E-5.633..... Manual Brachytherapy Sources Inventory and Surveys VI-46
 R10 64E-5.6331 Calibration Measurements of Manual Brachytherapy Systems VI-47
 R10 64E-5.6332..... Decay of Strontium-90 Sources for Ophthalmic Treatments VI-47

R10 SUBPART H PHOTON EMITTING REMOTE AFTERLOADER UNITS, TELETHERAPY UNITS, AND GAMMA STEREOTACTIC RADIOSURGERY UNITS.

R10 64E-5.634 Use of a Sealed Source in a Remote Afterloader Unit, Teletherapy Unit, or Gamma Stereotactic Radiosurgery Unit. VI-48
 R10 64E-5.635 Installation, Adjustment, Maintenance and Repair Restrictions VI-49
 R10 64E-5.636 Safety Procedures and Instructions for Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units. VI-49
 R10 64E-5.637 Safety Precautions for Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units..... VI-51
 R10 64E-5.638 Radiation Monitoring Devices VI-52
 R10 64E-5.639 Viewing Systems..... VI-53
 R10 64E-5.640 Dosimetry Equipment Used With Remote Afterloading Units, Teletherapy Units, or Gamma Stereotactic Radiosurgery Units VI-53
 R10 64E-5.641 Full Calibration Measurements On Teletherapy Units VI-54
 R10 64E-5.6411 Full Calibration Measurements On Remote Afterloader Units VI-56
 R12 64E-5.6412 Full Calibration Measurements On Gamma Stereotactic Radiosurgery Units VI-57
 R10 64E-5.642 Periodic Spot-Checks of Teletherapy Units VI-59
 R10 64E-5.6421 Periodic Spot-Checks for Remote Afterloader Units VI-61
 R12 64E-5.6422 Periodic Spot-Checks for Gamma Stereotactic Radiosurgery Units VI-62
 R10 64E-5.6423 Additional Technical Requirements for Mobile Remote Afteloder Units VI-65
 R12 64E-5.643 Radiation Surveys for Teletherapy Facilities..... VI-66
 R10 64E-5.644 Radiation Surveys for Remote Afterloader and Gamma Stereotactic Radiosurgery Facilities VI-67
 R12 64E-5.645 Therapy-Related Computer Systems..... VI-68
 64E-5.646 Reports of Teletherapy Surveys, Checks, Tests, and Measurements VI-68
 R10 64E-5.647 Five Year Inspection for Teletherapy and Gamma Stereotactic Radiosurgery Units..... VI-86

SUBPART I TRAINING AND EXPERIENCE REQUIREMENTS

R10	64E-5.648	Radiation Safety Officer	VI-69
R12	64E-5.649	Training for Uptake, Dilution, or Excretion Studies	VI-72
R12	64E-5.650	Training for Imaging and Localization Studies for Which a Written Directive is Not Required.....	VI-73
R10	64E-5.651	Repealed (See Rules 64E-5.660, 64E-5.661, 64E-5.662 & 64E-5.663).....	VI-75
R12	64E-5.652	Training for Therapeutic Use of Manual Brachytherapy Sources	VI-75
R12	64E-5.653	Training for Ophthalmic Use of Strontium 90.....	VI-77
R12	64E-5.654	Training for Use of Sealed Sources for Diagnosis	VI-78
R12	64E-5.655	Training for Use of Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units.....	VI-79
R12	64E-5.656	Training for an Authorized Medical Physicist.....	VI-81
R10	64E-5.657	Training for Experienced RSO, Teletherapy or Medical Physicist, Authorized Medical Physicist, Authorized User, Nuclear Pharmacist, and Authorized Nuclear Pharmacist	VI-83
R10	64E-5.658	Recentness of Training	VI-83
R10	64E-5.659	Training for an Authorized Nuclear Pharmacist	VI-84
R12	64E-5.660	Training for Use of Unsealed Radioactive Material for Which a Written Directive Is Required in Rules 64E-5.626, 64E-5.627 or 64E-5.630	VI-86
R12	64E-5.661	Training for the Oral Administration of Sodium Iodide I-131 Requiring a Written Directive in Quantities Less Than or Equal to 1.22 Gigabecquerels (33 Millicuries).....	VI-88
R12	64E-5.662	Training for the Oral Administration of Sodium Iodide I-131 Requiring a Written Directive in Quantities Greater Than 1.22 Gigabecquerels (33 Millicuries).....	VI-90
R12	64E-5.663	Training for the Parenteral Administration of Unsealed Radioactive Material Requiring a Written Directive	VI-91
R10	SUBPART J	OTHER MEDICAL USES OR RADIOACTIVE MATERIAL OR RADIATION FROM RADIOACTIVE MATERIAL	
R10	64E-5.664	Other Medical Uses of Radioactive Material or Radiation From Radioactive Material.....	IVI-94

PART VII RADIATION SAFETY REQUIREMENTS FOR ANALYTICAL X-RAY EQUIPMENT

64E-5.701	.....	Equipment Requirements	VII-1
64E-5.702	.....	Area Requirements	VII-2
64E-5.703	.....	Operating Requirements.....	VII-3
64E-5.704	.....	Personnel Requirements	VII-4

PART VIII RADIATION SAFETY REQUIREMENTS FOR ANALYTICAL PARTICLE ACCELERATORS

SUBPART A REGISTRATION PROCEDURE

R15	64E-5.801	.....	Registration Requirements	VIII-1
	64E-5.802	.....	General Requirements for the Issuance of a Registration Certificate for Particle Accelerators	VIII-1
	64E-5.803	.....	Particle Accelerators for Therapeutic Use on Humans	VIII-2

SUBPART B RADIATION SAFETY REQUIREMENTS FOR THE USE OF PARTICLE ACCELERATORS

	64E-5.804	Limitations	VIII-3
	64E-5.805	Shielding and Safety Design Requirements	VIII-3
	64E-5.806	Particle Accelerator Controls and Interlock Systems	VIII-3
	64E-5.807	Warning Devices	VIII-4
	64E-5.808	Operating Procedures	VIII-5
	64E-5.809	Radiation Monitoring Requirements	VIII-5
R12	64E-5.810	Ventilation Systems	VIII-6

PART IX NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS

R5	64E-5.901	Posting of Notices to Workers	IX-1
R1	64E-5.902	Instructions to Workers	IX-2
	64E-5.903	Notification and Reports to Individuals	IX-3
	64E-5.904	Presence of Representatives of Licensees or Registrants and Workers During Inspection	IX-4
	64E-5.905	Consultation with Workers During Inspections	IX-5
	64E-5.906	Request by Workers for Inspections	IX-5
	64E-5.907	Inspections Not Warranted; Informal Review	IX-6

PART X ENVIRONMENTAL RADIATION STANDARDS

SUBPART A RADIATION STANDARDS FOR BUILDINGS

	64E-5.1001	Standards	X-1
--	------------	-----------	-----

SUBPART B ENVIRONMENTAL MONITORING

	64E-5.1002	Monitoring Requirements	X-1
R8	64E-5.1003	Monitoring Fees	X-2

PART XI RADIATION SAFETY REQUIREMENTS FOR WIRELINE SERVICE OPERATIONS AND SUBSURFACE TRACER STUDIES

	64E-5.1101	Prohibitions	XI-1
--	------------	--------------	------

SUBPART A EQUIPMENT CONTROL

	64E-5.1102	Storage and Transportation Precautions	XI-2
R2	64E-5.1103	Radiation Survey Instruments	XI-2
R6	64E-5.1104	Leak Testing of Sealed Sources	XI-3
	64E-5.1105	Quarterly Inventory	XI-4
	64E-5.1106	Utilization Records	XI-4
R6	64E-5.1107	Design, Performance and Certification Criteria for Sealed Sources Used in Downhole Operations	XI-4
R6	64E-5.11071	Uranium Sinker Bars	XI-5
R8	64E-5.11072	Energy Compensation Sources	XI-6
R6	64E-5.11073	Tritium Neutron Generator Target Source	XI-6
	64E-5.1108	Labeling	XI-6
	64E-5.1109	Inspection and Maintenance	XI-7

SUBPART B REQUIREMENTS FOR PERSONNEL SAFETY

	64E-5.1110..... Training Requirements.....	XI-7
	64E-5.1111..... Operating and Emergency Procedures.....	XI-8
R12	64E-5.1112..... Personnel Monitoring	XI-9
	SUBPART C PRECAUTIONARY PROCEDURES IN LOGGING AND SUBSURFACE TRACER OPERATIONS	
	64E-5.1113 Security.....	XI-9
	64E-5.1114 Handling Tools.....	XI-9
R12	64E-5.1115 Subsurface Tracer Studies	XI-9
	SUBPART D RADIATION SURVEYS AND RECORDS	
	64E-5.1116..... Radiation Surveys.....	XI-10
	64E-5.1117..... Documents and Records Required at Field Stations	XI-11
	64E-5.1118..... Documents and Records Required at Temporary Job Sites.....	XI-11
	SUBPART E NOTIFICATION	
R6	64E-5.1119..... Notification of Incidents, Abandonment and Lost Sources	XI-12
R6	64E-5.1120..... Subjects to be Included in Training Courses for Logging Supervisors	XI-14
	PART XII RADON REQUIREMENTS	
	(text of these regulations not included in this printing)	
	PART XIII RADIATION SAFETY REQUIREMENTS FOR POSSESSION AND USE OF SEALED OR UNSEALED SOURCES OF RADIOACTIVE MATERIALS	
R10	64E-5.1301..... Sealed or Unsealed Sources of Radioactive Materials	XIII-1
	SUBPART A GENERAL REQUIREMENTS	
	64E-5.1302..... Operating and Emergency Procedures.....	XIII-1
	64E-5.1303..... Leak Test Requirements for Possession of Sealed Sources	XIII-2
	64E-5.1304..... Inventory Requirements.....	XIII-3
	64E-5.1305..... Training Requirements, Authority, Duties and Responsibilities of the Radiation Safety Officer	XIII-4
	64E-5.1306..... Opening Sealed Sources	XIII-5
	64E-5.1307..... Training Requirements for Authorized Users.....	XIII-5
	64E-5.1308..... Additional Requirements for General Licenses.....	XIII-6
	64E-5.1309..... Training for Current Authorized Users	XIII-6
R2	64E-5.1310..... Personnel Monitoring	XIII-6
	SUBPART B REQUIREMENTS FOR THE POSSESSION AND USE OF SEALED SOURCES IN PORTABLE DEVICES	
R6	64E-5.1311..... Storage, Security and Transportation Precautions	XIII-7
	64E-5.1312..... Training and User Requirements for the Possession and Use of Sealed Sources in Portable Devices	XIII-8
	SUBPART C REQUIREMENTS FOR THE POSSESSION AND USE OF SEALED SOURCES IN FIXED DEVICES	
	64E-5.1313..... Training and User Requirements for the Possession and Use of Sealed Sources in Fixed Devices.....	XIII-8
	64E-5.1314..... Possession of Survey Instruments.....	XIII-9
	64E-5.1315..... Additional Requirements.....	XIII-9

SUBPART D REQUIREMENTS FOR THE POSSESSION AND USE OF UNSEALED SOURCES OF RADIOACTIVE MATERIALS

	64E-5.1316.....	General Rules for the Safe Use of Unsealed Sources of Radioactive Material	XIII-9
R12	64E-5.1317.....	Storage and Control of Volatiles and Gases.....	XIII-10
	64E-5.1318.....	Instrumentation	XIII-10
	64E-5.1319.....	Contamination Control Program	XIII-11
R10	64E-5.1320.....	Bioassay Program.....	XIII-13

PART XIV LICENSING AND RADIATION SAFETY REQUIREMENTS FOR IRRADIATORS

SUBPART A GENERAL PROVISIONS

	64E-5.1401.....	Irradiators.....	XIV-1
	64E-5.1402.....	Definitions	XIV-1

SUBPART B SPECIFIC LICENSE FOR LARGE IRRADIATORS

	64E-5.1403.....	Specific License for Large Irradiators	XIV-3
	64E-5.1404.....	Start of Construction	XIV-5

SUBPART C DESIGN AND PERFORMANCE REQUIREMENTS FOR LARGE IRRADIATORS

	64E-5.1405.....	Performance Criteria for Sealed Sources	XIV-5
R2	64E-5.1406.....	Access Control.....	XIV-6
	64E-5.1407.....	Shielding	XIV-8
	64E-5.1408.....	Fire Protection.....	XIV-8
	64E-5.1409.....	Radiation Monitors	XIV-9
	64E-5.1410.....	Control of Source Movement	XIV-9
	64E-5.1411.....	Irradiator Pools.....	XIV-10
	64E-5.1412.....	Source Rack Protection	XIV-11
	64E-5.1413.....	Power Failures	XIV-11
	64E-5.1414.....	Design Requirements	XIV-11
	64E-5.1415.....	Construction Control	XIV-14

SUBPART D OPERATION OF IRRADIATORS

	64E-5.1416.....	Training.....	XIV-15
	64E-5.1417.....	Operating and Emergency Procedures.....	XIV-17
R2	64E-5.1418.....	Personnel Monitoring	XIV-18
R12	64E-5.1419.....	Radiation Surveys.....	XIV-19
R12	64E-5.1420.....	Detection of Leaking or Contaminated Sources	XIV-20
	64E-5.1421.....	Inspection and Maintenance	XIV-21
	64E-5.1422.....	Pool Water Purity	XIV-22
	64E-5.1423.....	Attendance During Operation	XIV-22
	64E-5.1424.....	Entering and Leaving the Radiation Room	XIV-23
	64E-5.1425.....	Irradiation of Explosive or Highly Flammable Materials	XIV-23

SUBPART E RECORDS AND REPORTS

	64E-5.1426.....	Records and Retention Periods	XIV-24
	64E-5.1427.....	Reports and Notifications.....	XIV-26

PART XV TRANSPORTATION OF RADIOACTIVE MATERIALS

R12 64E-5.1501..... Purpose and Scope XV-1a
R12 64E-5.1502..... Transportation of Radioactive Material XV-1a
64E-5.1503..... Exemptions XV-2
64E-5.1504..... General Licenses for Carriers XV-2
64E-5.1505..... Routine Determinations XV-3
64E-5.1506..... Advance Notification of Shipment of Certain Quantities of Radioactive Waste XV-3
64E-5.1507..... Designation of Routes for Shipment of Radioactive Waste
Requiring Advanced Notification XV-5
R7 64E-5.1508..... Inspection of Low-Level Radioactive Waste Shipments XV-6
64E-5.1509..... Permit Requirements XV-7
64E-5.1510..... Air Transport of Plutonium XV-9
64E-5.1511..... Notification in the Event of Suspected or Real Breach of Containment..... XV-9
64E-5.1512..... Inspections..... XV-10
R2 64E-5.1513..... Communications XV-10
Appendix A..... Appendix A to 10 CFR Part 71 Determination of A₁ and A₂ Values XV-11
Table A-1..... A₁ and A₂ Values for Radionuclides XV-13
Table A-2..... Relationship Between A₁ and E_{max} for Beta Emitters..... XV-30
Table A-3..... Relationship Between A₃ for Alpha Emitters and the
Atomic Number of the Radionuclide XV-30
Table A-4..... Activity - Mass Relationships for Uranium/Thorium XV-31

PART XVI ELECTRONIC BRACHYTHERAPY

R9 64E-5.1601..... Definitions XVI-1
R15 64E-5.1602..... Administrative Requirements XVI-2
R9 64E-5.1603..... Training and Education XVI-4
R9 64E-5.1604..... General Technical Requirements For Electronic Brachytherapy Facilities XVI-7

ATTACHMENTS

R12 [ALIs, DACs, and Effluent Concentrations June 2012](#)

[Protection Factors for Respirators May 2006](#)

R2 [Radioactive Material Requiring Labeling May 2000](#)

[Occupational Exposure Record for a Monitoring Period Form DH-1622 Edition 05/1997](#)

[Cumulative Occupational Exposure History Form DH-1623 Edition 05/1997](#)

[Certificate - Disposition of Radioactive Materials Form DH-1059 Edition 05/1997](#)

R10 [Radioactive Materials License Application Non-Human Use Form DH-1054 12/09](#)

R10 [Radioactive Materials License Application Human Use Form DH-1322 12/09](#)

R5 [Notice to Employees 3/01](#)

R1 [Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest, July 1997](#)

- R3 [Authorized Nuclear Pharmacist Training Requirements](#)
- R4 [State of Florida Boundaries \(map\) – State Constitution Article II, Section 1 \(Exact boundaries\)](#)
- R7 [Transfers of Industrial Devices Report 04/2007](#)
- R15 [Radiation Machine Facility Registration DH Form 1107, 10/15](#)
- R15 [Report of Assembly of Certified or Non-Certified X-Ray Systems Form 1114, 10/15](#)
- R10 [Federal Policy for the Protection of Human Subjects \(Federal Policy\) as described in 45 CFR Part 46 dated 11/9/2009 \(See 64E-5.601\)](#)
- R14 [Bond Risk Factors Calculation Worksheet – March 2014](#)
- R13 [Emergency Plan Isotopes and Quantities - July 2014](#)