

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

**TABLE OF CONTENTS FOR
TITLE 180 - CONTROL OF RADIATION**

CHAPTER 1 GENERAL PROVISIONS (Effective July 11, 2009)

1-001	Scope and Authority	1
1-002	Definitions	1
1-003	Exemptions	14
1-004	Records	15
1-005	Inspections.....	15
1-006	Tests	15
1-007	Additional Requirements.....	15
1-008	Violations	15
1-009	Impounding	15
1-010	Prohibited Uses	15
1-011	Tests for Leakage and/or Contamination of Sealed Sources	16
1-012	Communications	17
1-013	Reserved	18
1-014	Discrimination Prohibited	18
1-015	Units of Exposure and Dose	18
1-016	Units of Activity	20

CHAPTER 2 REGISTRATION OF RADIATION GENERATING EQUIPMENT FACILITIES AND SERVICES (Effective July 11, 2009)

2-001	Scope and Authority	1
2-002	Definitions	1
2-003	Exemptions	2
2-004	Application for Registration of Radiation Generating Equipment Facilities.....	2
2-005	Application for Registration of Servicing and Services	3
2-006	Issuance of Certificate of Registration (NRH-4 and/or NRH-9).....	4
2-007	Specific Terms and Condition of Certificates of Registration.....	5
2-008	Responsibilities of the Registrant	5
2-009	Expiration/Termination of Certificate of Registration	6
2-010	Renewal of Certificate of Registration	7
2-011	Assembler and/or Transfer Obligation	7
2-012	Out-of-State Radiation Generating Equipment	8

FORMS

Form NRH-4 Application for Registration of Radiation Generating Equipment

Form NRH-4a (Additional Machines)

Form NRH 9 Application for Registration of Services for Radiation Sources

ATTACHMENT

Attachment Number 2-1 21 CFR 1020.30(d)

CHAPTER 3 - LICENSING OF RADIOACTIVE MATERIAL(Effective July 11, 2009)

3-001	Scope and Authority	1
3-002	Definitions	1

EXEMPTIONS

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

3-003	Source Material.....	2
3-004	Radioactive Material Other Than Source Material Licenses.....	4
3-005	Types of Licenses.....	9
3-006	Radioactive Drug: Capsules Containing Carbon-14 Urea for 'In-Vivo' Diagnostic Use for Humans	9

GENERAL LICENSES

3-007	General Licenses – Source Material.....	9
3-008	General Licenses – Radioactive Material Other Than Source Material.....	12
3-009	Reserved	23

SPECIFIC LICENSES

3-010	Filing Application for Specific Licenses.....	23
3-011	General Requirements for the Issuance of Specific Licenses	26
3-012	Reserved	28
3-013	Special Requirements for Specific Licenses of Broad Scope.....	28
3-014	Special Requirements for a Specific License to Manufacture, Assemble, Repair, or Distribute Commodities, Products, or Devices which Contain Radioactive Material	31
3-015	Special Requirements for Issuance of Specific Licenses for Source Material Milling	49
3-016	Issuance of Specific Licenses.....	51
3-017	Specific Terms and Conditions of License.....	52
3-018	Financial Assurance and Recordkeeping for Decommissioning.....	53
3-019	Expiration and Termination of Licenses and Decommissioning of Sites and Separate Building or Outdoor Areas	57
3-020	Renewal of Licenses.....	61
3-021	Amendment of Licenses at Request of Licensee	61
3-022	Department Action on Applications to Renew and Amend	62
3-023	Reserved	62
3-024	Reserved	62
3-025	Transfer of Material.....	62
3-026	Reporting Requirements.....	63
3-027	Modification and Revocation of Licenses	65
3-028	Reciprocal Recognition of Licenses.....	65
3-029	Reserved	67
3-030	Records	67

APPENDICES

Appendix 3-A	Exempt Concentrations	71
Appendix 3-B	Exempt Quantities	77
Appendix 3-C	Limits for Broad Licenses 180 NAC 3-013	83
Appendix 3-D	Criteria Relating to Use of Financial Tests and Self Guarantees for Providing Reasonable Assurance of Funds for Decommissioning	87
Appendix 3-E	Quantities of Radioactive Materials Requiring Consideration of the Need for an Emergency Plan for Responding to a Release	89
Appendix 3-F	Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning	93

FORMS

Form NRH 5	Application for Radioactive Material License
------------	--

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

- Form NRH-11 Certificate – Use of Depleted Uranium Under General License
- Form NRH-17 Certificate – In Vitro Testing With Radioactive Material General License
- Form NRH-60 Certificate of Disposition of Materials
- Form NRH 653, A & B Transfers of Industrial Devices Report

ATTACHMENT

Attachment 3 – 11 U.S. C. 101(2) and (15)

CHAPTER 4 STANDARDS FOR PROTECTION AGAINST RADIATION (Effective July 11, 2009)

4-001 Scope and Authority	1
4-002 Definitions	2
4-003 Implementation	5

RADIATION PROTECTION PROGRAMS

4-004 Radiation Protection Programs	6
---	---

OCCUPATIONAL DOSE LIMITS

4-005 Occupational Dose Limits for Adults	6
4-006 Compliance with Requirements for Summation of External and Internal Doses	8
4-007 Determination of External Dose From Airborne Radioactive Material	8
4-008 Determination of Internal Exposure	9
4-009 Determination of Prior Occupational Dose	10
4-010 Planned Special Exposures	12
4-011 Occupational Dose Limits for Minors	13
4-012 Dose To An Embryo/Fetus	13

RADIATION DOSE LIMITS FOR INDIVIDUAL MEMBERS OF THE PUBLIC

4-013 Dose Limits for Individual Members of the Public	14
4-014 Compliance with Dose Limits for Individual Members of the Public	14

RADIOLOGICAL CRITERIA FOR LICENSE TERMINATION

4-015 General Provisions and Scope	15
4-016 Radiological Criteria for Unrestricted Use	16
4-017 Criteria for License Termination Under Restricted Conditions	16
4-018 Alternate Criteria for License Termination	18
4-019 Public Notification and Public Participation	19
4-020 Minimization of Contamination	19

SURVEYS AND MONITORING

4-021 General	19
4-022 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose	20

CONTROL OF EXPOSURE FROM EXTERNAL SOURCES IN RESTRICTED AREAS

4-023 Control of Access to High Radiation Areas	21
4-024 Control of Access to Very High Radiation Areas	22
4-025 Control of Access to Very High Radiation Areas--Irradiators	22

RESPIRATORY PROTECTION AND CONTROLS TO RESTRICT INTERNAL EXPOSURE IN
RESTRICTED AREAS

4-026 Use of Process or Other Engineering Controls	25
--	----

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

4-027 Use of Other Controls25
4-028 Use of Individual Respiratory Protection Equipment25
4-029 Further Restrictions on the Use of Respiratory Protection Equipment27
4-030 Application for Use of Higher Assigned Protection Factors28

STORAGE AND CONTROL OF LICENSED OR REGISTERED SOURCES OF RADIATION

4-031 Security and Control of Licensed or Registered Sources of Radiation28
4-032 Reserved28

PRECAUTIONARY PROCEDURES

4-033 Caution Signs29
4-034 Posting Requirements29
4-035 Exceptions to Posting Requirements29
4-036 Labeling Containers and Radiation Machines31
4-037 Exemptions to Labeling Requirements31
4-038 Procedures for Receiving and Opening Packages32

WASTE DISPOSAL

4-039 General Requirements33
4-040 Method for Obtaining Approval of Proposed Disposal Procedures34
4-041 Disposal by Release into Sanitary Sewerage34
4-042 Treatment or Disposal by Incineration35
4-043 Disposal of Specific Wastes34
4-044 Transfer for Disposal and Manifests36
4-045 Compliance with Environmental and Health Protection Regulations36

RECORDS

4-046 General Provisions36
4-047 Records of Radiation Protection Programs37
4-048 Records of Surveys37
4-049 Records of Tests for Leakage or Contamination of Sealed Sources38
4-050 Records of Prior Occupational Dose38
4-051 Records of Planned Special Exposures38
4-052 Records of Individual Monitoring Results38
4-053 Records of Dose to Individual Members of the Public39
4-054 Records of Waste Disposal39
4-055 Records of Testing Entry Control Devices for Very High Radiation Areas40
4-056 Forms of Records40

REPORTS

4-057 Reports of Stolen, Lost, or Missing Licensed or Registered Sources of Radiation40
4-058 Notification of Incidents41
4-059 Reports of Exposures, Radiation Levels and Concentrations of Radioactive Material
Exceeding the Constraints or Limits42
4-060 Reports of Planned Special Exposures43
4-061 Reserved43
4-062 Reports of Individual Monitoring43
4-063 Notifications and Reports to Individuals44
4-064 Reports of Leaking or Contaminated Sealed Sources45

ADDITIONAL REQUIREMENTS

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

4-065 Vacating Premises.....45
4-066 Reports of Transactions Involving Nationally Tracked Sources46

APPENDIXES

Appendix 4-A Protection Factors for Respirators.....49
Appendix 4-B Annual Limits on Intake (ALI) and Derived Air Concentrations (DAC) of Radionuclides for Occupational Exposure, Effluent Concentrations; Concentrations for Release to Sanitary Sewerage.....51
Appendix 4-C Quantities Material Requiring Labeling 107
Appendix 4-D Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Disposal Facilities and Manifests 116
Appendix 4-E Classification and Characteristic of Low-Level Radioactive Waste 123
Appendix 4-F Quantities for Use With Decommissioning 128
Appendix 4-G Concentration and Activity Limits of Nuclides for Disposal in a City or County Landfill Disposal Facility 133

FORMS

Form NRH-1 Cumulative Occupation Exposure History
Form NRH 2 Occupational Exposure Record for a Monitoring Period

ATTACHMENT

Attachment 4-1 29 CFR 1910.134(l)(1)(ii) (A-E)

CHAPTER 5 RADIATION SAFETY REQUIREMENTS FOR INDUSTRIAL RADIOGRAPHIC OPERATIONS (Effective July 11, 2009)

5-001 Scope and Authority 1
5-002 Definitions 1
5-003 Exemptions 5
5-004 Licensing and Registration Requirements for Industrial Radiography Operations 5
5-005 Performance Requirements for Industrial Radiography Equipment 7
5-006 Limits on External Radiation Levels From Storage Containers & Source hangers..... 8
5-007 Locking of Sources of Radiation, Storage Containers and Source Changers 8
5-008 Radiation Survey Instruments..... 9
5-009 Leak Testing and Replacement of Sealed Source 9
5-010 Quarterly Inventory 11
5-010 Inspection and Maintenance of Radiation Machines, Radiographic Exposure Devices, Transport, and Storage Containers, Associated Equipment, Source Changers and Survey Instruments 11
5-012 Permanent Radiographic Installations 12
5-013 Labeling, Storage, and Transportation 12

RADIATION SAFETY REQUIREMENTS

5-014 Conducting Industrial Radiographic Operations 13
5-015 Radiation Safety Officer 13
5-016 Training..... 14
5-017 Operating and Emergency Procedures 16
5-018 Supervision of Radiographers' Assistants 17
5-019 Personnel Monitoring..... 17
5-020 Radiation Surveys..... 18
5-021 Surveillance 19

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

5-022 Posting..... 19

RECORDKEEPING REQUIREMENTS

5-023 Records for Industrial Radiography 19
5-024 Records of Receipt and Transfer of Sources of Radiation 19
5-025 Records of Radiation Survey Instrument 19
5-026 Records of Leak Testing of Sealed Sources and Devices Containing DU 19
5-027 Records of Quarterly Inventory 20
5-028 Utilization Logs 20
5-029 Records of Inspection and Maintenance of Radiation Machines, Radiographic Exposure
Devices, Transport, and Storage Containers, Associated Equipment, Source
Changers, and Survey Instruments..... 20
5-030 Records of Alarm System and Entrance Control Checks at Permanent Radiographic
Installations 20
5-031 Records of Training and Certification 21
5-032 Copies of Operating and Emergency Procedures 21
5-033 Records of Personnel Monitoring 21
5-034 Records of Radiation Surveys 21
5-035 Forms of Records 21
5-036 Location of Documents and Records..... 22

NOTIFICATIONS

5-037 Notifications 22
5-038 Reciprocity 23
5-039 Specific Requirements for Radiographic Personnel Performing Industrial Radiography.. 23

APPENDIXES

Appendix 5-A Requirements for an Independent Certifying Organization 25
Requirements for Certification Programs 26
Requirements for Written Examinations 26

**CHAPTER 6 DIAGNOSTIC X-RAYS OTHER THAN DENTAL RADIATION GENERATING
EQUIPMENT IN THE HEALING ARTS** (Effective July 11, 2009)

6-001 Scope and Authority 1
6-002 Definitions 1
6-003 General Requirements..... 8
6-004 General Requirements for All Diagnostic X-ray Systems 15
6-005 Fluoroscopic X-ray Systems 18
6-006 Radiographic Systems Other Than Fluoroscopic, Veterinarian, or Computed
Tomography x-ray Systems 24
6-007 Veterinary Medicine Radiographic Installations..... 39
6-008 Computed Tomography Systems 30

APPENDIXES

Appendix 6-A Information to be Submitted by Persons Proposing to Conduct Healing Arts
Screening 39
Appendix 6-B Information on Radiation Shielding Required for Plan Reviews 41
Appendix 6-C Design Recommendations for an Operator's Booth..... 42

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

ATTACHMENT

Attachment Number 6-1 Public Law 90-602, the Radiation Control for Health and safety
Act of 1968
Attachment Number 6-2 21 CFR 1020.30 and 1020.31

CHAPTER 7 MEDICAL USE OF RADIOACTIVE MATERIAL (Effective July 11, 2009)

GENERAL INFORMATION

7-001	Scope and Authority	1
7-002	Definitions	1
7-003	Maintenance of Records	5
7-004	Provisions for Research Involving Human Subjects	5
7-005	U.S. Food and Drug Administration (FDA), Federal and State Requirements.....	5
7-006	Implementation	6

GENERAL REGULATORY REQUIREMENTS

7-007	License Required.....	6
7-008	Application for License, Amendment, or Renewal	6
7-009	Mobile Medical Service Administrative Requirements	7
7-010	License Amendments	8
7-011	Notifications	9
7-012	Exemptions Regarding Type A Specific License of Broad Scope	10
7-013	License Issuance	10
7-014	Specific Exemptions	10

GENERAL ADMINISTRATIVE REQUIREMENTS

7-015	Radiation Protection Program.....	10
7-016	Radiation Protection Program Changes	12
7-017	Duties of Authorized User and Authorized Medical Physicist	12
7-018	Supervision	13
7-019	Written Directives.....	13
7-020	Procedures for Administrations Requiring a Written Directive	14
7-021	Suppliers for Sealed Sources or Devices for Medical Use	15
7-022	Training for Radiation Safety Officer.....	15
7-023	Training for an Authorized Medical Physicist.....	17
7-024	Training for an Authorized Nuclear Pharmacist	19
7-025	Training and Technical Requirements for Nuclear Medicine Technologists and Radiation Therapists	20
7-026	Provisions for Experienced Radiation Safety Officer, Teletherapy or Medical Physicist, Authorized User, Nuclear Pharmacist and Authorized Nuclear Pharmacist.....	22
7-027	Recentness of Training.....	23

GENERAL TECHNICAL REQUIREMENTS

7-028	Quality Control of Diagnostic Equipment	23
7-029	Possession, Use and, Calibration of Instruments Used to Measure the Activity of Unsealed Radioactive Material	23
7-030	Calibration of Survey Instruments.....	23
7-031	Determination of Dosages of Radioactive Material for Medical Use.....	24
7-032	Authorization for Calibration, Transmission and Reference Sources	24
7-033	Requirements for Possession of Sealed Sources and Brachytherapy	

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

Sources.....	25
7-034 Labels	25
7-035 Vial Shields and Syringe Shield.....	25
7-036 Surveys for Ambient Radiation Dose Rate and Contamination	26
7-037 Release of Individuals Containing Radioactive Drugs or Implants	26
7-038 Mobile Medicine Service Technical Requirements	27
7-039 Storage and Control of Volatiles and Gases.....	28
7-040 Decay-in-Storage.....	29

UNSEALED RADIOACTIVE MATERIAL – WRITTEN DIRECTIVE
NOT REQUIRED

7-041 Use of Unsealed Radioactive Material for Uptake, Dilution, and Excretion Studies for Which a Written Directive is Not Required.....	29
7-042 Possession of Survey Instrument	29
7-043 Training for Uptake, Dilution, and Excretion Studies	29

SPECIFIC REQUIREMENTS FOR THE USE OF UNSEALED
RADIOACTIVE MATERIAL, - WRITTEN DIRECTIVE NOT REQUIRED

7-044 Use of Unsealed Radioactive Material for Imaging and Localization Studies For Which a Written Directive is Not Required.....	31
7-045 Radionuclide Contaminants	31
7-046 Possession of Survey Instrument	32
7-047 Training for Imaging and Localization Studies.....	32

UNSEALED RADIOACTIVE MATERIAL – WRITTEN
DIRECTIVE REQUIRED

7-048 Use of Unsealed Radioactive Material for Which a Written Directive is Required	33
7-049 Safety Instruction and Safety Precautions.....	34
7-050 Possession of Survey Instruments	35
7-051 Training for use of Unsealed Radioactive Material for Which a Written Directive is Required.....	35
7-052 Training for the Oral Administration of Sodium Iodide I-131 in Quantities Less than 1.22 GBq (33 mCi for Which a Written Directive is Required)	37
7-053 Training for the Oral Administration of Sodium Iodide 1-131 in Quantities Greater than 1.22 GBq (33 mCi) for Which a Written Directive is Required	38
7-054 Training for the Parenteral Administration of Unsealed Radioactive Material Requiring a Written Directive	40

MANUAL BRACHYTHERAPY

7-055 Use of Sources for Manual Brachytherapy	41
7-056 Surveys After Source Implant and Removal.....	41
7-057 Brachytherapy Sources Inventory417-058	Safety Instruction 42
7-059 Safety Precautions for Patients or Human Research Subjects Receiving Brachytherapy.....	42
7-060 Calibration Measurements of Brachytherapy Sources	43
7-061 Therapy-Related Computer Systems	43
7-062 Possession of Survey Instrument	44

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

7-063	Training for Use of Manual Brachytherapy Sources	44
7-064	Training for Ophthalmic Use of Strontium-90	45

SEALED SOURCES FOR DIAGNOSIS

7-065	Use of Sealed Sources for Diagnosis	46
7-066	Training for use of Sealed Sources for Diagnosis	46

PHOTON EMITTING REMOTE AFTERLOADER UNITS, TELETHERAPY
UNITS, AND GAMMA STEREOTACTIC RADIOSURGERY UNITS

7-067	Use of a Sealed Source in a Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units	46
7-068	Surveys of Patients an Human Research Subjects Treated with Remote Afterloader Unit	47
7-069	Installation, Maintenance, Adjustment and Repair	47
7-070	Safety Procedures and Instructions for Remote Afterloader Units, Teletherapy Units and Gamma Stereostactic Radiosurgery Units	47
7-071	Safety Precautions for Remote Afterloader Units, Teletherapy Units and Gamma Stereotactic Radiosurgery Units	48
7-072	Dosimetry Equipment	50
7-073	Full Calibration Measurements on Teletherapy Units	50
7-074	Full Calibration Measurements on Remote Afterloader Units	53
7-075	Full Calibration Measurements on Gamma Stereotactic Radiosurgery Units	53
7-076	Periodic Spot-Checks for Teletherapy Units	54
7-077	Periodic Spot-Checks for Remote Afterloader Units	55
7-078	Periodic Spot-Checks for Gamma Stereotactic Radiosurgery Units	56
7-079	Additional Technical Requirements for Mobile Remote Afterloader Units	57
7-080	Radiation Surveys	58
7-081	Five-Year Inspection For Teletherapy and Gamma Stereotactic Radiosurgery Units	58
7-082	Therapy-Related Computer Systems	58
7-083	Possession of Survey Instruments	59
7-084	Training for use of Remote Afterloader Units, and Gamma Stereotactic Radiosurgery Units	59

OTHER MEDICAL USES OF RADIOACTIVE MATERIAL OR
RADIATION FROM RADIOACTIVE MATERIAL

7-085	Other Medical Uses of Radioactive Material or Radiation from Radioactive Material	60
-------	--	----

RECORDS

7-086	Record of Authority and Responsibilities for Radiation Protection Programs	61
7-087	Records of Radiation Protection Program Changes	61
7-088	Records of Written Directives	61
7-089	Record of Misadministration	61
7-090	Records of A Dose to an Embryo/Fetus or a Nursing Child	61
7-091	Records of Calibration of Instruments Used to Measure the Activity of Unsealed Radioactive Material	62
7-092	Records of Radiation Survey Instrument Calibrations	62
7-093	Records of Dosages of Unsealed Radioactive Material for Medical Use	62

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

7-094	Records of Leak Tests and Inventory of Sealed Sources and Brachytherapy Sources	62
7-095	Records of Surveys for Ambient Radiation Exposure Rate	62
7-096	Records of the Release of Individuals Containing Radioactive Drugs or Implants Containing Radioactive Material.....	62
7-097	Records of Administrative and Technical Requirements That Apply to the Provision Mobile Services	63
7-098	Records of Decay-In-Storage	63
7-099	Records of Radionuclide Purity	63
7-100	Records of Training	63
7-101	Records of Safety Instruction and Training.....	63
7-102	Records of Surveys of Patients and Human Research Subjects.....	63
7-103	Records of Brachytherapy Source Inventory	63
7-104	Records of Calibration Measurements of Brachytherapy Sources	64
7-105	Records of Decay of Strontium-90 for Ophthalmic Treatments	64
7-106	Records of Installation, Maintenance, Adjustment, and Repair	64
7-107	Records of Dosimetry Equipment	65
7-108	Records of Teletherapy, Remote After Loader, and Gamma Stereotactic Radiosurgery Full Calibrations	65
7-109	Records of Periodic Spot-Checks for Teletherapy Units	65
7-110	Records of Periodic Spot-Checks for Remote Afterloader Unit	66
7-111	Records of Periodic Spot-Checks for Gamma Stereotactic Radiosurgery Units	66
7-112	Records of Additional Technical Requirements for Mobile Remote Afterloader Units	66
7-113	Records of Surveys of Therapeutic Treatment Units.....	67
7-114	Records of Five Year Inspections for Teletherapy and Gamma Stereotactic Radiosurgery Units	67

REPORTS

7-115	Report and Notification of Misadministration	67
7-116	Records of Supervision Audits.....	69
7-117	Report and Notification of a Dose to an Embryo/Fetus or a Nursing Child.....	69
7-118	Reports of Leaking Sources	71
7-119	Notification of Deceased Patient or Human Research Subjects Containing Radioactive Material	71

FORM(S)

- Form NRH-7 Application for Radioactive Material License – Medical
- Form NRH-7A Medical Use Training and Experience and Preceptor Attestation

CHAPTER 8 RADIATION SAFETY REQUIREMENTS FOR ANALYTICAL X-RAY EQUIPMENT

(Effective July 11, 2009)

8-001	Scope and Authority	1
8-002	Definitions	1
8-003	Equipment Requirements	1
8-004	Area Requirements.....	3
8-005	Operating Requirements.....	4
8-006	Personnel Requirements	5

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

CHAPTER 9 RADIATION SAFETY REQUIREMENTS FOR PARTICLE ACCELERATORS

(Effective July 11, 2009)

9-001	Scope and Authority	1
9-002	Registration Requirements	1
9-003	General Operating Requirements for the Issuance of a Registration for Particle Accelerators	1
9-004	Operator Qualifications	2
9-005	Limitations.....	2
9-006	Shielding and Safety Design Requirements	2
9-007	Particle Accelerator Controls and Interlock Systems.....	2
9-008	Warning Devices.....	3
9-009	Operating Procedures.....	3
9-010	Radiation Monitoring Requirements	4
9-011	Ventilation Systems	4

CHAPTER 10 NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTIONS

(Effective July 11, 2009)

10-001	Scope and Authority	1
10-002	Posting of Notices to Workers	1
10-003	Instructions to Workers	2
10-004	Notifications and Reports to Individuals.....	2
10-005	Presence of Representatives of Licensees or Registrants and Workers During Inspection	3
10-006	Consultation with Workers During Inspections	4
10-007	Requests by Workers for Inspections.....	5
10-008	Inspections Not Warranted, Informal Review	5

FORM(S)

Form NRH-3 Notice to Employees

CHAPTER 11 REQUIREMENTS FOR RADON AND RADON PROGENY MEASUREMENT AND MITIGATION SERVICES

For a copy of Chapter 11 (Effective Date January 28, 2007) See the following website:
http://www.sos.state.ne.us/rules-and-regs/regsearch/Rules/Health_and_Human_Services_System/Title-180/Chapter-11.pdf

For addition information concerning “Radon” please contact:

Nebraska Department of Health and Human Services
Division of Public Health
Office of Environmental Health Hazards and Indoor Air
P. O. Box 95026
Lincoln, NE 68509-5026
(402) 471-0594
Radon Hotline 1-800-334-9491

CHAPTER 12 LICENSING REQUIREMENTS FOR MANAGEMENT OF RADIOACTIVE WASTE (Effective July 12, 2001)

GENERAL PROVISIONS

12-001	Scope and Authority	1
12-002	Definitions	1

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

12-003 Exemptions	2
12-004 License Required	2
12-005 Term	2
12-006 Content of Application.....	2
12-007 General Information	2
12-008 Specific Technical Information	3
12-009 Technical Analyses.....	4
12-010 Institutional Information.....	5
12-011 Financial Information	5
12-012 Requirements for Issuance of a License	5
12-013 Conditions of License	6
12-014 Changes	7
12-015 Amendment of License.....	7
12-016 Application for Renewal or Closure	7
12-017 Contents of Application for Site Closure and Stabilization	8
12-018 Post-Closure Observation and Maintenance	8
12-019 Transfer of License	8
12-020 Termination of License	9

PERFORMANCE OBJECTIVES

12-021 General Requirement	9
12-022 Protection of the General Population From Release of Radioactivity	9
12-023 Protection of Individuals From Inadvertent Intrusion	9
12-024 Protections of Individuals During Operations.....	10
12-025 Stability of the Management Site After Closure	10

TECHNICAL REQUIREMENTS FOR MANAGEMENT FACILITIES

12-026 Management Site Suitability Requirements.....	10
12-027 Management Site Design	11
12-028 Management Facility Operation and Management Site Closure	11
12-029 Environmental Monitoring	12
12-030 Alternative Requirements for Design and Operation	12
12-031 Institutional Requirements	12
12-032 Reserved	13

FINANCIAL ASSURANCES

12-033 Applicant Qualification and Assurances	13
12-034 Funding for Management site Closure and Stabilization	14
12-035 Financial Assurances for Institutional Controls.....	14

RECORDS, REPORTS, TESTS, AND INSPECTION

12-036 Maintenance of Records Reports and Transfers	14
12-037 Tests on Management Facilities	16
12-038 Agency Inspections and Management Facilities.....	16

CHAPTER 13 **TRANSPORTATION OF RADIOACTIVE MATERIAL** (Effective July 11, 2009)

13-001 Scope and Authority	1
13-002 Definitions	1

GENERAL REGULATORY PROVISIONS

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

13-003 Requirement for License.....6
13-004 Exemptions6
13-005 Transportation of Licensed Material7

GENERAL LICENSES

13-006 General Licenses for Carriers.....8
13-007 General License: U.S. Nuclear Regulatory Commission (NRC) Approved Packages....9
13-008 Reserved9
13-009 Reserved9
13-010 Reserved9
13-011 General License, Fissile Material.....9
13-012 General License: Plutonium-Beryllium Special Form Material13

OPERATING CONTROLS AND PROCEDURES

13-013 Assumptions as to Unknown Properties13
13-014 Preliminary Determinations.....14
13-015 Routine Determinations14
13-016 Air Transport of Plutonium16
13-017 Opening Instructions.....17
13-018 Shipment Records17
13-019 Reports17
13-020 Advance Notification of Transport of Nuclear Waste17

QUALITY ASSURANCE

13-021 Quality Assurance Requirements19

APPENDIXES

13-A Determination of A_1 and A_223

ATTACHMENT

Attachment 13.1 39CFR Part 111, § 111.1

**CHAPTER 14 RADIATION SAFETY REQUIREMENTS FOR WELL LOGGING AND
SUBSURFACE TRACOR STUDIES** (Effective July 11, 2009)

14-001 Scope and Authority1
14-002 Definitions1
14-003 Agreement with Well Owner or Operator3

EQUIPMENT

14-004 Labels, Security and Transportation Precautions4
14-005 Radiation Survey Instruments.....5
14-006 Leak Testing of Sealed Sources6
14-007 Physical Inventory.....7
14-008 Records of Material Use7
14-009 Design, Performance Criteria for Sealed Sources.....7
14-010 Inspection Maintenance and Opening of a Source or Source Holder.....8
14-011 Subsurface Tracer Studies9
14-012 Uranium Sinker Bars.....9
14-013 Use of a Sealed Source9

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

14-014 Energy Compensation Source 1014-015 Tritium Neutron Generator Target Source
10

RADIATION SAFETY REQUIREMENT

14-016 Training and Experience Qualification Requirements for Well Logging Personnel..... 10
14-017 Operating and Emergency Procedures 12
14-018 Personnel Monitoring..... 13
14-019 Radiation Surveys..... 13
14-020 Radioactive Contamination Control 14

PRECAUTIONARY PROCEDURES IN LOGGING AND SUBSURFACE TRACER

14-021 Handling Tools..... 14
14-022 Particle Accelerators..... 14

SECURITY, RECORDS, NOTIFICATION

14-023 Security..... 14
14-024 Documents and Records Required at Field Stations..... 14
14-025 Documents and Records Required at Temporary Jobsites 15
14-026 Notification of Incidents and Lost Sources; Abandonment Procedures for Irretrievable
Sources 15

**CHAPTER 15 TRAINING AND EXPERIENCE REQUIREMENTS FOR USE OF RADIATION
SOURCES** (Effective July 11, 2009)

15-001 Scope and Authority 1
15-002 Definitions 1
15-003 Reserved 1
15-004 Reserved 1
15-005 Reserved 1
15-006 Reserved 1
15-007 Reserved 1
15-008 Reserved 2
15-009 Reserved 2
15-010 Reserved 2
15-011 Recentness of Training..... 2
15-012 Reserved 2
15-013 Minimum Qualifications for Radiological Medical Physicist, Radiological Health Physicist
and Qualified Expert..... 2
15-014 Reserved 3
15-015 Training and Experience Requirements for Personnel for Institutional Broad Scope
Type License A, B, and C listed in 180 NAC 3-013 3
15-016 Personnel Training and Experience Requirements for Licensee's in an Educational
Institution Other Than Broad Scope Licenses..... 4
15-017 Training and Experience Requirements for laboratory and Industrial Use of Radioactive
Material Personnel 4
15-018 Personnel Training and Experience Requirements for Licenses to Manufacture or
introduction of Radioactive Material Into Manufactured Products and Devices specified in
180 NAC 3-014.01 through 3-014.06, 3-014.09 and 3-014.12 and 3-014.13 5
15-019 Personnel Training and Experience Requirements for Licenses to Manufacture and
Introduce Radioactive Material into Radiopharmaceuticals as Specified in 180 NAC 3-
014.08 5

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

15-020	Reserved	6
15-021	Reserved	6
15-022	Reserved	6
15-023	Reserved	6
15-024	Reserved	6
15-025	Training and Experience Requirements for Particle Accelerators Personnel Non Human Use	6
15-026	Reserved	7
15-027	Training and Experience Requirements for Industrial Gauge Personnel.....	7
15-028	Training and Experience Requirements for Analytical X-ray Equipment Personnel.....	7
15-029	Training and Experience Requirements for Gas Chromatograph Personnel.....	7
15-030	Reserved	7
15-031	Reserved	7
15-032	Training and Experience Requirements for Management of Radioactive Waste Personnel.....	7
15-033	Training and Experience Requirements for Installation and/or Servicing of Radiation Generating Equipment and Associated Radiation Generating Equipment as Supplied by the Employer	9
15-034	Reserved	10

CHAPTER 16 LICENSURE OF PERSONS PERFORMING MEDICAL RADIOGRAPHY

For a copy of Chapter 16 (Effective Date October 3, 2004) See the following website:
<http://www.sos.state.ne.us/rules-and-regs/regsearch/Rules/Health and Human Services System/Title-180/Chapter-16.pdf>

For addition information concerning licensure of persons performing medical radiography please contact:

Licensure Unit
Division of Public Health
Nebraska Department of Health and Human Services
P. O. Box 94986
Lincoln, NE 68509-4986
(402) 471-2118

CHAPTER 17 ENFORCEMENT OF RADIATION CONTROL ACT AND RIGHTS TO HEARING PROCEDURES FOR LICENCEES AND REGISTRANTS; PENALTIES (Effective July 11, 2009)

17-001	Scope and Authority	1
17-002	Definitions	1
17-003	Public Hearings.....	3
17-004	Right to a Hearing.....	4
17-005	Discipline	4
17-006	Hearings	5
17-007	Sanctions	5
17-008	Emergency Sanctions.....	7
17-009	Disposition for an Impounded Source of Radiation	8
17-010	Deliberate Misconduct	9

APPENDIX

Appendix 17-A	Examples of Severity Levels	11
---------------	-----------------------------------	----

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

CHAPTER 18 FEES FOR CERTIFICATES OF REGISTRATION, RADIOACTIVE MATERIAL(S) LICENSES, ENVIRONMENTAL SURVEILLANCE, EMERGENCY RESPONSE AND OTHER REGULATORY SERVICES. (Effective July 11, 2009)

18-001	Scope and Authority	1
18-002	Definitions	1
18-003	Exemptions	2
18-004	Payment of Fees.....	2
18-005	Schedule of Annual Fees for Radioactive Material Licenses.....	4
18-006	Reserved	8
18-007	Reserved	7
18-008	Schedule of Annual Fees for Certificates of Registration for Radiation Generating Equipment and Services for Radiation Generating Equipment.....	7
18-009	Environmental Surveillance Fees	8
18-010	Emergency Resonse Fees	8
18-011	Nuclear Power Plant Fees	8
18-012	Failure to Pay Prescribed Fees	8

CHAPTER 19 LICENSES AND RADIATION SAFETY REQUIREMENTS FOR IRRADIATORS
(Effective July 11, 2009)

19-001	Scope and Authority	1
19-002	Definitions	1

SPECIFIC LICENSING REQUIREMENTS

19-003	Application for a Specific License	3
19-004	Specific Licenses for Irradiators.....	3
19-005	Start of Construction	4
19-006	Application for Exemptions	4

DESIGN AND PERFORMANCE REQUIREMENTS FOR IRRADIATORS

19-007	Performance Criteria for Sealed Sources	4
19-008	Access Control.....	5
19-009	Shielding	7
19-010	Fire Protection	7
19-011	Radiation Monitors.....	7
19-012	Control of Source Movement	8
19-013	Irradiator Pools	8
19-014	Source Rack Protection	9
19-015	Power Failures.....	9
19-016	Design Requirements	9
19-017	Construction Monitoring and Acceptance Testing	10

OPERATION OF IRRADIATORS

19-018	Training.....	12
19-019	Operating and Emergency Procedures	13
19-020	Personnel Monitoring.....	14
19-021	Radiation Surveys.....	15
19-022	Detection of Leaking Sources.....	15
19-023	Inspection and Maintenance	16

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

19-024	Pool Water Purity	17
19-025	Attendance During Operation	17
19-026	Entering and Leaving the Radiation Room	17
19-027	Irradiation of Explosive or Flammable Materials	18

RECORDS

19-028	Records and Retention Periods	18
19-029	Reports	19

CHAPTER 20 THERAPEUTIC RADATION MACHINES FOR HUMAN USE (Effective July 11, 2009)

20-001	Scope and Authority	1
20-002	Definitions	1
20-003	General Administrative Requirements for Facilities Using Therapeutic Radiation Machines	5
20-004	General Technical Requirements for Facilities Using Therapeutic Radiation Machines .	8
20-005	Quality Management Program	10
20-006	Therapeutic Radiation Machines of Less Than 500 kV	12
20-007	Therapeutic Radiation Machines – Photon Therapy Systems (500 kV and Above) and Electron Therapy Systems (500 keV and Above)	18
20-008	Calibration of Survey Instruments	30
20-009	Shielding and Safety Design Requirements	30

APPENDIX

Appendix 20-A	Information on Radiation Shielding Required for Plan Reviews	33
---------------	--	----

CHAPTER 21 DENTAL RADIOGRAPHIC EQUIPMENT (Effective July 11, 2009)

21-001	Scope and Authority	1
21-002	Definitions	2
21-003	Exemptions	12
21-004	General Provisions	13
21-004.01	Communications	13
21-004.02	Discrimination Prohibited	13
21-005	Fees	13
21-005.01	Initial Application Fees	13
21-005.02	Annual Fee for Certificate of Registration	13
21-005.03	An Application for Amendment	13
21-005.04	Reciprocity Fees	14
21-005.05	Initial Application and Annual Fees	14
21-005.06	Method of Payment	14
21-005.07	Failure to pay Prescribed Fees	14
21-006	Registration of Dental Radiation Generating Equipment Use	14
21-006.01	Application for Registration	14
21-006.02	Issuance of Certificate of Registration	15
21-006.03	Specific Terms and Conditions of Certificates of Registration	16
21-006.04	Responsibilities of the Registrant	16
21-006.05	Expiration of Certificates of Registration	17
21-006.06	Termination of Certificates of Registration	18
21-006.07	Renewal of Certificate of Registration	18

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

21-006.08	Reciprocal Recognition of Out-of-State Certificate of Registration.....	18
21-006.09	Application for Registration of Mobile Services	18
21-007	Requirements	18
21-007.01	Administrative Controls	18
21-007.01A	Registrant	19
21-007.01B	Radiation safety officer responsibilities	19
21-007.01C	Information and maintenance record and associated information	19
21-007.02	ALARA.....	19
21-007.03	Operating and Safety Procedures	20
21-007.04	Personnel Requirements.....	20
21-007.04A	Occupation limits	20
21-007.04B	Dose limits for individual members of the public.....	22
21-007.04C	Instructions to workers	22
21-007.05	Facility Requirements.....	21
21-007.05A	Caution Signs	21
21-007.05B	Posting of notices to workers.....	22
21-007.05C	Notice to employees.....	23
21-007.06	Dental Radiation Machine Requirements.....	23
21-007.06A	Technique indicators	24
21-007.06B	Warning label.....	24
21-007.06C	Mechanical support of tube head	24
21-007.06D	Battery charge indicator.....	24
21-007.06E	Leakage radiation from the diagnostic source assembly	24
21-007.06F	Radiation from components other than the diagnostic source assembly	24
21-007.06G	Timer.....	24
21-007.06H	Exposure reproducibility	25
21-007.06I	Kilovolt peak.....	25
21-007.06J	Tube stability.....	24
21-007.06K	Collimation.....	25
21-007.06L	KVp Limitations	25
21-007.06M	Beam Quality	25
21-007.06N	Multiple.....	27
21-007.06O	Maintaining compliance.....	27
21-007.06P	X-ray control	27
21-007.06Q	Security and control of dental radiation generating equipment.....	27
21-007.06R	Certified dental radiation generating equipment for dental facilities	27
21-007.07	Additional requirement for dental intraoral systems	27
21-007.07A	Source-to-skin-distance.....	27
21-007.07B	Beam limitations	27
21-007.08	Additional requirements for dental extraoral system	28
21-007.09	Additional Operational Control	28
21-007.10	Equipment Performance Evaluation.....	29
21-007.11	Dental Research.....	29
21-007.12	Automatic and Manual Film Processing for Dental Facilities and Mobile Dental Service	29
21-007.13	Alternative Processing Systems	30
21-008	Records and Reports.....	30
21-008.01	General Provisions	30
21-008.02	Reports.....	31
21-008.02A1	Reports of Stolen Lost, or Missing or Registered Sources of Radiation	31
21-008.02A2	Notification of Incidents.....	31
21-008.02A3	Reports of Exposure and Radiation Levels Exceeding the Limits.....	32
21-008.02A4	Notification and Reports to Individuals	33
21-009	Compliance Procedures	34
21-010	Hearing and Enforcement Procedures – Enforcement of Radiation Control Act and Rights to Hearing Procedures for Registrants, Penalties	38
21-010.01	Public Hearings	38

NEBRASKA HEALTH AND HUMAN SERVICES
REGULATION AND LICENSURE

21-010.02	Right to a Public Hearing.....	38
21-010.03	Discipline	39
21-010.04	Hearings	39
21-010.05	Santions	40
21-010.06	Emergency Sanctions	41
21-011	Disposition of an Impounded Source of Radiation	42
21-012	Deliberate Misconduct.....	43

CHAPTER 22 SHIPMENT OF HIGH LEVEL RADIOACTIVE OR TRANSURANIC WASTE
(Effective March 30, 2009)

22-001	Scope and Authority	1
22-002	Definitions	1
22-003	Exemptions	1
22-004	Fees.....	1
22-005	Communications	2

CHAPTER 23 FLUOROSCOPIC EDUCATION AND TRAINING FOR CERTIFIED REGISTERED NURSE ANESTHETISTS (Effective June 30, 2009)

23-001	Scope and Authority	1
23-002	Definitions	1
23-003	General Requirements.....	1
23-004	Administrative Controls.....	1