



# OHIO DEPARTMENT OF HEALTH

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John R. Kasich / Governor

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March 06, 2013

Pamela J. Henderson, Deputy Director  
Division of Materials Safety and State Agreements  
Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Ms. Henderson,

Ohio has amended rules in the Ohio Administrative Code. We are submitting the draft rules to the NRC for your review to ensure that they are compatible with NRC regulations. The rules were amended in accordance with RATS ID number 2011-1 OAC rules 3701:1-38-14, 3701:1-38-22, 3701:1-40-16, 3701:1-40-17, 3701:1-44-14, 3701:1-44-18, 3701:1-44-25, 3701:1-56-05 and 3701:1-56-18. A chart to aid you in cross referencing the Ohio rules to the applicable NRC regulations is attached. The draft Ohio rules can be found at <http://www.odh.ohio.gov/rules/drafts/drafts.aspx>.

We believe that these Ohio rules satisfy the compatibility and health and safety categories established in the Federal and State Materials and Environmental Management Programs procedure SA-200.

If you have any questions, please feel free to contact Mark Light of my staff at 614-644-2727 or [Mark.Light@odh.ohio.gov](mailto:Mark.Light@odh.ohio.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael J. Snee'.

Michael J. Snee, Chief  
Bureau of Radiation Protection

Enclosure: As stated

**Decommissioning Planning, Parts 20, 30, 40, and 70  
(76 FR 35512) RATS ID # 2011-1 Effective date 12/17/2011  
Date Due for State Adoption 12/17/2015**

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change to CFR	Difference Yes/No	Significant Yes/No	If Difference, Why or Why Not Was a Comment Generated
§20.1403(c)	Criteria for license termination under restricted conditions	N/A Ohio has no restricted release criteria. These licensee's are considered licensed in perpetuity per Ohio's agreement.	C	<p><b>In § 20.1403, paragraph (c)(2) is removed, paragraph (c)(3) is redesignated as paragraph (c)(2), and paragraph (c)(4) is redesignated as paragraph (c)(3), and paragraph (c)(1) is revised to read as follows:</b></p> <p>(c) ***  (1) Funds placed into a trust segregated from the licensee's assets and outside the licensee's administrative control, and in which the adequacy of the trust funds is to be assessed based on an assumed annual 1 percent real rate of return on investment;</p>			
§20.1404(a)	Alternate criteria for license termination	3701:1-38-22(D)(5)	C	<p><b>In § 20.1404, paragraph (a)(5) is added to read as follows:</b></p> <p>(a) ***  (5) Has provided sufficient financial assurance in the form of a trust fund to enable an independent third party, including a governmental custodian of a site, to</p>			

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				assume and carry out responsibilities for any necessary control and maintenance of the site.			
§20.1406(c)	Minimization of contamination	3701:1-38-22(H)	C	<p><b>In § 20.1406, paragraph (c) is added to read as follows:</b></p> <p>(c) Licensees shall, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface, in accordance with the existing radiation protection requirements in Subpart B and radiological criteria for license termination in Subpart E of this part.</p>			
§20.1501(a)	General	3701:1-38-14(A)(1)	H&S	<p><b>In § 20.1501, paragraphs (b) and (c) are redesignated as paragraphs (c) and(d), paragraphs (a) introductory text,(a)(2)(ii) and (a)(2)(iii) are revised, and a new paragraph (b) is added to read as follows:</b></p> <p>a) Each licensee shall make or cause to be made, surveys of areas, including the subsurface, that --</p> <p>(2) ***</p>			

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				(ii) Concentrations or quantities of residual radioactivity; and (iii) The potential radiological hazards of the radiation levels and residual radioactivity detected.			
§20.1501(b)	General	3701:1-38-14(A)(2)	H&S	<p><b>In § 20.1501, paragraphs (b) and (c) are redesignated as paragraphs (c) and(d), paragraphs (a) introductory text,(a)(2)(ii) and (a)(2)(iii) are revised, and a new paragraph (b) is added to read as follows::</b></p> <p>(b) Notwithstanding § 20.2103(a) of this part, records from surveys describing the location and amount of subsurface residual radioactivity identified at the site must be kept with records important for decommissioning, and such records must be retained in accordance with §§ 30.35(g), 40.36(f), 50.75(g), 70.25(g), or 72.30(d), as applicable.</p>			
§ 30.34(b)	Terms and conditions of licenses	3701:1-40-16(A)(1) and (A)(2)	C	<p><b>In § 30.34, paragraph (b) is redesignated as paragraph (b)(1) and a new paragraph (b)(2) is added to read as follows:</b></p>			

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change to CFR	Difference Yes/No	Significant Yes/No	If Difference, Why or Why Not Was a Comment Generated
				(b) *** (2) An application for transfer of license must include: (i) The identity, technical and financial qualifications of the proposed transferee; and (ii) Financial assurance for decommissioning information required by § 30.35.			
§30.35(c)(6)	Financial assurance and recordkeeping for decommissioning.	N/A	D	N/A			
§30.35(d)	Financial assurance and recordkeeping for decommissioning.	N/A	D (***please note 10 CFR 30.35(d) was changed from a Compatibility Category H&S to a Compatibility Category D)	<b>No Change to the text of §30.35(d)</b>	N/A		
§ 30.35(e)	Financial	3701:1-40-	H&S	<b>In § 30.35, paragraphs (e),</b>			

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	assurance and recordkeeping for decommissioning.	17(D)(1) and (D)(2)	(***)please note 10 CFR 30.35(e) was changed from a Compatibility Category D to a Compatibility Category H&S)	<p><b>is revised:</b></p> <p>(e)(1) Each decommissioning funding plan must be submitted for review and approval and must contain –</p> <p>(i) A detailed cost estimate for decommissioning, in an amount reflecting:</p> <p>(A) The cost of an independent contractor to perform all decommissioning activities;</p> <p>(B) The cost of meeting the 10 CFR 20.1402 criteria for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria;</p> <p>(C) The volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination; and</p> <p>(D) An adequate contingency factor.</p> <p>(ii) Identification of and justification for using the key assumptions contained in</p>			

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				<p>the DCE;</p> <p>(iii) A description of the method of assuring funds for decommissioning from paragraph (f) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;</p> <p>(iv) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and</p> <p>(v) A signed original of the financial instrument obtained to satisfy the requirements of paragraph (f) of this section (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).</p> <p>(2) At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If</p>			

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				<p>the amount of financial assurance will be adjusted downward, this can not be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:</p> <ul style="list-style-type: none"> <li>(i) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;</li> <li>(ii) Waste inventory increasing above the amount previously estimated;</li> <li>(iii) Waste disposal costs increasing above the amount previously estimated;</li> <li>(iv) Facility modifications;</li> <li>(v) Changes in authorized possession limits;</li> <li>(vi) Actual remediation costs that exceed the previous cost estimate;</li> <li>(vii) Onsite disposal; and</li> <li>(viii) Use of a settling pond.</li> </ul>			
§ 30.35(f)	Financial assurance and	N/A	D	N/A	N/A		



<b>Change to NRC Section</b>	<b>Title</b>	<b>State Section</b>	<b>Compatibility Category</b>	<b>Summary of Change to CFR</b>	<b>Difference Yes/No</b>	<b>Significant Yes/No</b>	<b>If Difference, Why or Why Not Was a Comment Generated</b>
	recordkeeping for decommissioning.						
§ 30.35(h)	Financial assurance and recordkeeping for decommissioning.	N/A	D	N/A	N/A		
Appendix A to Part 30	Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning	N/A	D	N/A	N/A		
Appendix C to Part 30	Criteria Relating to Use of Financial Tests and Self Guarantees for Providing Reasonable Assurance of Funds for Decommissioning	N/A	D	N/A	N/A		

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Appendix D to Part 30	Criteria Relating to Use of Financial Tests and Self-Guarantee for Providing Reasonable Assurance of Funds for Decommissioning by Commercial Companies That Have no Outstanding Rated Bonds	N/A	D	N/A	N/A		
Appendix E to Part 30	Criteria Relating to Use of Financial Tests and Self-Guarantee for Providing Reasonable Assurance of Funds for Decommissioning by Nonprofit Colleges, Universities, and Hospitals	N/A	D	N/A	N/A		
§40.36(c)(5)	Financial assurance and recordkeeping for decommissioning.	N/A	D	N/A	N/A		
§ 40.36(d)	Financial assurance and	3701:1-44-18(D)(1) and (D)(2)	H&S	<b>In § 40.36, paragraph (d) is revised to read as follows:</b>			

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	recordkeeping for decommissioning.			<p>(d)(1) Each decommissioning funding plan must be submitted for review and approval and must contain –</p> <p>(i) A detailed cost estimate for decommissioning, in an amount reflecting:</p> <p>(A) The cost of an independent contractor to perform all decommissioning activities;</p> <p>(B) The cost of meeting the 10 CFR 20.1402 criteria for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria;</p> <p>(C) The volume of onsite subsurface material containing residual radioactivity that will require remediation; and</p> <p>(D) An adequate contingency factor.</p> <p>(ii) Identification of and justification for using the key assumptions contained in the DCE;</p> <p>(iii) A description of the method of assuring funds for</p>			

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				<p>decommissioning from paragraph (e) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;</p> <p>(iv) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and</p> <p>(v) A signed original, or if permitted, a copy, of the financial instrument obtained to satisfy the requirements of paragraph (e) of this section (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).</p> <p>(2) At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted</p>			

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				<p>downward, this can not be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:</p> <ul style="list-style-type: none"> <li>(i) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;</li> <li>(ii) Waste inventory increasing above the amount previously estimated;</li> <li>(iii) Waste disposal costs increasing above the amount previously estimated;</li> <li>(iv) Facility modifications;</li> <li>(v) Changes in authorized possession limits;</li> <li>(vi) Actual remediation costs that exceed the previous cost estimate;</li> <li>(vii) Onsite disposal; and</li> <li>(viii) Use of a settling pond.</li> </ul>			
§40.36(e)	Financial assurance and recordkeeping for decommissioning.	N/A	D	N/A	N/A		
§40.36(g)	Financial assurance and	N/A	D	N/A	N/A		

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	recordkeeping for decommissioning.						
§ 40.46	Inalienability of licenses.	3701:1-44-25(A) and (B)	C	<p><b>In § 40.46, the current paragraph is designated as paragraph (a) and a new paragraph (b) is added to read as follows:</b></p> <p>(b) An application for transfer of license must include:</p> <p>(1) The identity, technical and financial qualifications of the proposed transferee; and</p> <p>(2) Financial assurance for decommissioning information required by § 40.36 or Appendix A to this part, as applicable.</p>			
Appendix A to Part 40 Criterion 9	Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for Their Source Material Content	3701:1-44-14 Appendix A, Criterion 9	C	<p><b>In Appendix A to Part 40, Section II, Criterion 9 is revised to read as follows:</b></p> <p>(a) Financial surety arrangements must be established by each mill operator before the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. The amount of funds to be</p>			

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				<p>ensured by such surety arrangements must be based on Commission-approved cost estimates in a Commission-approved plan, or a proposed revision to the plan submitted to the Commission for approval, if the proposed revision contains a higher cost estimate, for</p> <p>(1) Decontamination and decommissioning of mill buildings and the milling site to levels which allow unrestricted use of these areas upon decommissioning, and</p> <p>(2) The reclamation of tailings and/or waste areas in accordance with technical criteria delineated in Section I of this appendix.</p> <p>(b) Each cost estimate must contain –</p> <p>(1) A detailed cost estimate for decontamination, decommissioning, and reclamation, in an amount reflecting:</p> <p>(i) The cost of an independent contractor to perform the decontamination, decommissioning and</p>			

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				<p>reclamation activities; and</p> <p>(ii) An adequate contingency factor;</p> <p>(2) An estimate of the amount of radioactive contamination in onsite subsurface material;</p> <p>(3) Identification of and justification for using the key assumptions contained in the DCE; and</p> <p>(4) A description of the method of assuring funds for decontamination, decommissioning, and reclamation.</p> <p>(c) The licensee shall submit this plan in conjunction with an environmental report that addresses the expected environmental impacts of the milling operation, decommissioning and tailings reclamation, and evaluates alternatives for mitigating these impacts. The plan must include a signed original of the financial instrument obtained to satisfy the surety arrangement requirements of this criterion (unless a previously submitted and approved financial instrument continues to</p>			



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				<p>cover the cost estimate for decommissioning). The surety arrangement must also cover the cost estimate and the payment of the charge for long-term surveillance and control required by Criterion 10 of this section.</p> <p>(d) To avoid unnecessary duplication and expense, the Commission may accept financial sureties that have been consolidated with financial or surety arrangements established to meet requirements of other Federal or state agencies and/or local governing bodies for decommissioning, decontamination, reclamation, and long-term site surveillance and control, provided such arrangements are considered adequate to satisfy these requirements and that the portion of the surety which covers the decommissioning and reclamation of the mill, mill tailings site and associated areas, and the long-term funding charge is clearly identified and committed for use in accomplishing these activities.</p>			

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				<p>(e) The licensee's surety mechanism will be reviewed annually by the Commission to assure, that sufficient funds would be available for completion of the reclamation plan if the work had to be performed by an independent contractor.</p> <p>(f) The amount of surety liability should be adjusted to recognize any increases or decreases resulting from:</p> <ul style="list-style-type: none"> <li>(1) Inflation;</li> <li>(2) Changes in engineering plans;</li> <li>(3) Activities performed;</li> <li>(4) Spills, leakage or migration of radioactive material producing additional contamination in onsite subsurface material that must be remediated to meet applicable remediation criteria;</li> <li>(5) Waste inventory increasing above the amount previously estimated;</li> <li>(6) Waste disposal costs increasing above the amount previously estimated;</li> <li>(7) Facility modifications;</li> <li>(8) Changes in</li> </ul>			

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				<p>authorized possession limits;</p> <p>(9) Actual remediation costs that exceed the previous cost estimate;</p> <p>(10) Onsite disposal;</p> <p>and</p> <p>(11) Any other conditions affecting costs.</p> <p>(g) Regardless of whether reclamation is phased through the life of the operation or takes place at the end of operations, an appropriate portion of surety liability must be retained until final compliance with the reclamation plan is determined.</p> <p>(h) The appropriate portion of surety liability retained until final compliance with the reclamation plan is determined will be at least sufficient at all times to cover the costs of decommissioning and reclamation of the areas that are expected to be disturbed before the next license renewal. The term of the surety mechanism must be open ended, unless it can be demonstrated that another arrangement would provide</p>			

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				<p>an equivalent level of assurance. This assurance would be provided with a surety instrument which is written for a specified time (e.g., 5 years) and which must be automatically renewed unless the surety notifies the beneficiary (the Commission or the State regulatory agency) and the principal (the licensee) with reasonable time (e.g., 90 days) before the renewal date of their intention not to renew. In such a situation the surety requirement still exists and the licensee would be required to submit an acceptable replacement surety within a brief time to allow at least 60 days for the regulatory agency to collect.</p> <p>(i) Proof of forfeiture must not be necessary to collect the surety. In the event that the licensee cannot provide an acceptable replacement surety within the required time, the surety shall be automatically collected before its expiration. The surety instrument must provide for collection of the full face amount immediately on demand without reduction</p>			

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				<p>for any reason, except for trustee fees and expenses provided for in a trust agreement, and that the surety will not refuse to make full payment. The conditions described previously would have to be clearly stated on any surety instrument which is not open-ended, and must be agreed to by all parties. Financial surety arrangements generally acceptable to the Commission are:</p> <ul style="list-style-type: none"> <li>(1) Trust funds;</li> <li>(2) Surety bonds;</li> <li>(3) Irrevocable letters of credit; and</li> <li>(4) Combinations of the financial surety arrangements or other types of arrangements as may be approved by the Commission. If a trust is not used, then a standby trust must be set up to receive funds in the event the Commission or State regulatory agency exercises its right to collect the surety. The surety arrangement and the surety or trustee, as applicable, must be acceptable to the</li> </ul>			

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				Commission. Self insurance, or any arrangement which essentially constitutes self insurance (e.g., a contract with a State or Federal agency), will not satisfy the surety requirement because this provides no additional assurance other than that which already exists through license requirements.			
§70.25(c)(5)	Financial assurance and recordkeeping for decommissioning.	N/A	D	N/A	N/A		
§70.25(d)	Financial assurance and recordkeeping for decommissioning.	N/A	D (**please note 10 CFR 70.25(d) was changed from a Compatibility Category H&S to a Compatibility Category D)	<b>No Change to the text of §70.25(d)</b>			
§ 70.25(e)	Financial assurance and recordkeeping for	3701:1-56-19(C)	H&S (**please note 10	<b>In § 70.25, paragraph (e) is revised as follows:</b>	9		

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	decommissioning.		<b>CFR 70.25(e) was changed from a Compatibility Category D to a Compatibility Category H&amp;S)</b>	(e)(1) Each decommissioning funding plan must be submitted for review and approval and must contain – (i) A detailed cost estimate for decommissioning, in an amount reflecting: (A) The cost of an independent contractor to perform all decommissioning activities; (B) The cost of meeting the 10 CFR 20.1402 criteria for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria; (C) The volume of onsite subsurface material containing residual radioactivity that will require remediation; and (D) An adequate contingency factor. (ii) Identification of and justification for using the key assumptions contained in the DCE; (iii) A description of the method of assuring funds for decommissioning from			

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				<p>paragraph (f) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;</p> <p>(iv) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and</p> <p>(v) A signed original, or, if permitted, a copy, of the financial instrument obtained to satisfy the requirements of paragraph (f) of this section (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).</p> <p>(2) At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this can not be</p>			



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				<p>done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:</p> <ul style="list-style-type: none"> <li>(i) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;</li> <li>(ii) Waste inventory increasing above the amount previously estimated;</li> <li>(iii) Waste disposal costs increasing above the amount previously estimated;</li> <li>(iv) Facility modifications;</li> <li>(v) Changes in authorized possession limits;</li> <li>(vi) Actual remediation costs that exceed the previous cost estimate;</li> <li>(vii) Onsite disposal; and</li> <li>(viii) Use of a settling pond.</li> </ul>			
§70.25(f)	Financial assurance and recordkeeping for decommissioning.		D	N/A	N/A		
§70.25(h)	Financial assurance and	N/A	D	N/A	N/A		

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	recordkeeping for decommissioning.						
§ 70.36	Inalienability of licenses	3701:1-56-05	C	<p><b>In § 70.36, the current paragraph is designated as paragraph (a) and a new paragraph (b) is added to read as follows:</b></p> <p>(b) An application for transfer of license must include:  (1) The identity, technical and financial qualifications of the proposed transferee; and  (2) Financial assurance for decommissioning information required by § 70.25.</p>			

**\*\*\*DRAFT - NOT FOR FILING\*\*\***

**3701:1-38-14 Survey and monitoring requirements.**

(A) Each licensee or registrant shall:

(1) Make, or cause to be made, surveys of areas, including the subsurface, that are:

(a) Necessary to comply with this chapter; and

(b) Reasonable under the circumstances to evaluate:

(i) Radiation levels;

(ii) Concentrations or quantities of residual radioactivity~~radioactive material~~; and

(iii) The potential radiological ~~hazards~~ hazards of the radiation levels and residual radioactivity detected~~that may be present~~.

(2) Notwithstanding paragraph (C) of rule 3701:1-38-20 of the Administrative Code, records from surveys describing the location and amount of subsurface residual radioactivity identified at the site must be kept with records important for decommissioning, and such records must be retained in accordance with paragraph (I) of rule 3701:1-40-17, paragraph (F) of rule 3701:1-44-18, and paragraph (D) of rule 3701:1-56-19 of the Administrative Code, as applicable.

~~(2)~~ (3) Ensure that instruments and equipment used for quantitative radiation measurements, such as dose rate and effluent monitoring, are calibrated annually for the radiation measured, except as otherwise specified in Chapter 3748. of the Revised Code, rules adopted thereunder, or a license condition.

~~(3)~~ (4) Ensure that all personnel dosimeters, except for direct and indirect reading dosimeters used to measure the dose to any extremity, that require processing to determine the radiation dose and that are used to comply with paragraph (A) of rule 3701:1-38-12 of the Administrative Code, with other applicable provisions of these regulations, or with conditions specified in a license or registration shall be processed and evaluated by a dosimetry processor that:

(a) Holds a current personnel dosimetry accreditation from the national voluntary laboratory accreditation program of the national institute of standards and technology; and

(b) Is approved in this accreditation process for the type of radiation or radiations included in the national voluntary laboratory accreditation program that most closely approximates the type of radiation or radiations for which the individual wearing the dosimeter is monitored; and

~~(4)~~ (5) Have procedures in place to minimize the likelihood of a deceptive exposure of an individual monitoring device, and in the event of a suspected deceptive exposure, an investigation should be conducted by the radiation safety officer which will lead to corrective action as necessary.

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(B) Conditions requiring individual monitoring of external and internal occupational dose are as follows:

(1) Each licensee or registrant shall monitor exposures from sources of radiation at levels sufficient to demonstrate compliance with the occupational dose limits of rule 3701:1-38-12 of the Administrative Code. Each licensee or registrant shall monitor occupational exposure to radiation from sources of radiation under the control of the licensee or registrant and shall supply and require the use of individual monitoring devices by:

(a) Adults likely to receive, in one year from sources of radiation external to the body, a dose in excess of ten per cent of the limits in paragraph (A) of rule 3701:1-38-12 of the Administrative Code;

(b) Minors likely to receive, in one year, from radiation sources external to the body, a deep dose equivalent in excess of one millisievert (0.1 rem), a lens dose equivalent in excess of 1.5 millisievert (0.15 rem), or a shallow dose equivalent to the skin or to the extremities in excess of five millisievert (0.5 rem);

(c) Declared pregnant women likely to receive during the entire pregnancy, from radiation sources external to the body, a deep dose equivalent in excess of one millisievert (0.1 rem); and

(d) Individuals entering a high or very high radiation area.

(2) To determine compliance with paragraph (D) of rule 3701:1-38-12 of the Administrative Code, each licensee shall monitor the occupational intake of radioactive material by and assess the committed effective dose equivalent to:

(a) Adults likely to receive, in one year, an intake in excess of ten per cent of the applicable ALI in appendix C to rule 3701:1-38-12 of the Administrative Code;

(b) Minors likely to receive, in one year, a committed effective dose equivalent in excess of one millisievert (0.1 rem); and

(c) Declared pregnant women likely to receive, during the entire pregnancy, a committed effective dose equivalent in excess of one millisievert (0.1 rem).

(C) Each licensee or registrant shall ensure that any individual who is required to monitor occupational doses in accordance with paragraph (B)(1) of this rule wears an individual monitoring device as follows:

(1) An individual monitoring device, used for monitoring the dose to the whole body, shall be worn at the unshielded location of the whole body likely to receive the highest exposure. When a protective apron is worn, the location of the individual monitoring device is typically at the neck.

(2) An individual monitoring device, used for monitoring the dose to an embryo or fetus of a declared pregnant woman pursuant to paragraph (H) of rule 3701:1-38-12 of the

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Administrative Code, shall be located at the waist under any protective apron being worn by the woman.

- (3) An individual monitoring device, used for monitoring the lens dose equivalent, to demonstrate compliance with paragraph (A) of rule 3701:1-38-12 of the Administrative Code, shall be located at the neck outside any protective apron being worn by the monitored individual, or at an unshielded location close to the eye.
- (4) An individual monitoring device, used for monitoring the dose to the extremities, to demonstrate compliance with paragraph (A)(2) of rule 3701:1-38-12 of the Administrative Code, shall be worn on the extremity likely to receive the highest exposure. Each individual monitoring device shall be oriented to measure the highest dose to the extremity being monitored.
- (5) When only one individual monitoring device is used to determine the effective dose equivalent for external radiation pursuant to paragraph (A)(4)(b) of rule 3701:1-38-12 of the Administrative Code, it shall be located at the neck outside the protective apron. When a second individual monitoring device is used for the same purpose, it shall be located under the protective apron at the waist. The second individual monitoring device is required for a declared pregnant woman.

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**3701:1-38-22 Decommissioning.**

- (A) This rule applies to the decommissioning of facilities licensed under Chapter 3748. of the Revised Code. For low-level waste disposal facilities, this rule applies only to ancillary surface facilities that support radioactive waste disposal activities. This rule does not apply to uranium and thorium recovery facilities already subject to source material licensing requirements in Chapter 3701:1-44 of the Administrative Code or to uranium solution extraction facilities.
- (B) Decommissioning with license termination shall be limited to sites considered acceptable for unrestricted release where the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent (TEDE) to an average member of the critical group that does not exceed 0.25 millisievert (twenty-five millirem) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.
- (C) After a facility has been decommissioned and the license terminated in accordance with the criteria in this rule, the director will require additional cleanup only if, based on new information, it is determined that the criteria of this rule were not met and residual radioactivity remaining at the site could result in a significant threat to public health and safety. When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first one thousand years after decommissioning.
- (D) A licensee may decommission a facility and maintain a decommissioning possession only license using alternate criteria greater than the dose criterion specified in paragraph (B) of this rule, provided that the licensee:
  - (1) Provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the one millisievert (one hundred millirem) per year limit set forth in this chapter, by submitting an analysis of possible sources of exposure;
  - (2) Has employed, to the extent practicable, restrictions on site use in minimizing exposures at the site;
  - (3) Reduces doses to ALARA levels, taking into consideration any detriments, such as traffic accidents expected to potentially result from decontamination and waste disposal; and
  - (4) Has submitted a decommissioning plan or license termination plan (LTP) to the director indicating the licensee's intent to decommission in accordance with rule 3701:1-40-18 of the Administrative Code, and specifying that the licensee proposes to decommission by restricting use of the site. The licensee shall document in the

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decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:

- (a) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;
- (b) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and
- (c) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues.

(5) Has provided sufficient financial assurance in the form of a trust fund to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site.

- (E) When a decommissioning with restrictions is proposed by a licensee, a decommissioning possession only license is required to assure that the provisions of the decommissioning plan as approved by the director remain effective. The license will contain a condition that the director will not require further cleanup unless he or she determines that the criteria of this rule or terms of the license were not met or that residual radioactivity at the site could result in a significant threat to public health and safety.
- (F) Any facility that has been decommissioned and has had the United States nuclear regulatory commission license terminated in accordance with a plan approved by the commission on or before August 31, 1999, will not be required to obtain a license or conduct further cleanup unless the director determines that residual radioactivity at the site could result in a significant threat to the public health and safety.
- (G) Applicants for licenses, other than renewals, shall describe in the application how facility design and procedures for operation will minimize, to the extent practical, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practical, the generation of radioactive waste.

(H) Licensees shall, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface, in accordance with the existing radiation protection requirements in rule 3701:1-38-11 of the Administrative Code and radiological criteria for license termination in accordance with this rule.

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**3701:1-40-16 Terms and conditions of licenses.**

(A) ~~A license, or any right under a license, shall not be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the director finds that the transfer is in accordance with this rule and Chapters 3701:1-46, 3701:1-48, 3701:1-49, 3701:1-52, and 3701:1-58 of the Administrative Code. A license or any right contained therein may not be transferred or conveyed without the written authorization of the director. If the director approves the transfer and receives payment of the appropriate licensing fee, a new license will be issued to the transferee.~~

(1) A license, or any right under a license, shall not be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the director finds that the transfer is in accordance with this rule and Chapters 3701:1-46, 3701:1-48, 3701:1-49, 3701:1-52, and 3701:1-58 of the Administrative Code. A license or any right contained therein may not be transferred or conveyed without the written authorization of the director. If the director approves the transfer and receives payment of the appropriate licensing fee, a new license will be issued to the transferee.

(2) An application for transfer of license must include:

(a) The identity, technical and financial qualifications of the proposed transferee; and

(b) Financial assurance for decommissioning information required by rule 3701:1-40-17 of the Administrative Code.

(B) Each licensee shall confine possession and use of radioactive material to the locations and purposes authorized in the license. Preparation for shipment and transport of radioactive material shall be in accordance with Chapter 3701:1-50 of the Administrative Code.

(C) The director may incorporate at the time of issuance, or thereafter by appropriate rule, regulation, or order, such additional requirements or conditions with respect to the licensee's receipt, possession, use and transfer of radioactive material as the director deems appropriate or necessary in order to protect the environment, protect health, or minimize danger to life or property. The director may require such reports and the keeping of such records, and provide for such inspections of activities under the license as may be necessary to effectuate the purposes of Chapter 3748. of the Revised Code or rules adopted thereunder.

(D) A licensee that is required to submit an emergency plan pursuant to rule 3701:1-40-14 of the Administrative Code shall follow the emergency plan approved by the director. The licensee may amend the approved plan without approval of the director provided that the amendment does not decrease the effectiveness of the plan. Within six months after amending the emergency plan, the licensee shall furnish the amended plan to both the director and to affected offsite response organizations. Any proposed amendment to the



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emergency plan that decreases, or potentially decreases, the effectiveness of the approved emergency plan may not be implemented without prior approval by the director.

- (E) Each licensee preparing technetium-99m radiopharmaceuticals from molybdenum-99/technetium-99m generators or rubidium-82 from strontium-82/rubidium-82 generators shall test the generator eluates for molybdenum-99 breakthrough or strontium-82 and strontium-85 contamination, respectively, in accordance with rule 3701:1-58-35 of the Administrative Code. The licensee shall record the results of each test and retain each record for three years after the record is made.
  - (F) Each licensee must notify the ~~department~~director by certified mail within ten business days of the commencement of a voluntary or involuntary bankruptcy petition that has been filed by or against:
    - (1) The licensee;
    - (2) An entity, defined in this rule as person, estate, trust, governmental unit, and United States trustee, controlling the licensee or listing the license or licensee as property of the estate; or
    - (3) An affiliate of the licensee defined in this rule as an entity that directly or indirectly owns, controls, or holds with power to vote, twenty per cent or more of the outstanding voting securities of the debtor, other than an entity that holds such securities:
      - (a) In a fiduciary or agency capacity without sole discretionary power to vote such securities; or
      - (b) Solely to secure a debt, if such entity has not in fact exercised such power to vote.
- The notification shall specify the bankruptcy court in which the petition for bankruptcy was filed and the date of the filing petition.
- (G) The director may, upon application including adequate documentation by a person or by his own initiative, grant such exemptions from the requirements of this chapter or other chapters of the Administrative Code involving radioactive materials promulgated under Chapter 3748. of the Revised Code that are authorized by law and will not result in undue hazard to life or property and are otherwise in the public interest.
  - (H) Each portable gauge licensee shall use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.
  - (I)
    - (1) Authorization under paragraph (I) of rule 3701:1-40-14 of the Administrative Code to produce positron emission tomography (PET) radioactive drugs for noncommercial

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transfer to medical use licensees in its consortium does not relieve the licensee from complying with applicable United States federal drug administration, other federal, and state requirements governing radioactive drugs.

- (2) Each licensee authorized under paragraph (I) of rule 3701:1-40-14 of the Administrative Code to produce PET radioactive drugs for noncommercial transfer to medical use licensees in its consortium shall:
  - (a) Satisfy the labeling requirements in paragraph (A)(4) of rule 3701:1-46-43 of the Administrative Code for each PET radioactive drug transport radiation shield and each syringe, vial, or other container used to hold a PET radioactive drug intended for noncommercial distribution to members of its consortium.
  - (b) Possess and use instrumentation to measure the radioactivity of the PET radioactive drugs intended for noncommercial distribution to members of its consortium and meet the procedural, radioactivity measurement, instrument test, instrument check, and instrument adjustment requirements in paragraph (C) of rule 3701:1-46-43 of the Administrative Code.
- (3) A licensee that is a pharmacy authorized under paragraph (I) of rule 3701:1-40-14 of the Administrative Code to produce PET radioactive drugs for noncommercial transfer to medical use licensees in its consortium shall require that any individual that prepares PET radioactive drugs shall be:
  - (a) An authorized nuclear pharmacist that meets the requirements in paragraph (B)(2) of rule 3701:1-46-43 of the Administrative Code, or
  - (b) An individual under the supervision of an authorized nuclear pharmacist as specified in rule 3701:1-58-14 of the Administrative Code.
- (4) A pharmacy, authorized under paragraph (I) of rule 3701:1-40-14 of the Administrative Code to produce PET radioactive drugs for noncommercial transfer to medical use licensees in its consortium that allows an individual to work as an authorized nuclear pharmacist, shall meet the requirements of paragraph (B)(5) of rule 3701:1-46-43 of the Administrative Code.

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**3701:1-40-17 Financial assurance and record keeping for decommissioning.**

- (A) Prior to the ~~department~~ director issuing a radioactive materials license:
- (1) Each applicant for a specific license or license renewal authorizing the possession and use of unsealed radioactive material of half-life greater than one hundred twenty days and in quantities exceeding ten thousand times the applicable quantities set forth in appendix A to this rule shall submit a decommissioning funding plan as described in paragraph (D) of this rule. The decommissioning funding plan must also be submitted when a combination of radionuclides is involved if  $R$  divided by ten thousand is greater than one, where  $R$  is defined here as the sum of the ratios of the quantity of each radionuclide to the applicable value in appendix A to this rule.
  - (2) Each applicant for a specific license or license renewal authorizing the possession and use of sealed sources or plated foils of half-life greater than one hundred twenty days and in quantities exceeding one trillion times the applicable quantities of appendix A to this rule, shall submit a decommissioning funding plan as described in paragraph (D) of this rule. The decommissioning funding plan must also be submitted when a combination of radionuclides is involved if  $R$  divided by one trillion is greater than one, where  $R$  is defined here as the sum of the ratios of the quantity of each radionuclide to the applicable value in appendix A to this rule.
- (B) Prior to the ~~department~~ director issuing a radioactive materials license, each applicant for a specific license or license renewal authorizing possession and use of radioactive material of half-life greater than one hundred twenty days and in quantities specified in paragraph (C) of this rule shall either:
- (1) Submit a decommissioning funding plan as described in paragraph (D) of this rule; or
  - (2) Submit a certification that financial assurance for decommissioning has been provided in the amount prescribed by paragraph (C) of this rule using one of the methods described in paragraph (E) of this rule. The applicant shall submit to the ~~department~~ director, as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.
- (C) Prior to the ~~department~~ director issuing a radioactive materials license, an applicant providing certification of financial assurance for decommissioning as specified in paragraph (B)(2) of this rule shall provide the certification in a monetary amount based upon the quantity of licensed material specified as follows:
- (1) Greater than one thousand but less than or equal to ten thousand times the applicable quantities of appendix A to this rule in unsealed form. For a combination of radionuclides, if  $R$ , as defined in paragraph (A) of this rule, divided by one thousand is greater than one but  $R$  divided by ten thousand is less than or equal to one, the sum of three hundred thousand dollars.

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- (2) Greater than ten billion but less than one trillion times the applicable quantities of appendix A to this rule in sealed sources or plated foils. For a combination of radionuclides, if R, as defined in paragraph (A) of this rule, divided by ten billion is greater than one but R divided by one trillion is less than or equal to one, the sum of one hundred fifty thousand dollars.
- (D) ~~Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning in accordance with paragraph (E) of this rule, including the means for adjusting cost estimates and associated funding levels at each renewal over the life of the facility. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.~~

(1) Each decommissioning funding plan must be submitted for review and approval and must contain:

- (a) A detailed cost estimate for decommissioning, in an amount reflecting:
- (i) The cost of an independent contractor to perform all decommissioning activities;
  - (ii) The cost of meeting the criteria specified in paragraph (B) of rule 3701:1-38-22 of the Administrative Code for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of paragraph (D) of rule 3701:1-38-22 of the Administrative Code, the cost estimate may be based on meeting this criteria;
  - (iii) The volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination; and
  - (iv) An adequate contingency factor.
- (b) Identification of and justification for using the key assumptions contained in the decommissioning cost estimate;
- (c) A description of the method of assuring funds for decommissioning from paragraph (E) of this rule, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;
- (d) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and
- (e) A signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).

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(2) At the time of license renewal and at intervals not to exceed three years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for the changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:

(a) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;

(b) Waste inventory increasing above the amount previously estimated;

(c) Waste disposal costs increasing above the amount previously estimated;

(d) Facility modifications;

(e) Changes in authorized possession limits;

(f) Actual remediation costs that exceed the previous cost estimate;

(g) Onsite disposal; and

(h) Use of a settling pond.

(E) Financial assurance for decommissioning, either by a decommissioning funding plan or certification of financial assurance, shall be provided by the licensee and approved by the ~~department~~director prior to the issuance of the license and shall be provided by one or more of the following methods:

(1) Prepayment by depositing into an account segregated from licensee assets and outside the licensee's administrative control, cash or liquid assets such that the amount of funds will be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

(2) Surety, insurance, or other method in accordance with paragraph (F) of this rule, that guarantees that decommissioning costs will be paid. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A guarantee by the applicant or licensee may not be used in combination with any other financial methods used to satisfy the requirements of this paragraph or in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company.

(3) A parent company guarantee of funds for decommissioning costs based on a financial test may be used provided that the parent company meets the requirements specified in appendix B of this rule. A parent company guarantee may not be used in

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combination with other financial methods to satisfy the requirements of this rule.

- (4) For commercial corporations that issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used provided that the guarantee meets the requirements of appendix C to this rule.
  - (5) For commercial companies that do not issue bonds, a guarantee of funds for decommissioning costs may be used provided that the guarantee meets the requirements of appendix D to this rule.
  - (6) For nonprofit colleges, universities, hospitals, or research and development entities, a guarantee of funds for decommissioning costs may be used provided that the guarantee meets the requirements of appendix E to this rule. The director may require proof of nonprofit status.
  - (7) An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in paragraph (E)(2) of this rule.
  - (8) In the case of state or local government licensee, a statement of intent containing a cost estimate for decommissioning or an amount specified in paragraphs (C)(1) to (C)(3) of this rule, and indicating that funds for decommissioning will be obtained when necessary. As used in this rule, "state or local government licensee" does not include government owned or assisted colleges, universities or hospitals.
- (F) Any surety method or insurance used to provide financial assurance for decommissioning shall be in the form of instruments that contain language as provided in appendix F to this rule, and shall contain the following conditions:
- (1) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless ninety days or more prior to the renewal date, the issuer notifies the director, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the director within thirty days after receipt of notification of cancellation.
  - (2) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the director. An acceptable trustee includes an appropriate state or federal government agency or an entity which has the authority to act as a trustee and whose trust operations are

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regulated and examined by a federal or state agency.

- (3) The surety method or insurance must remain in effect until the director has terminated the license.
  - (4) The surety company issuing the bond must, at a minimum, be among those listed as acceptable in the most recent version of "Circular 570" of the United States department of the treasury.
- (G) A licensee must notify the ~~department~~[director](#) by certified mail within ten business days of the commencement of a voluntary or involuntary bankruptcy proceeding under Title 11 of the United States Code. A licensee who fulfills the financial assurance requirements by obtaining a trust fund, surety bond, or other acceptable financial assurance will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution issuing the instrument. The licensee shall establish other financial assurance within sixty days after such an event.
- (H) Financial assurance for decommissioning, either by a decommissioning funding plan or certification of financial assurance, that is provided by a contract of insurance shall not include any arrangement that constitutes self-insurance. As used in this rule:
- (1) "Insurance" means a contract issued or underwritten by an insurance company, insurance service, or insurance organization which is licensed to engage in the business of insurance in Ohio, that binds the insurer to indemnify another against a specified loss in return for premiums paid.
  - (2) "Self insurance" means a contract of insurance issued either by the licensee or by an insurer affiliated with or an affiliate of the licensee.
  - (3) "Affiliate of" or "affiliated with" means that the licensee, either directly or indirectly, through one or more intermediaries or subsidiaries, controls, is controlled by, or is under common control with the insurer.
  - (4) "Control", including "controlled by", and "under common control with" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract, proxy, membership on the board, or otherwise.
- (I) Each person licensed under this chapter, and rule 3701:1-38-02 of the Administrative Code as well as chapters containing rules regarding manufacturing and distribution (Chapter 3701:1-46 of the Administrative Code), industrial radiography (Chapter 3701:1-48 of the Administrative Code), well logging Chapter 3701:1-49 of the Administrative Code), irradiators (Chapter 3701:1-52 of the Administrative Code), and medical use ([Chapter 3701:1-58 of the Administrative Code](#)) promulgated pursuant to Chapter 3748. of the Revised Code shall keep records of information important to the decommissioning of a

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facility in an identified location until the site is released for unrestricted use. Before licensed activities are transferred or assigned in accordance with paragraph (B) of rule 3701:1-40-20 of the Administrative Code, a licensee shall transfer all records described in this paragraph to the new licensee, which will be responsible for maintaining these records until the license is terminated. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. As used in this rule, "information important to the decommissioning of a facility" includes the following:

- (1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved radionuclides, quantities, forms, and concentrations.
- (2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.
- (3) Except in the case of an area that contains only a sealed source, provided the source has not leaked or no contamination remains after any leak, or in the case of a byproduct or accelerator produced material having only a half-life of less than sixty-five days, a list contained in a single document and updated every two years, of the following:
  - (a) All areas designated and formerly designated restricted areas as defined in rule 3701:1-38-01 of the Administrative Code.
  - (b) All areas outside of restricted areas that require documentation under paragraph (I)(1) of this rule.
  - (c) All areas outside of restricted areas where current and previous wastes have been buried as documented under rule 3701:1-38-20 of the Administrative Code; and
  - (d) All areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in rule 3701:1-38-22 of the Administrative Code, or apply for approval for disposal under rule 3701:1-38-19 of the Administrative Code.
- (4) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used



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for assuring funds if either a funding plan or certification is used.

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**3701:1-44-14 Application for specific licenses.**

- (A) A person may file an application for specific license in accordance with the instructions in rule 3701:1-44-05 of the Administrative Code. Information contained in previous applications, statements or reports filed with the [department director](#) may be incorporated by reference provided that the reference is clear and specific.
- (B) The [department director](#) may at any time after the filing of the original application, and before the expiration of the license, require further statements in order to enable the [department director](#) to determine whether the application should be granted or denied or whether a license should be modified or revoked. All applications and statements shall be signed by the applicant or licensee or a person duly authorized to act for and on his behalf.
- (C) An application for a license filed pursuant to the requirements in Chapter 3701:1-44 of the Administrative Code will be considered also as an application for licenses authorizing other activities for which licenses are required by Chapter 3748. of the Revised Code and the rules promulgated thereunder, provided that the application specifies the additional activities for which licenses are requested and complies with requirements of the [department director](#) as to applications for such licenses.
- (D) Each application for a source material license shall be accompanied by the fee prescribed in rule 3701:1-38-02 of the Administrative Code.
- (E) An application for a license to possess and use source material for uranium milling, production of uranium hexafluoride, or for the conduct of any other activity which the [department director](#) has determined will significantly affect the quality of the environment shall be filed at least nine months prior to commencement of construction of the plant or facility in which the activity will be conducted and shall be accompanied by any environmental report required pursuant to rule 3701:1-40-36 of the Administrative Code.
- (F) An application for a license to receive, possess, and use source material for uranium or thorium milling or byproduct material, as defined in rule 3701:1-44-01 of the Administrative Code, at sites formerly associated with such milling shall contain proposed written specifications relating to milling operations and the disposition of the byproduct material to achieve the requirements and objectives set forth in the appendix to rule 3701:1-44-14 of the Administrative Code. Each application must clearly demonstrate how the requirements and objectives set forth in the appendix to rule 3701:1-44-14 of the Administrative Code have been addressed. Failure to clearly demonstrate how the requirements and objectives in the appendix to rule 3701:1-44-14 of the Administrative Code have been addressed shall be grounds for refusing to accept an application.

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- (G) As provided by rule 3701:1-44-18 of the Administrative Code, certain applications for specific licenses filed under Chapter 3701:1-44 of the Administrative Code must contain a proposed decommissioning funding plan or a certification of financial assurance for decommissioning.

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**3701:1-44-18 Financial assurance and recordkeeping for decommissioning.**

Except for licenses authorizing the receipt, possession, and use of source material for uranium or thorium milling, or byproduct material at sites formerly associated with such milling, for which financial assurance requirements are set forth in the appendix to rule 3701:1-44-14 of the Administrative Code, criteria for providing financial assurance for decommissioning are as follows:

- (A) Each applicant for a specific license authorizing the possession and use of more than 3.7 gigabecquerels (one hundred millicuries) of source material in a readily dispersible form shall submit a decommissioning funding plan as described in paragraph (D) of this rule.
- (B) Each applicant for a specific license authorizing possession and use of quantities of source material greater than 0.37 gigabecquerels (ten millicuries) but less than or equal to 3.7 gigabecquerels (one hundred millicuries) in a readily dispersible form shall either:
  - (1) Submit a decommissioning funding plan as described in paragraph (D) of this rule; or
  - (2) Submit a certification that financial assurance for decommissioning has been provided in the amount of two hundred twenty-five thousand dollars using one of the methods described in paragraph (E) of this rule. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued but before the receipt of licensed material. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule must be submitted to the ~~department~~ [director](#) prior to receipt of licensed material. If the applicant does not defer execution of the financial instrument, the applicant shall submit to the ~~department~~ [director](#) , as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.
- (C)
  - (1) Each holder of a specific license issued on or after July 27, 1990, which is covered by paragraph (A) or (B) of this rule, shall provide financial assurance for decommissioning in accordance with the criteria set forth in this rule.
  - (2) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (A) of this rule shall submit a decommissioning funding plan as described in paragraph (D) of this rule or a certification of financial assurance for decommissioning in an amount at least equal to one million one hundred twenty-five thousand dollars in accordance with the criteria set forth in this rule. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan, the licensee shall include a decommissioning funding plan in any application for license renewal.

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- (3) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (B) of this rule shall submit a decommissioning funding plan, as described in paragraph (D) of this rule, or a certification of financial assurance for decommissioning in accordance with the criteria set forth in this rule.
- (4) Any licensee who has submitted an application for renewal of license in accordance with rule 3701:1-38-02 of the Administrative Code shall provide financial assurance for decommissioning in accordance with paragraphs (A) and (B) of this rule.
- (D) ~~Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (E) of this rule, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed three years. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule.~~
- (1) Each decommissioning funding plan must be submitted for review and approval and must contain:
- (a) A detailed cost estimate for decommissioning, in an amount reflecting:
- (i) The cost of an independent contractor to perform all decommissioning activities;
- (ii) The cost of meeting the criteria specified in paragraph (B) of rule 3701:1-38-22 of the Administrative Code for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of paragraph (D) of rule 3701:1-38-22 of the Administrative Code, the cost estimate may be based on meeting this criteria;
- (iii) The volume of onsite subsurface material containing residual radioactivity that will require remediation; and
- (iv) An adequate contingency factor.
- (b) Identification of and justification for using the key assumptions contained in the decommissioning cost estimate;
- (c) A description of the method of assuring funds for decommissioning from paragraph (E) of this rule, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;
- (d) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and

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- (e) A signed original of the financial instrument obtained to satisfy the requirements of paragraph (E) of this rule (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).
- (2) At the time of license renewal and at intervals not to exceed three years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for the changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:
- (a) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;
- (b) Waste inventory increasing above the amount previously estimated;
- (c) Waste disposal costs increasing above the amount previously estimated;
- (d) Facility modifications;
- (e) Changes in authorized possession limits;
- (f) Actual remediation costs that exceed the previous cost estimate;
- (g) Onsite disposal; and
- (h) Use of a settling pond.
- (E) Financial assurance for decommissioning must be provided by one or more of the following methods:
- (1) Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.
- (2) A surety method, insurance, or other guarantee method. These methods guarantee that decommissioning costs will be paid. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in appendix B to rule 3701:1-40-17 of the Administrative Code. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this rule. For commercial corporations that issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in appendix C to rule 3701:1-40-17 of the Administrative Code. For commercial

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companies that do not issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs may be used if the guarantee and test are as contained in appendix D to rule 3701:1-40-17 of the Administrative Code. For nonprofit entities, such as colleges, universities, and nonprofit hospitals, a guarantee of funds by the applicant or licensee may be used if the guarantee and test are as contained in appendix E to rule 3701:1-40-17 of the Administrative Code. A guarantee by the applicant or licensee may not be used in combination with any other financial methods used to satisfy the requirements of this rule or in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company. Any surety method or insurance used to provide financial assurance for decommissioning must contain the following conditions:

- (a) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless ninety days or more prior to the renewal date, the issuer notifies the ~~department~~ [director](#), the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the ~~department~~ [director](#) within thirty days after receipt of notification of cancellation.
  - (b) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the ~~department~~ [director](#). An acceptable trustee includes an appropriate state or federal government agency or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
  - (c) The surety method or insurance must remain in effect until the ~~department~~ [director](#) has terminated the license.
- (3) An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provision must be as stated in paragraph (E)(2) of this rule.
- (4) In the case of federal, state, or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount based on paragraph (B) of this rule, and indicating that funds for decommissioning will be obtained

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when necessary.

- (5) When a government entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such government entity.
- (F) Each person licensed under Chapter 3701:1-44 of the Administrative Code shall keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. Before licensed activities are transferred or assigned in accordance with paragraph (B) of rule 3701:1-44-19 of the Administrative Code licensees shall transfer all records described in this paragraph to the new licensee. In this case, the new licensee will be responsible for maintaining these records until the license is terminated. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. Information the ~~department~~director considers important to decommissioning consists of:
- (1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.
  - (2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.
  - (3) Except for areas containing depleted uranium used only for shielding or as penetrators in unused munitions, a list contained in a single document and updated every two years, of the following:
    - (a) All areas designated and formerly designated as restricted areas as defined in rule 3701:1-38-01 of the Administrative Code;
    - (b) All areas outside of restricted areas that require documentation under paragraph (F)(1) of this rule;
    - (c) All areas outside of restricted areas where current and previous wastes have been buried as documented under paragraph (K) of rule 3701:1-38-20 of the Administrative Code; and
    - (d) All areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet



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the criteria for decommissioning in rule 3701:1-38-22 of the Administrative Code, or apply for approval for disposal under paragraph (C) of rule 3701:1-38-19 of the Administrative Code.

- (4) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

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**3701:1-44-25 Inalienability of licenses.**

~~No license issued or granted pursuant to the rules in Chapter 3701:1-44 of the Administrative Code shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the department shall after securing full information, find that the transfer is in accordance with the provisions of Chapter 3748. of the Revised Code and rules promulgated thereunder, and shall give its consent in writing.~~

(A) No license issued or granted pursuant to the rules in Chapter 3701:1-44 of the Administrative Code shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the director shall after securing full information, find that the transfer is in accordance with the provisions of Chapter 3748. of the Revised Code and rules promulgated thereunder, and shall give his consent in writing.

(B) An application for transfer of a license must include:

- (1) The identity, technical and financial qualifications of the proposed transferee; and
- (2) Financial assurance for decommissioning information required by rule 3701:1-44-18 of the Administrative Code.

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**3701:1-56-05      Inalienability of licenses.**

(A) No license granted under this chapter, and no right to possess or utilize special nuclear material granted by any license issued pursuant to this chapter, shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the director shall, after securing full information, find that the transfer is in accordance with the provisions of rule 3701:1-56-04 of the Administrative Code, and shall give his consent in writing.

(B) An application for transfer of a license must include:

(1) The identity, technical and financial qualifications of the proposed transferee; and

(2) Financial assurance for decommissioning information required by rule 3701:1-56-19 of the Administrative Code.

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**3701:1-56-19 Financial assurance and recordkeeping for decommissioning.**

- (A) Each applicant for a specific license authorizing possession and use of unsealed special nuclear material in quantities specified in paragraph (B) of this rule shall either:
- (1) Submit a decommissioning funding plan as described in paragraph (C) of this rule; or
  - (2) Submit a certification that financial assurance for decommissioning has been provided in the amount prescribed by paragraph (B) of this rule using one of the methods described in rule 3701:1-40-17 of the Administrative Code. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued but before the receipt of licensed material. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of rule 3701:1-40-17 of the Administrative Code must be submitted to the director prior to receipt of licensed material. If the applicant does not defer execution of the financial instrument, the applicant shall submit to the director, as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of rule 3701:1-40-17 of the Administrative Code.
- (B) Prior to the director issuing a radioactive materials license, an applicant providing certification of financial assurance for decommissioning as specified in paragraph (A)(1) of this rule shall provide the certification in a monetary amount based upon the quantity of licensed material specified as follows:
- (1) Greater than ten thousand but less than or equal to one hundred thousand times the applicable quantities in appendix A to rule 3701:1-40-17 of the Administrative Code. For a combination of radionuclides if R, where R is defined as the sum of the ratios of the quantity of each radionuclide to the applicable value in appendix A to rule 3701:1-40-17 of the Administrative Code, divided by ten thousand is greater than one but R divided by one hundred thousand is less than or equal to one, the sum of one million one hundred twenty-five thousand dollars.
  - (2) Greater than one thousand but less than or equal to ten thousand times the applicable quantities of appendix A to rule 3701:1-40-17 of the Administrative Code. For a combination of radionuclides, if R, where R is defined as the sum of the ratios of the quantity of each radionuclide to the applicable value in appendix A to rule 3701:1-40-17 of the Administrative Code, divided by one thousand is greater than one but R divided by ten thousand is less than or equal to one, the sum of two hundred twenty-five thousand dollars.
- (C) ~~Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from rule 3701:1-40-17 of the Administrative Code, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed three years. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for~~

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~~decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of rule 3701:1-40-17 of the Administrative Code.~~

Each decommissioning funding plan must be submitted for review and approval and must contain:

- (1) A detailed cost estimate for decommissioning, in an amount reflecting:
    - (a) The cost of an independent contractor to perform all decommissioning activities;
    - (b) The cost of meeting the criteria specified in paragraph (B) of rule 3701:1-38-22 of the Administrative Code for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of paragraph (D) of rule 3701:1-38-22 of the Administrative Code, the cost estimate may be based on meeting this criteria;
    - (c) The volume of onsite subsurface material containing residual radioactivity that will require remediation; and
    - (d) An adequate contingency factor.
  - (2) Identification of and justification for using the key assumptions contained in the decommissioning cost estimate;
  - (3) A description of the method of assuring funds for decommissioning in accordance with rule 3701:1-40-17 of the Administrative Code, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility;
  - (4) A certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and
  - (5) A signed original of the financial instrument obtained to satisfy the requirements of rule 3701:1-40-17 of the Administrative Code (unless a previously submitted and accepted financial instrument continues to cover the cost estimate for decommissioning).
- (D) At the time of license renewal and at intervals not to exceed three years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for the changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan, and must specifically consider the effect of the following events on decommissioning costs:
- (1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material;
  - (2) Waste inventory increasing above the amount previously estimated;

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(3) Waste disposal costs increasing above the amount previously estimated;

(4) Facility modifications;

(5) Changes in authorized possession limits;

(6) Actual remediation costs that exceed the previous estimate;

(7) Onsite disposal; and

(8) Use of a settling pond.

~~(D)~~ (E) Each person licensed under Chapter 3701:1-56 of the Administrative Code shall keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. Information the director considers important to decommissioning consists of:

- (1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.
- (2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.
- (3) Except for areas containing only sealed sources (provided the sources have not leaked or no contamination remains after cleanup of any leak), a list contained in a single document and updated every two years, of the following:
  - (a) All areas designated and formerly designated as restricted areas as defined in rule 3701:1-38-01 of the Administrative Code;
  - (b) All areas outside of restricted areas that require documentation under paragraph (D)(1) of this rule;
  - (c) All areas outside of restricted areas where current and previous wastes have been buried as documented under paragraph (K) of rule 3701:1-38-20 of the Administrative Code; and
  - (d) All areas outside of restricted areas that contain material such that, if the license

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expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in rule 3701:1-38-22 of the Administrative Code, or apply for approval for disposal under paragraph (C) of rule 3701:1-38-19 of the Administrative Code.

- (4) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.