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MEMORANDUM FOR: Eric S. Beckjord, Director
Office of Nuclear Regulatory Research

Robert M. Bernero, Director
Office of Nuclear Material Safety and Safeguards

A. Bert Davis, Regional Administrator
Region III

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

William C. Parler, General Counsel
Office of the General Counsel

FROM: Carlton Kammerer, Director *original signed by Vandy L. Miller*
State, Local and Indian Tribe Programs

SUBJECT: REQUEST FROM ILLINOIS FOR AN AMENDMENT
TO ILLINOIS SECTION 274b AGREEMENT

By memorandum dated April 21, 1989 we asked all program offices to review the request from Illinois for an amendment to Illinois Section 274b Agreement.

On June 20, 1989 SLITP met with representatives from these offices to discuss the Illinois request and prepare a letter of transmittal and comments on the request. The letter to the Governor of Illinois and attachments are the collective work of representatives who attended the June 20, 1989 meeting. The cognizant individuals of your staff are as follows:

NMSS - D. Sollenberger M. Horn	RES - E. Beckjord S. Neuder
OGC - J. Mapes	NRR - T. Murley D. Nash
RIII - B. J. Holt	

We seek your concurrence by August 2, 1989 so that we may forward the letter and comments to the Governor of Illinois by August 9, 1989.

If you have any questions, please call Vandy Miller on extension 20326, Don Mackenzie on extension 20328, or John Kendig on extension 20322.

Enclosures:
As stated

Distribution
SA RF
Dir RF
~~SA Staff~~

JKendig
RSARS (5) *B.J. Holt*
Illinois File

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The Honorable James R. Thompson
Governor of Illinois
Springfield, Illinois 62706

Dear Governor Thompson:

The staff of the Nuclear Regulatory Commission (NRC) has reviewed your proposal for an amendment to the existing Agreement between the NRC and the State of Illinois dated April 11, 1989. As a result of our review, we believe the proposal has successfully addressed a number of issues that we brought to the attention of the Illinois Department of Nuclear Safety (IDNS) staff by letter dated December 20, 1988. However, portions of the Illinois proposal will require modifications prior to consummation of an amended agreement. The NRC staff has identified these required changes in the enclosed Part A. Other comments have been provided and are identified as Parts B, C, and D. Part B contains comments regarding IDNS proposed standards that NRC staff believes to be more stringent than NRC standards. Part C identifies those standards within the proposed regulation which are not addressed in NRC's 10 CFR Part 40 regulations. Part D provides comments and recommendations on the proposed regulation that, if accepted by IDNS, the NRC staff believes would clarify the regulations, thereby reducing the potential for misunderstanding.

Upon receipt of a copy of your revised proposal, we will continue our processing of your request and publish our assessment of the proposed amendment in the Federal Register for public comment.

We are pleased with your continued interest in the NRC's Agreement State Program and look forward to the relationship we have enjoyed in the past.

Sincerely,

Kenneth M. Carr

Enclosures:
As stated

PART A

Changes Necessary for an Amended Agreement

REQUIRED CHANGES

1. Amendment Number One to the Agreement Between the United States Nuclear Regulatory Commission and the State of Illinois etc., Page 9, Article X, Item 4.

Paragraph 4 on page 9 of the draft text refers to ".... amendments contained in Paragraphs I and II of this Amendment Number One." It is assumed that "Paragraphs I and II" refer to the material identified by "1)" on pages 3-4 of the draft text and the material identified by "2)" on pages 4-8 of the draft text. If this is the case, the proper designators "1)" and "2)" should be used. Paragraph 4 on page 9 of the draft text is also incomplete because it fails to reference the amendment identified by "3" which covers the material on pages 8-9. In addition, the style of the numbered designations, for example, either "1)" or "1.," should be uniform.
2. Regulations, Section 332.20 Definition of Closure, line 3, the word relocate. Just relocating the by-product material is not sufficient. Adopt the definition of "closure" in 10 CFR Part 40, Appendix A. Also see comment 5 of Part C.
3. Regulations, Section 332.20 Definition of Closure Plan. Adopt the definition of "Closure Plan" in 10 CFR Part 40, Appendix A.
4. Regulations, Section 332.100 a) 2) commencement of construction. The term "commencement of construction" is defined somewhat differently in §332.20. The definition found in 10 CFR Part 40, §40.4 (n) should be adopted.
5. General Information, Section 332.50 item c) (3) line 1 change to read "The types and quantities of ores, source material, products, and by-product material to be received,"
6. Technical Information, Section 332.60 m) second line. Because long term care activities are the authority of the Federal or State agency receiving custody of the disposal site after termination of the State specific license and issuance of an NRC license, change "long-term care" to "post closure activities."
7. Technical Analyses, Section 332.70 c) line 9. One does not decommission a disposal area, therefore change the word "decommissioning" to "closure."
8. Termination of Source Material Milling Facility License, Section 332.150 a) 4). Delete item 4), as stated it implies

that IDNS has some regulatory authority after termination of the license. Long-Term Care is under the regulatory authority of the NRC. If IDNS wishes to make their thoughts known on this aspect, it is suggested that they be stated in a "statement of consideration" or IDNS equivalent.

9. Financial Surety Requirements, Section 332.260 a). As stated the last two lines imply that IDNS has some regulatory authority after termination of the license. The following changes to the last two lines should be made "and licensed site as well as the stabilization and closure of the by-product material disposal site and the long-term care payment."
10. Financial Surety Requirements, Section 33.260 b) last line. The phrase "for the term of the license" is inconsistent with 332.260 g). Item g) states, "The term of the surety mechanism shall be open-ended."
11. Financial Surety Requirements, Section 332.260 c) 3). Change the sentence to read "the requirements of section 332.270 for the long-term care payment." See comment number 14 a.
12. Financial Surety Requirements, Section 332.260 e) next to the last line. Replace the word "fund" with "payment" so the line reads "the site and the long-term care payment is specifically identified" See comment number 14 a.
13. Financial Surety Requirements, Section 332.260 f) last sentence. It would be more appropriate if the last sentence would be moved to the end of 332.260 g) and that the language be added requiring at least 90 days notice of intent to cancel the current effective surety mechanism. See 10 CFR Part 40, Appendix A, Criterion 9.
14. Long-Term Care Fund, Section 332.270, Title, lines 2,3,4,5,6, and 7. The NRC's 10 CFR Part 40, Appendix A, Criterion 10 specifies the obligation to make a minimum charge or payment and the amount of such payment for the long-term care functions prior to the termination of the license. Criterion 10 does not specify the mechanism for guaranteeing the financial obligation that must be met. 10 CFR Part 40, Appendix A, Criterion 9, speaks to the instruments that would be acceptable to carry out decontamination and decommissioning of the mill and sites and for the reclamation of any tailing or waste disposal area, i.e., surety bonds, certificate of deposits, etc. This surety must also cover the payment of the charge for long-term surveillance and control required by Criterion 10 prior to termination of the license. NRC staff believes that by using the word "Fund" Section 332.270 it speaks to a mechanism addressed in 10 CFR Part 40, Appendix A, Criterion 9. Furthermore, it is noted that "Fund" is defined in Section 332.20 as "The Radiation Protection Fund," 111. Rev. Stat. 1987, ch. 111½, par. 218(c)." Section 218(c), Radiation

Protection Fund §8c. stipulates that, "all monies received by the Department under this act on and after April 1, 1986 shall be deposited in the State Treasury and shall be set apart in a special fund to be known as the "Radiation Protection Fund." After payment of all obligations incurred prior to July 1, 1986, the balance of any monies in the "Radiation Administrative Protection Fund" and the "Radiation Inspection Fund" shall be transferred into the Radiation Protection Fund. All monies within the Radiation Protection Fund shall be invested by the State Treasurer in accordance with established investment practices. Interest earned by such investment shall be returned to the "Radiation Protection Fund." Monies deposited in this fund shall be expended by the Director pursuant to the appropriation only to support the activities of the Department under this act. Staff's concern is that as the "Fund" is defined any monies for long-term surveillance would lose their identity in the "Radiation Protection Fund" and therefore, would not be available for their intended purpose. To assure that monies obligated for Long-Term Care are secured for their intended purpose, Section 332.270 a) Title, Lines 2,3,4,5,6, and 7 should be changed to read as follows:

- a. Title-change, "Long-Term Care Fund" to "Long-Term Care Payment."
 - b. Line 2 - replace the word "fund" with "payment."
 - c. Line 3 - Delete the words "observation and maintenance," because tailings are to be disposed of in a manner that no active maintenance is required to preserve conditions of the site. See 10 CFR Part 40, Appendix A, Criterion 1. Also, we have requested that a definition of long-term care be added to the definitions, see part D, comment number 4.
 - d. Line 4 - replace the word "established" with "paid."
 - e. Lines 5 and 6 - change to read "byproduct material are transferred to the State, the payment shall be made to the State agency assuming custody. If title and"
 - f. Line 7 - change "fund" to "payment."
15. Long-Term Care Fund, Section 332.270 b) lines 1, 4, 7, and 8. Line 1, any action during long-term care is a function of the Federal or State agency having custody of the disposal site. Therefore, delete the words "monitoring" and "maintenance." Line 4, change "fund" to "payment." Lines 7 and 8, delete the words "observation and maintenance." See comment number 14 c.
16. Land Ownership, Section 332.280 b) lines 3, 10, and 11.

- a. Line 3, change to read, "material or is essential to ensure the long-term stability of the disposal area and the title to" See 10 CFR Part 40, Appendix A, Criterion 11.
 - b. Lines 10 and 11, change to read ... "disposal of radioactive material and is subject to an NRC license prohibiting the disruption and disturbance of the radioactive material without a license."
17. Program Statement, Legislation, B) Reservation of Authority, page 4. The authority to exempt land ownership transfer requirements of Section 83 (b)(1)(A) was included in the draft submittal of July 1988, but excluded in this submittal. Add item 6 which states that, "NRC will retain the authority to grant exemption from the land ownership transfer requirements of UMTRCA after Illinois assumes regulatory responsibilities for Section 11 e.(2) byproduct material." See 46 Fed. Reg. 7540 at 7544, published January 23, 1981, Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement, Criterion 30.f.
 18. Special note: Termination of Source Material Milling Facility License, Section 332.150 b) 2).

In Part C the staff mentioned that IDNS should make clear that these measurements are to be used for land areas other than disposal areas and not for building cleanup standards, see Part C item 9. Otherwise, the Illinois regulations will be less stringent than NRC regulations.

19. Special note: Protection of Individuals From Inadvertent Access, Section 332.180.

In Part C, item 11, the staff noted 332.180 to be criterion not contained in NRC's 10 CFR Part 40. The staff recommends deleting 332.180 as institutional control never ends under 10 CFR Part 40 because the site will be under an NRC license. However, if IDNS wishes to retain this 10 CFR Part 61 concept, the wording recommended in Part C, item 11, should be adopted, i.e., change 332.180 to read, "Design, operation, and closure of the source material milling facility and any byproduct material surface impoundment and disposal area shall protect any individual inadvertently entering onto the disposal site at any time after termination of the license issued by the Department."

Part B

IDNS Standards Believed To Be More Stringent Than NRC Standards

MORE STRINGENT REQUIREMENTS

1. Technical Information, Section 332.60. The technical information contained herein is more restrictive than NRC 10 CFR Part 40, Appendix A regulations in that the regulations do not provide flexibility. See 10 CFR 40, Appendix A, Introduction.
2. Technical Analyses, Section 332.70. The technical analyses required herein are more stringent in that they are presented as technical criteria rather than as performance standards.
3. Application for Renewal or Closure, Section 332.120 a). Item a) is more stringent than NRC in that NRC's requirement for application for renewal is that such an application shall be filed at least 30 days prior to the license expiration.
4. Protection of the General Population from Radiation, Section 332.170 c). The two picocuries per square meter per second is more restrictive than 10 CFR Part 40, Appendix A, Criterion 6 values of 20 picocuries per square meter per second.
5. Technical Criteria for By-product Material Disposal Sites - Design Criteria, Section 332.220 b) 1). This standard is more stringent than the NRC standard in Criterion 4(c) of 10 CFR Part 40, Appendix A. Also Section 332.220 b) 1) does not provide for the circumstance where the licensee proposes steeper slopes and shows why a slope less steep than 5h:1v would be impracticable.
6. Technical Criteria for By-product Material Disposal Sites - Control of Radiation Hazards, Section 332.240. The Standard as written is more stringent than 10 CFR Part 40, Appendix A, Criterion 6 which states, in part, that, "In disposing of waste by-product material, licensees shall place an earthen cover over tailings or wastes at the end of milling operations and shall close the waste disposal area in accordance with a design which provides reasonable assurance of control of radiological hazards to (i) be effective for 1,000 years, to the extent reasonably achievable, and, in any case, for at least 200 years."
7. Technical Criteria - Source Material Milling operations, Section 332.250 b) and c).

- a. Item b) is considered to be more stringent than NRC standards because 10 CFR Part 40, Appendix A, Criterion 5E(4) states that, "licensees shall also consider the following [5E]: Neutralization to promote immobilization of hazardous constituents [5E(4)].
- b. Item C as worded is more stringent than NRC standards. 10 CFR Part 40, Criterion 5B(5)(b) and (c) allows concentration values up to EPA drinking water standards and establishment of alternate concentration limits.

Part C

IDNS STANDARDS NOT CONTAINED IN 10 CFR PART 40

NEW CRITERIA

1. Regulations, Section 332.20 Definition of Buffer Zone. This is a definition not found in 10 CFR Part 40. See item 2.
2. Regulations, Section 332.20 Definition of Disposal Site. This is a definition not found in 10 CFR Part 40. However, as defined it appears to be in conflict with the definition of Buffer Zone. It is recommended that you strike the words, "and any buffer zones" or eliminate the second sentence. The reason for this recommendation is that a buffer zone is not necessary if the site is successfully closed according to an approved closure plan.
3. Regulations, Section 332.20 Minor custodial activities, line 1. This is a definition not found in 10 CFR Part 40. However, we recommend adding the words "under State specific license" after the word "activities."
4. Regulations, Section 332.20 Postclosure. This is a definition not found in 10 CFR Part 40.
5. Regulations, Section 332.20 Reclamation. This is a definition not found in 10 CFR Part 40. However, because of our comment number 4 in Part A we highly recommend that the first activity under the definition of Reclamation be changed to read, "stabilize and isolate byproduct material contained within a disposal site. This may include relocation of the byproduct material;".
6. Postclosure Observation and Maintenance, Section 332.140. This criterion is not found in 10 CFR Part 40.
7. Termination of Source Material Milling Facility License, Section 332.150 b) 1) B) i). This criterion is not contained in 10 CFR Part 40. NRC staff recommends that the IDNS should provide the technical basis or other justification for this statement. For example, IDNS may want to provide a dose based criterion for the proposed limits.
8. Financial Information, Section 332.90. The criterion set forth in the first part of this paragraph is not contained in 10 CFR Part 40. NRC does not require the applicant to show that they have the financial resources to carry out the activities for which the license is sought, i.e., process ore for extracting uranium or thorium.

9. Termination of Source Material Milling Facility License, Section 332.150 b) 2). NRC 10 CFR Part 40 does not contain such criterion. IDNS should add language which stipulates that these measurements are to be used for local areas other than disposal areas and not for building cleanup standards. IDNS has not provided a basis showing that 20 ur/h can be used as a substitute for 5 and 15 picocuries per gram of dry soil. The NRC Guidelines in 10 CFR 40, Appendix A, state that direct gamma exposure from tailings or wastes should be reduced to background levels.
10. Protection of the General Population from Radiation, Section 332.170 b). NRC 10 CFR Part 40 does not contain such criterion. However 10 CFR Part 20, section 20.106(a) does contain this criterion.
11. Protection of Individuals from Inadvertent Access, Section 332.180, change to read "Design, operation, and closure of the source material milling facility and any byproduct material surface impoundment and disposal area shall protect any individual inadvertently entering onto the disposal site at any time after termination of the license issued by the department."

This change is required because the institutional control period never ends under 10 CFR Part 40 requirements because the site will always be under an NRC license. Additionally, as stated in Criterion 11 of Appendix A, 10 CFR Part 40, surface use of land transferred for long-term care would be controlled by a State or Federal Government under an NRC license.

12. Technical Criteria for Byproduct Material Disposal Sites - Siting Criteria, Section 332.210 b) 1), 2), 3), 6), 7). NRC 10 CFR Part 40 does not contain such criterion.
13. Technical Criteria - Source Material Milling Operations, Section 332.250 a). NRC 10 CFR Part 40, Appendix A, does not contain such a standard.
14. Maintenance of Records, Reports, and Transfers, Section 332.290 e). NRC 10 CFR Part 40, Appendix A, does not contain such a standard.

Part D

Recommended Changes Which Would Enhance
the Understanding of the Regulations or Alleviate
the Potential for Misunderstanding the Regulations

FOR CLARIFICATION

1. Amendment number 1 to the agreement between the United States Nuclear Regulatory Commission and the State of Illinois, etc., Page 10.

Depending on the arrangements for formal execution of the amendment to the agreement, it may be necessary to repeat the phrase "Done at _____, in triplicate, this _____ day of _____." immediately above the words "For the State of Illinois."

2. Regulations, Section 332.20 Definition of Groundwater, line 3. Change the last word "above" to "in this section."
3. Regulations, Section 332.20 Definition of Licensed site, Agency Note, line 2. Delete the words "any buffer zones" because it has been covered under the definition of disposal site.
4. Regulations. Because the term "long term care" is used in the regulations, e.g., Section 332.80, it is recommended that the following definition be included: "'Long-Term Care' means the period following postclosure and termination of a license issued under (appropriate IDNS section) during which surveillance and monitoring activities are conducted by a State or Federal agency."
5. General Information, Section 332.50 b) 4) D) line 1. Delete the words "Reclamation, decontamination and stabilization" and replace with the word "closure."
6. General Information, Section 332.50 c) 4). As written the paragraph may imply that the surface impoundment or disposal area may be used for purposes other than the disposal of byproduct material (see line 3). The NRC has notified its licensees that disposal of non-byproduct material in surface impoundments is prohibited.
7. Regulations, Section 332.80, line 6. Eliminate the words "observation and maintenance" as these functions are defined in the definition of long-term care.
8. Regulations, Section 332.100 a) 1) A), line 2. Change the preposition "of" to "from."

9. Contents of Application for Site Closure and Stabilization, Section 332.130, first paragraph. Add a transition sentence leading into the requirement, i.e., "Prior to beginning final closure of the licensed site, or as otherwise directed by the Department, the licensee shall submit an application to amend the license for closure. The application for amendment shall include an updated closure plan. This closure application shall include a final revision and specific details of the site closure plan submitted as part of the license application under Section 332.60 (h) that includes each of the following: Agency Ncte:
 - a)
 - b)etc)..."
10. Termination of Source Material Milling Facility License, Section 332.150 a) 2). Change to read "that the licensee has established that the licensed site and disposal site has been designed and implemented to meet the technical criteria of this part;"
11. Technical Criteria for Byproduct Material Disposal Sites - Design Criteria, Section 332.220 g). It is noted that the first sentence is a repeat of the language in 332.220 b) 2). The language in g) follows NRC criterion 4 (d) last paragraph, and is the preferred language.
12. Technical Criteria for Byproduct Material Disposal Sites - Ground-Water Protection, Section 332.230 b) line 8 and line 13. Line 8 typo, change "for" to "from" so the sentence reads ... "hazardous constituents from the" Line 13 typo, change "date" to "data" so the sentence reads "The data and information"
13. Technical Criteria for Byproduct Material Disposal Site - Control of Radiation Hazards, Section 332.240 a) line 5. After the words "1000 years" add a sentence that states "lands not cleaned up in accordance with 332.150 b) 1) shall be incorporated into the disposal area." Monitoring for total radon....
14. Technical Criteria - Source Material Milling Operations, Section 332.250 a). As the standard is written it appears that contaminated solutions resulting from some process other than the mill process may be released into the environment.
15. Technical Criteria - Source Material Milling Operations, Section 332.250 d) lines 10 and 21. Line 10, change "avoid contamination" to "avoid site contamination." Line 21 change the word "conditions" to "operations."
16. Technical Criteria - Source Material Milling Operations, Section 332.250 d), last sentence. The last sentence is a

different subject and belongs more appropriately in item e) of this section. We recommend the sentence which reads "To control dusting from diffuse sources, operators shall develop written operating procedures specifying the methods of control which will be used," be deleted and added at the end of item e) this section.

17. Financial Surety Requirements, Section 332.260 c) 2). Change to read "stabilization and closure of the disposal area; and." Adopting the suggested change will encompass ground-water restoration.
18. Financial Surety Requirements, Section 332.260 d). The first sentence is a repeat of 332.260 c) 3); we recommend its deletion.
19. Financial Surety Requirements, Section 332.260 d) line 6. After the words "to perform the work" add the following so it reads "hired to perform the work identified in 332.260 c) 1) and 2)."
20. Financial Surety Requirements, Section 332.260 d) last sentence. Delete the last sentence starting with the words "These total costs" as this is a duplicate of 332.260 c).
21. Financial Surety Requirements, Section 332.260 f) lines 3 and 8. Replace the word "reclamation" with "closure."
22. Land Ownership, Section 332.280 a) line 2. Delete the term "buffer zone" because a buffer zone is not necessary if the site is successfully closed according to an approved closure plan, see Part C, item 2.
23. Land Ownership, Section 332.280 e) line 8. Delete the words "and maintenance."
24. Land Ownership, Section 332.280 f). Item f) is a repeat of Section 332.270 a).
25. Land Ownership, Section 332.280 g) line 4. Delete the term "buffer zone", see part C, item 2. As written, the sentence sounds more like an instruction to a licensing reviewer than a standard.
26. Program Statement, Regulations, Page 5, Procedural Requirements for Environmental Analyses, Item 1. a), line 2. Change to read "the issuance, amendment, renewal, or termination of a license."