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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judges:

Ann Marshall Young, Presiding Officer
Charles N. Kelber, Special Assistant

In the Matter of

INTERNATIONAL URANIUM (USA)
CORPORATION

(Source Material License Amendment)

Docket No. 40-8681-MLA-8

ASLBP No. 00-782-08-MLA

February 28, 2001

MEMORANDUM AND ORDER
(Denying Hearing Request)

This 10 C.F.R. Part 2, Subpart L matter concerns *pro se* Petitioner Sarah M. Fields' request for a hearing challenging a source material license amendment application of International Uranium (USA) Corporation (IUSA). IUSA seeks to amend NRC Source Material License SUA-1358 to allow it to receive and process at its White Mesa Uranium Mill near Blanding, Utah, up to 2000 cubic yards of alternative feed material from the Heritage Minerals Site in Lakehurst, New Jersey. The mill is regulated by the NRC pursuant to the Atomic Energy Act of 1954, as amended; the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), as amended; and related NRC regulations set forth at 10 C.F.R. Part 40. All waste from the processing of material at the mill falls within the definition of "11e(2) byproduct material" under section 11e(2) of the Atomic Energy Act.¹

¹42 U.S.C. § 2014(e)(2). ("The term 'byproduct material' means . . . the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.")

Petitioner Fields lives and works in Moab, Utah, within one block of Utah State Highway 191, over which the material at issue in this proceeding is proposed to be transported to the mill by truck, after having been shipped to a transfer point by rail. The material at issue is “monazite sand” that has already been processed by Heritage Minerals, Inc., to remove heavy minerals (primarily titanium mineral ilmenite), but which still contains uranium and thorium.

IUSA opposes Petitioner Fields’ hearing request, asserting among other things that the petitioner has not, either in her original request or in a late-filed supplement, established standing by showing any concrete and particularized injury, or demonstrated any concerns that are germane to the proposed license amendment.

Although the petitioner filed a timely request for hearing and has presented one area of concern germane to the subject matter of this proceeding, I conclude that she has not established standing to intervene as a party in this case under relevant law. Therefore, for the reasons stated below, Petitioner Fields’ request for hearing is denied and this proceeding is terminated.

I. BACKGROUND

A. Procedural History and Ruling on Request for Stay

The IUSA application to amend that is at issue in this case was announced in a July 2000 *Federal Register* notice.² Pursuant to the Notice of Hearing set forth therein, Petitioner Fields filed her Hearing Request on August 9, 2000. IUSA filed its Opposition to the Request on August 24, 2000. On August 29, 2000, the Commission referred the matter to the Atomic Safety and Licensing Board Panel, and on August 31, 2000, the Chief Administrative Judge appointed the undersigned as Presiding Officer. Judge Charles N. Kelber was appointed to

²65 Fed. Reg. 44,078 (July 17, 2000).

serve as Special Assistant in the case. By letter dated September 7, 2000, counsel for the NRC Staff indicated that the Staff did not plan to participate as a party in this matter.³

On September 14, 2000, a telephone conference was held, during which the procedural status and substantive aspects of the case were reviewed, including in particular a discussion of the issue of standing, and Petitioner Fields was given the opportunity to ask any questions about the proceedings.⁴ Thereafter, the Petitioner was permitted to file a supplemental petition, and various documents have been filed by both parties, some timely, some not; some with and some without specific permission to file; and one at the request of the Presiding Officer, after the Petitioner filed her "First Supplement to Petitioner's August 9, 2000, Request for Hearing" (First Supplement).⁵ Even though this First Supplement was not timely filed, because of the unusual nature of some information provided with it⁶ further inquiry was deemed appropriate

³See 10 C.F.R. § 2.1213.

⁴See Transcript at 7-8 (Sept. 14, 2000). A request by the petitioner to hold this conference in Utah had previously been denied as not being necessary or appropriate, but in the interest of openness, any other persons who so wished were permitted to be present by telephone for the purpose of observing/listening to the proceedings. Pursuant to this arrangement, in addition to the petitioner and representatives of IUSA, Mr. John Darke was present by telephone and was permitted to make a limited appearance statement during the conference. See *id.* at 45, 53-55; 10 C.F.R. § 2.1211(a).

⁵First Supplement to Petitioner's August 9, 2000, Request for Hearing (Oct. 18, 2000) [hereinafter First Supplement].

⁶In addition to various information about the radiological activity of thorium and of monazite sands, the supplement contained as an attachment a copy of a September 27, 1990, letter to the NRC from Attorney Anthony J. Thompson, currently counsel for IUSA, then counsel for Heritage Minerals, Inc., referring among other things to the "unacceptable alternative" of the NRC requiring Heritage to dispose of what is apparently the same material at issue in this matter in a facility "in the Western United States," which would involve transportation that would "entail increased risk of human exposure to the monazite, as well as an increased risk of accidents and spillage." See Petitioner's First Supplement, Exh. G at unnumbered page 2. In a footnote to its November 13, 2000, Response to the Presiding Officer's Request for Information see Presiding Officer's Order (Requesting Information and Permitting Response to Petitioner's October 18, 2000, Filing) (Oct. 26, 2000) (unpublished), IUSA explains Attorney Thompson's 1990 statement by observing that "trucking the monazite sand over great distances entails
(continued...)

notwithstanding its lateness, on the issue, raised by the Petitioner, whether the monazite sand material presented a unique new sort of radiological threat of harm.⁷ As a result, on November 13, 2000, IUSA filed the requested information, which is discussed in some detail below. Since that time, additional documents have been submitted by both parties, the final ones being filed February 20, 2001, pursuant to an Order issued February 6, 2001, permitting and setting deadlines for final filings on the issue of the Petitioner's standing.⁸

While in no way condoning the late filing of any documents, it has been recognized in this proceeding that, because the Petitioner is acting *pro se*, she has not always been expected to meet the same high standards to which the Commission holds entities represented by lawyers.⁹ It is also noted that both the Petitioner and IUSA have been permitted some leeway, in order that the record with regard to standing could be as complete as possible. In all events,

⁶(...continued)
some risk as compared to on-site disposal [which Attorney Thompson was discussing in the 1990 letter], but not in relation to trucking similar radiologically active materials or such materials as gasoline or any other potentially hazardous substance. . . . The fact that everyday activities pose multiple risks to each of us does not impart to each of us standing to challenge each of these activities. If an individual's general distaste for an activity were sufficient to confer standing to challenge the activity, commerce rapidly would grind to a halt." See International Uranium (USA) Corporation's Response to the Presiding Officer's October 26, 2000 Request for Information (Nov. 13, 2000), at 5-6, n. 8.

⁷See First Supplement at 44-46.

⁸These documents include the Petitioner's Second, Third and Fourth Supplements, filed respectively on December 5, 2000, February 2 and 20, 2001; Petitioner's Request that the Presiding Officer Reconsider November 24, 2000, Order (Denying Petitioner's Requests to File Additional Materials), filed with her Second Supplement on December 5, 2000; IUSA's Opposition to Sarah M. Fields' Request for Reconsideration, filed January 9, 2001, along with its own attached affidavit and exhibits; and IUSA's Opposition to Sarah M. Fields' Third Supplement to Request for Hearing, filed February 20, 2001. The November 24, 2000, Presiding Officer's Order (Denying Petitioner's Requests to File Additional Materials) (unpublished) recounts in some detail the procedural history and some of the unique circumstances of the case up to that point. See also Presiding Officer's Order (Setting Deadlines for Final Filings on Standing) (Feb. 6, 2001) (unpublished).

⁹See *Yankee Atomic Electric Company* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 201 (1998).

the information in all the documents filed by both participants in this case having been read and considered, including that found in all of the Petitioner's filings, and none having been found to contain information that would change the result reached herein,¹⁰ any rulings on any outstanding requests and oppositions contained within these documents are moot and unnecessary at this point given the conclusions reached herein, with one exception relating to the Petitioner's request in her Fourth Supplement for a stay of the licensing action at issue herein.

¹⁰ Although, as indicated, all of the filings have been considered, some of the issues and information presented by the participants may not be specifically addressed in this Memorandum and Order, where not deemed relevant or necessary to the decision herein. With specific regard, however, to some of the matters raised by the Petitioner -- including the appropriate calculations of the radiological activity found in the monazite sand material from various isotopes of thorium and their progeny; the meaning of a reference in IUSA's chart that is attached hereto as Attachment A, to "other portions" of the Heritage Minerals material; the total thorium content in the monazite sand material; and how Becquerels per gram (Bq/g) compare to picocuries per gram (pCi/g) (all of which were raised in her December 5, 2000, Second Supplement) -- in the interest of clarity the following observations are made:

Regarding radioactivity calculations, as illustrated in the text of this Memorandum and Order, the 4000 pCi/g figure provided by the petitioner in her First Supplement was considered in making comparisons between the radiological activity of the Heritage Minerals material and other materials transported through Moab and processed at the White Mesa mill. On the "other portion" question, based upon a reading of the January 9, 1992, memorandum of John D. Kinneman to John E. Glenn, see Petitioner's First Supplement, Exh. D2, it appears the references to different "portions" of the Heritage Minerals material now at issue may be based on the material consisting of different (possibly now combined) portions of monazite sands that vary in their radiological activity, which when averaged result in a figure lower than the 4000 pCi/g figure for all of the material; in any event, the license amendment would not permit anything other than that which is described in the application, namely monazite sands, to be received and processed at the mill.

As to the total thorium content, it appears that the figures provided by IUSA in the chart at Attachment A may not, according to the affidavit of Douglas Chambers, Ph.D., filed with IUSA's Opposition to the Petitioner's Request for Reconsideration (Jan. 9, 2001) [hereinafter Chambers Affidavit], include all the various thorium isotopes contained in the various materials, because the figures in the table are based on different definitions of total uranium and total thorium, see *id.* at 12-13. In any event, however, as indicated above, the highest figures provided by the petitioner and Dr. Chambers for the radiological activity of the thorium isotopes contained in the Heritage Minerals material have been considered in making relevant comparisons, which minimizes or negates the significance of any differing definitions underlying the calculations in Appendix A. With regard to the use of Becquerels per gram, one picocurie is equal to 0.037 Becquerel, a standard international unit of radioactivity.

With regard to this request, it is noted that the license amendment applied for by IUSA in this proceeding was granted by the Staff, as Amendment 18 to Material License SUA-1358, on December 29, 2000.¹¹ The Petitioner had previously, in her original request for hearing, requested that “any licensing action be delayed” in this proceeding, but had not pursued this or provided any grounds for such a delay, until the filing of her February 20, 2001, Fourth Supplement, in which she specifically requests a stay of the licensing action under 10 C.F.R. §§ 2.1263 and 2.788.

Although the Petitioner has shown notable facility with NRC regulations and procedures given her *pro se* status, she has not provided sufficient grounds to establish that her request for a stay should be granted, under the requirements of sections 2.1263 and 2.788. Addressing the criteria found at subsection (e) of section 2.788, I find that the Petitioner has failed to make a “strong showing that [she] is likely to prevail on the merits” of this proceeding; nor has she shown that she would be irreparably injured unless a stay is granted, or that the public interest would lie with the granting of a stay. In addition, it would obviously harm the interest of the Applicant in pursuing its business to grant a stay. Balancing all of these considerations, it is concluded that a stay is not appropriate and the same is therefore denied.

B. Facts

The White Mesa Mill in Blanding, Utah, has been operated by IUSA and previous owners since 1980 under the authority granted in NRC Source Material License SUA-1358, which has been renewed in 1985 and 1997. The mill is a uranium recovery facility; it processes uranium-bearing ore and other materials called “alternate feed materials” to extract uranium, as

¹¹ See 10 C.F.R. § 2.1205(m), which provides that “[t]he filing or granting of a request for a hearing or petition for leave to intervene need not delay NRC staff action regarding an application for a licensing action covered by this subpart.”

well as vanadium and other metals.¹² Each time IUSA proposes to process an alternate feed material from a new source, it must first apply to the NRC for an amendment to its license for the mill. In the license amendment application now at issue, IUSA has proposed to process the Heritage Minerals monazite sand pile material in a manner similar to its normal processing of conventional ore, either alone or in combination with other approved alternate feed materials.¹³

After feed materials are processed, IUSA disposes of all residual waste “tailings” in an NRC-licensed lined “cell” or impoundment at the mill site, which currently contains approximately four million tons of tailings.¹⁴ According to the *Federal Register* notice for the license amendment request, IUSA has proposed that it will be a condition of the license that the mill shall not accept any of the Heritage Minerals material at the site unless and until the mill's Safety and Environmental Review Panel has determined that the mill has sufficient licensed tailings capacity to store all byproduct material from the processing of all the Heritage Minerals material, as well as all other ores and alternate materials on site, and all other materials required to be disposed of in the mill's tailings impoundment pursuant to the mill's reclamation plan.¹⁵

¹²See November 10, 2000, Affidavit of Ron F. Hochstein, at ¶ 3, attached to International Uranium (USA) Corporation's Response to the Presiding Officer's October 26, 2000 Request for Information (Nov. 13, 2000) [hereinafter Hochstein Affidavit].

¹³See 65 Fed. Reg. 44,078 (July 17, 2000).

¹⁴See Hochstein Affidavit at ¶ 3.

¹⁵See 65 Fed. Reg. at 44,078. As noted by the Petitioner in her Third Supplement at 10, a December 21, 2000, Technical Evaluation Report (TER) for the December 29, 2000, license amendment issuance, referred to a “separate TER and license amendment by NRC letter dated July 21, 2000,” relating to “available cell space.” The Petitioner has not, however, asserted any basis for standing with regard to this license amendment, which involves the issue of cell space at the mill location itself and not any contemplated transportation through Moab, and it is not at issue herein.

Also according to the *Federal Register* notice, the Heritage Minerals material is to be removed from its present location in New Jersey pursuant to a Decommissioning Plan under NRC Source Material License SMB-1541.¹⁶ The material would then be shipped to the White Mesa mill by rail and truck in exclusive “intermodal containers,” as “low specific activity” (LSA) Hazard Class 7 Hazardous Material as defined by U.S. Department of Transportation regulations.¹⁷

As indicated above, Petitioner Fields lives in Moab, through which the Heritage Minerals material is proposed to be transported, on Utah State Highway 191. Petitioner Fields lives one block west of Highway 191, and works one block east of the highway, which becomes Main Street as it goes through Moab. She often walks, drives or rides a bicycle on and across this road, and argues that she will be prevented from doing this if IUSA is permitted to transport the Heritage Minerals material over the road through Moab.

According to the undisputed statements of IUSA, truck traffic to the White Mesa Mill for all mill activities during the hauling of the Heritage Minerals materials is expected to average fewer than 30 trucks per day, or some 200 per week. Of this number, only 10 trucks per week would be carrying the Heritage Minerals material through Moab, for a period of one to three months as a result of the proposed license amendment. Additional context is provided in the statements of IUSA that the Utah Department of Transportation has estimated at various times that approximately 2000 trucks already travel this route every week, with up to approximately 385 traveling it every day.¹⁸

¹⁶See 65 Fed. Reg. at 44,078.

¹⁷*Id.*

¹⁸See IUSA Opposition to the Request for Hearing of Sarah M. Fields (Aug. 24, 2000), at 6 n. 11; IUSA Response to the Presiding Officer’s October 26, 2000 Request for Information (Nov. 13, 2000) at 4 & n. 4. It is noted that in IUSA’s August 24, 2000, Opposition to the
(continued...)

To date, the NRC has granted IUSA a number of license amendments to process a variety of alternate feed materials at the mill.¹⁹ As illustrated in a table provided by IUSA in response to a request for information from the Presiding Officer (reprinted as Attachment A to this Memorandum and Order), feed materials processed at the White Mesa mill have varied widely in mineral composition and level of radiological activity. According to this table and supporting documents, the materials that have been transported to and from the mill through Moab pursuant to IUSA's license for the mill, or NRC-approved amendments to it, include:

(1) the majority of 14,153 tons of Uranium yellowcake processed by the mill, the estimated average radiological activity of which (from uranium isotopes) is 482,400 picocuries-per-gram (pCi/g), and the total radiological inventory of which is over 6000 Curies (Ci);

(2) 363 tons of Nevada test site "Cotter Concentrate," with an estimated average radiological activity from uranium and thorium isotopes of 735,226 pCi/g, of which 628,026 pCi/g are from thorium isotopes, and the total radiological inventory of which is approximately 242 Ci;

(3) 1526 tons of Allied Signal KOH (potassium hydroxide) solution recovery material, with an estimated average radiological activity from uranium isotopes of 179,560 pCi/g, and a total radiological inventory of approximately 248.6 Ci;

¹⁸(...continued)

Petitioner's Hearing Request, it is stated (at 8 n. 18) that the 1979 Final Environmental Statement (FES) prepared in support of the mill's original license application stated that IUSA expected, on average, approximately 85 trucks per day to be associated with mill operations. Although this was initially considered pertinent to the issue of what new harm was posed by trucks carrying the Heritage Minerals material through Moab if they were within the number of trucks effectively authorized by the original license, an assumption confirmed by IUSA counsel, see Transcript at 30, 33-34, according to the 1979 FES, at page 4-20, the references to the truck traffic predicted for the mine at that time do not appear to include much traffic through Moab, and they are therefore now found to be irrelevant to the inquiry herein. The information provided in Attachment A to this Memorandum and Order [hereinafter Attachment A] provides more specific current information on materials transported through Moab, in any event.

¹⁹See Hochstein Affidavit at ¶ 5.

(4) four materials with five-digit total pCi/g figures, ranging in average radiological activity from thorium isotopes alone from 3,170 to 16,472 pCi/g, with tonnages ranging from 557 to 2343 tons, and total radiological inventories ranging from approximately 27 Ci to 120 Ci;

(5) "Ashland 2 Soil," with an average radiological activity from uranium and thorium isotopes of 7,017 pCi/g, of which 6,950 pCi/g are from thorium isotopes, and the total radiological inventory of which is approximately 280 Ci;

(6) some portion of 3,846,667 tons of natural ores, with an average radiological activity from uranium and thorium isotopes of 3,101 pCi/g, of which 1,024 pCi/g are from thorium isotopes, and the total radiological inventory of which is approximately 10,821.5 Ci; and

(7) three other source materials with lower pCi/g levels, a combined tonnage of 266,038, and total radiological inventories ranging from approximately 42 Ci to 64.8 Ci.

In addition, 10 tons of Cameco "UF₄ with filter ash" material, with an estimated total radiological activity from uranium isotopes of 435,500 pCi/g and a total estimated radiological inventory of 4 Ci, is expected to be transported to the mill under a separate license amendment.²⁰

IUSA estimates that the weighted average uranium and thorium activity levels of licensed feed materials and products shipped to or produced at the mill is 4,809 pCi/g,²¹ and that the total radiological inventory for all materials processed to date is approximately 18,258 Ci.²² In contrast, IUSA estimates that the average total radiological activity from the uranium and thorium contained in the Heritage Minerals monazite sand pile material is 1,525 pCi/g, of

²⁰See Attachment A.

²¹See Hochstein Affidavit at ¶ 8.

²²See Attachment A. The total radiological inventory figure was arrived at by taking the estimated total provided by IUSA in Attachment A, and subtracting out the 8 total Ci IUSA estimates for the Cameco and Heritage Minerals materials.

which 1,190 pCi/g is from the thorium isotopes contained in it.²³ In the Petitioner's "First Supplement," she provides various figures for the radiological activity of the monazite sands and the thorium contained in it, ranging from 1190 pCi/g to 4000 pCi/g. Using IUSA's figure, the total radiological inventory of uranium and thorium isotopes in the Heritage Minerals material would be approximately 4 Ci. Using the petitioner's high figure of 4000 pCi/g, the total radiological inventory would be approximately 11.4 Ci, which is approximately 0.06 percent of the total 18,258 Ci radiological inventory already processed at the mill, most of which was transported through Moab, Utah.

A higher figure for the Heritage Minerals material, of 0.1 percent of the total radiological inventory of materials transported to and from the White Mesa mill, has been provided by Douglas Chambers, Ph.D., in an affidavit submitted by IUSA. Also, according to Dr. Chambers, a "nominal value of between 2000 and 4000 pCi/g of total thorium in the HMI monazite sands is a reasonable assumption."²⁴ Adding to this Dr. Chambers' estimated uranium activity of 372 pCi/g results in a total of 2372 to 4372 pCi/g for the monazite sand material. According to Dr. Chambers, this is equivalent to 6372 pCi/g of natural uranium.

Dr. Chambers also, however, points out that these figures "would result in incremental exposure that is trivial and a very small fraction of natural background radiation in the area," which in the area of Moab averages approximately 90 mrad per year, as compared to the national average of approximately 40 mrad per year.²⁵ Dr. Chambers calculates that a pedestrian standing by the side of the road over which the trucks carrying the Heritage Minerals material will travel would receive only approximately 4/1000 of the dose he or she would receive

²³See Hochstein Affidavit at ¶ 8; Attachment A.

²⁴Chambers Affidavit at 12.

²⁵*Id.* at 6, 8. The national average includes exposures of about 23 mrad per year in coastal areas, according to Dr. Chambers. *Id.* at 6.

from natural background radiation, from the trucks that will be carrying the material. Further, according to Dr. Chambers, a “pedestrian could stand by the side of the road during the passage of some 34,600 trucks loaded with monazite sand . . . before he or she would receive the same dose as he or she would receive from natural background” radiation.²⁶ In contrast, Dr. Chambers states that one ton of the Nevada test site material would emit more than 100 times the gamma radiation that would be emitted by a ton of the Heritage Minerals material.²⁷ Also, according to Dr. Chambers, the Heritage Minerals material presents no “new or unusual hazard.”²⁸

Dr. Chambers states that transportation of the Heritage Minerals material poses no significant radiological exposure pathway, because of the shielding of the material from persons in the street and the short duration during which there would be any exposure at all. He states that, even in the event of a worst case scenario -- a spill of the Heritage material with its high thorium content -- “there is no significant or acute potential health hazard,” based on the NRC’s conclusion in NUREG-0706 that “long and sustained exposure to radioactivity in [an entire

²⁶ *Id.* at 17.

²⁷ *See id.* at 15. Dr. Chambers, who is Director of Risk and Radioactivity Studies for SENES Consultants, Ltd., of Ontario, Canada, has worked in the area of environmental radioactivity and risk assessment for more than 25 years. His work includes the development of probabilistic tools for pathways analysis and risk assessment for uranium mill tailings and of a regulatory guide for UF₆ dispersion models for the NRC. He has also served in a number of capacities for various organizations, including as Chair of the Canadian Standards Association Committee on Environmental Radiation Protection, member of the U. S. National Council on Radiological Protection and Measurements Scientific Committee 85 on the Risk of Lung Cancer from Radon, and member of the (Canadian) Atomic Energy Control Board’s Advisory Committee on Radiological Protection. He was the recipient of the 1997 W. B. Lewis award of the Canadian Nuclear Society for his achievements in environmental radioactivity. *See id.* at 1-3. His expertise is found to warrant giving credence to the statements in his affidavit.

²⁸ *Id.* at 17.

uranium] tailings pile would be required to produce any significant chance of adverse effect.”²⁹

In the event of such a spill, there would be clean-up procedures, as there would be for any spill of uranium-bearing material, which would involve “negligible” exposure to the public.³⁰

II. ANALYSIS

In a Subpart L case such as this, a petitioner is required to “describe in detail ... (1) [t]he interest of the requestor in the proceeding; (2) [h]ow the interests may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in paragraph (h) of this section; (3) [t]he requestor’s areas of concern about the licensing activity that is the subject matter of the proceeding; and (4) [t]he circumstances establishing that the request for a hearing is timely. . . .”³¹

In ruling on a request for a hearing, a presiding officer is required to make determinations on whether specified areas of concern are germane to the subject matter of the proceeding, whether the petition is timely, and whether “the requestor meets the judicial standards for standing.”³²

A. Timeliness

Having been filed within thirty days of the publication of the notice of IUSA’s license amendment application, Petitioner Fields’ hearing request was timely under 10 C.F.R. § 2.1205(d)(1).

²⁹*Id.* at 7; NUREG-0706, *Final Generic Environmental Statement in uranium milling*, Vol. 1, at 12-31 (September 1980).

³⁰Chambers Affidavit at 14.

³¹10 C.F.R. § 2.1205(e).

³²10 C.F.R. § 2.1205(h).

B. Areas of Concern

Petitioner Fields states three areas of concern in her August 9, 2000, hearing request: (1) “that IUSA is not authorized by the Atomic Energy Act of 1954, as amended, to receive, process, or dispose of the HMI materials”; (2) that the application “did not adequately consider the transportation corridor through Moab”; and (3) that “there has been no NRC programmatic Environmental Assessment with respect the [sic] remediation of such facilities [as required by applicable law, which] does not permit such an incremental isolated review of a programmatically impacted licensing action.”³³

As previously noted in another Subpart L proceeding involving a petitioner from Moab, Utah, “the Commission has indicated [that] ‘areas of concern’ specified in support of a hearing request under Subpart L ‘need not be extensive, but [they] must be sufficient to establish that the issues the requester wants to raise fall generally within the range of matters that properly are subject to challenge in such a proceeding’.”³⁴ Just as a 10 C.F.R. Part 2, Subpart G formal hearing petition must under 10 C.F.R. § 2.714(a)(2) define the “ ‘specific aspect or aspects of the subject matter of the proceeding as to which petitioner wishes to intervene,’ . . . the Subpart L direction to define ‘areas of concern’ is only intended to ensure that the matters the Petitioner wishes to discuss in his or her written presentation are generally within the scope of the proceeding.”³⁵

For the reasons set forth below, I conclude that the Petitioner’s first and third stated areas of concern are not germane to this proceeding, but that her second stated area of concern is germane to the proceeding.

³³See Petitioner’s Hearing Request at 3-4.

³⁴*Atlas Corporation* (Moab, Utah Facility), LBP-97-9, 45 NRC 414, 422 (1997) (citing 54 Fed. Reg. 8269, 8272 (1989)), affd., CLI-97-8, 46 NRC 21 (1997).

³⁵*Id.* at 422-423.

Petitioner Fields' first stated area of concern, "that IUSA is not authorized by the Atomic Energy Act of 1954, as amended, to receive, process, or dispose of the HMI materials," is, as conceded by IUSA, "of course, germane in the sense that *that is the reason that IUSA is requesting the subject license amendment* ".³⁶ However, it is quite general and unsupported by any specific argument, apart from the Petitioner's assertion in the September 14, 2000, telephone conference that the material at issue herein "is not 11e(2) byproduct material."³⁷ This issue, however, has been resolved by the Commission in its decision in another case³⁸ involving IUSA and the "Ashland 2" material listed in Appendix A to this Memorandum and Order. In an in-depth analysis of the issue, the Commission concluded that the determinative factor on whether material is 11e(2) byproduct material is whether the material will in fact be processed to extract uranium from it.³⁹

In this case there appears to be no question that the material at issue is in fact intended to be processed for its uranium content. Therefore, there is no meaningful dispute regarding this asserted area of concern. No other specific part of the Act being cited by the petitioner, her first area of concern lacks sufficient specific content to render it germane to the proceeding in any meaningful way.

The petitioner's third stated area of concern, that to the best of her knowledge "there has been no NRC programmatic Environmental Assessment with respect [to] the remediation of such facilities" as the Heritage Minerals site, is also found not to be germane to this proceeding. Her argument regarding an "incremental isolated review of a programmatically impacted

³⁶ See International Uranium (USA) Corporation's Opposition to the Request for Hearing of Sarah M. Fields (Aug. 24, 2000) at 4 n. 4 (emphasis in original).

³⁷ See Transcript at 37 (Sept. 14, 2000).

³⁸ *International Uranium (USA) Corporation*, CLI-00-1, 51 NRC 9 (2000).

³⁹ *Id.* at 15-23.

licensing action” is similar to the concept of “segmentation” of an overall plan into smaller parts with less significant environmental effects, discussed in case law.⁴⁰ Even assuming, however, that this argument might render the third area of concern germane to a proceeding relating directly to the Heritage Minerals site, it is only remotely relevant to this proceeding.

The Petitioner’s second area of concern, that IUSA’s license application “did not adequately consider the transportation corridor through Moab, Utah,” is less specific than it might optimally be. It is also recognized that under 10 C.F.R. § 71.12 an NRC licensee is given a general license to ship or transport material subject to NRC license in an NRC-approved package without approval by the Commission, provided the licensee complies with all applicable Department of Transportation regulations.⁴¹ Nonetheless, in the context of the Petitioner’s Hearing Request, in which she alleges “possible adverse effects . . . by the transportation of the HMI materials through Moab,” on a route that lies one block from her residence and workplace, it is found that she asserts an area of concern that is germane to the proceeding, and which does not appear to have been decided in prior litigation.⁴²

C. Standing to Intervene

Having stated an area of concern that is germane to this proceeding, Petitioner Fields must still establish standing to intervene in order to be admitted as a party in this proceeding. This is more problematic for the Petitioner.

In her original August 9, 2000, Hearing Request, Petitioner Fields states that her interest in IUSA’s license amendment application arises out of her residing one block west and working

⁴⁰See *Kleppe v. Sierra Club*, 427 U.S. 390 (1976); *City of West Chicago v. NRC*, 701 F.2d 632, 650 (7th Cir. 1983).

⁴¹See *Yankee Atomic Electric Company* (Yankee Nuclear Power Station), CLI-94-3, 39 NRC 95, 101-102 (1994).

⁴²See *International Uranium (USA) Corporation* (Receipt of Material from Tonawanda, New York), LBP-98-21, 48 NRC 137, 146-147 (1998).

one block east of Highway 191 in Moab, Utah, through which IUSA proposes to transport the alternative feed material from the Heritage Minerals site. The Petitioner states that since she crosses Highway 191 every day, “[t]here is a high probability that [she] would be affected by the transport of the material that is proposed to be transported to, and received and processed at, the White Mesa Mill.”⁴³ She refers further to her “right not to be unnecessarily affected by the transport of the HMI material,” and to “[a]ny possible adverse effects” of such transport.⁴⁴ In addition to raising various issues of alleged risk and harm to herself that might result from the proposed license amendment, the Petitioner has questioned the good faith of IUSA, as well as various information it has provided, and has asserted that the monazite sand material presents particular new health, safety and environmental hazards.⁴⁵

IUSA argues that the petitioner’s concerns about being affected by the transport of the HMI materials through Moab are “vague and generalized” and state no particular “injury in fact”⁴⁶ that is “concrete and particularized”⁴⁷ or “threatened, certainly impending, and real and immediate.”⁴⁸ Specifically, IUSA argues that the petitioner fails to state why there is a “high probability” she would be affected by the proposed license amendment, how she would be affected by it, and how any such effect would injure her. IUSA further argues that the Petitioner

⁴³Hearing Request at 2 (filed August 9, 2000).

⁴⁴*Id.* at 3 (filed August 9, 2000).

⁴⁵*See, e.g.*, First Supplement at 5-48.

⁴⁶*See* International Uranium (USA) Corporation’s Opposition to the Request for Hearing of Sarah M. Fields, at 5 (filed Aug. 24, 2000) (citing *Northern States Power Company* (Independent Spent Fuel Storage Installation), LPB-96-22, 44 NRC 138, 140-141 (1996)).

⁴⁷*See id.* (citing *Florida Audubon Society v. Bentsen*, 94 F.3d 658, 663 (D.C. Cir. 1996)(en banc)).

⁴⁸*See id.* (citing *Babcock & Wilcox* (Apollo, Pennsylvania Fuel Fabrication Facility), LPB-93-4, 37 NRC 72, 81 (1993)).

has failed to explain what harm may result from her areas of concern, particularly when the material and activity to be authorized under the proposed license amendment are well within the limits already authorized by its license for the mill and amendments thereto.

In determining standing under 10 C.F.R. § 2.1205(e) and (h), a presiding officer is required to consider, “among other factors, (1) [t]he nature of the requestor’s right under the Act to be made a party to the proceeding; (2) [t]he nature and extent of the requestor’s property, financial, or other interest in the proceeding; and (3) [t]he possible effect of any order that may be entered in the proceeding upon the requestor’s interest.”⁴⁹ Under relevant case law interpreting these requirements, a presiding officer must, in considering whether the requisite showings have been made under the rules cited above, look to whether a petitioner has demonstrated that: (1) she has suffered or will potentially suffer a distinct and palpable “injury in fact” within the “zone of interests” arguably protected by the statutes governing the proceeding; (2) the injury is fairly traceable to the challenged action; and (3) the injury is likely to be redressed by a favorable decision.⁵⁰

Also, while a petitioner bears the burden of establishing standing, Commission case law provides that in making a standing determination a presiding officer is to “construe the petition in favor of the petitioner.”⁵¹ Further, “[r]elative to a threshold standing determination, . . . even minor radiological exposures resulting from a proposed licensee activity can be enough to create the requisite injury in fact.”⁵²

⁴⁹10 C.F.R. § 2.1205(h).

⁵⁰See *Atlas Corporation*, LBP-97-9, 45 NRC at 423 (citing *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996)).

⁵¹*Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995), cited in *Atlas Corporation*, LBP-97-9, 45 NRC at 424.

⁵²*General Public Utilities Nuclear Corp.* (Oyster Creek Nuclear Generating Station),
(continued...)

Finally, in a case such as this in which a proposed license amendment is challenged, it is also necessary to determine whether the activities authorized under the present license amendment application could cause a “distinct new harm or threat”⁵³ or injury to the Petitioner “resulting from the amendment, as contrasted with continuing operations of the mill under its existing license,”⁵⁴ or an “increased health or safety hazard” or “increased risk over already licensed activities.”⁵⁵ If the new proposed activities would cause such a distinct new or increased harm, threat, injury or risk above and beyond that which could be caused by activities already authorized under IUSA’s existing license and any previous amendments thereto, it might be concluded that the Petitioner has established standing in this case. If, on the other hand, as argued by IUSA, transportation of the materials at issue through Moab would not cause any new or increased harm, threat, injury or risk above and beyond that which the Petitioner might arguably suffer as a result of already authorized activities, this would suggest that the Petitioner has not established standing to be made a party to this proceeding.

Looking at the information and argument presented in this matter and construing the petition in Petitioner Fields’ favor, it is clear that, because she lives and works within one block of the route over which IUSA will transport the Heritage Minerals material to the White Mesa mill, any accident of or spill from a truck carrying this material that occurred near her home or

⁵²(...continued)
LBP-96-23, 44 NRC 143, 158 (1996), cited in *Atlas Corporation*, LBP-97-9, 45 NRC at 425.

⁵³*Commonwealth Edison Company* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-4, 49 NRC 185, 192 (1999).

⁵⁴*International Uranium (USA) Corporation* (White Mesa Uranium Mill), LBP-97-12, 46 NRC 1, 8 (1997), aff’d., CLI-98-6, 47 NRC 116 (1998).

⁵⁵*International Uranium (USA) Corporation* (White Mesa Uranium Mill), LBP-97-14, 46 NRC 55, 56, 58 (1997), aff’d., CLI-98-6, 47 NRC 116 (1998); *see also International Uranium (USA) Corporation* (Receipt of Material from St. Louis, Missouri), LBP-99-24, 49 NRC 495, 496 (1999).

workplace could result in some impact, even if minor, to the Petitioner should she be in the vicinity at the time of any such accidental release. Whether such impact would result in any radiological exposure sufficient to establish standing is not so clear, however. As the Commission has stated, “proximity alone does not suffice for standing in materials licensing cases,”⁵⁶ and would apply only in actions involving a “significant source of radioactivity producing an obvious potential for offsite consequences.”⁵⁷

The information provided by Dr. Chambers is to the effect that any radiological exposure to the Petitioner as a result of the transportation of the Heritage Minerals material constitutes no new or unusual hazard, that indeed it would be a small fraction of background level in normal circumstances, and that, even if there were an accident and spill, the effect on the Petitioner would be “negligible.” Petitioner Fields questions Dr. Chambers’ conclusions, claiming that they are contradicted by information contained in an IUSA document on “Standard Operating Procedures [for] High Thorium Content Ore Management.”⁵⁸

This document addresses ore receiving and dumping at the White Mesa Mill and contains various requirements for performing these functions, including safety measures for personnel performing them. Although the precautions enumerated and required in the document indicate that material containing thorium does present “radiological dangers” and the need for “special procedures,” the nature of the functions addressed in this document -- relating to personnel who work with the material -- places them in a different context than that of a person residing near or walking on the road over which trucks will travel, even in the event of a

⁵⁶*International Uranium (USA) Corporation*, CLI-98-6, 47 NRC at 117 n. 1.

⁵⁷*Sequoyah Fuels Corporation and General Atomics (Gore, Oklahoma Site)*, CLI-94-12, 40 NRC 64, 75 n. 22 (1994).

⁵⁸See Petitioner’s Third Supplement at 17, Fourth Supplement at 26.

spill.⁵⁹ Such personnel will be involved in “long and sustained exposure” to the material, in contrast to pedestrians, whose potential exposure would be very brief, as pointed out by Dr. Chambers.⁶⁰ Therefore this document is not found to contradict Dr. Chambers’ statements.

The Petitioner states that she intends, as a result of her concerns about the radiological exposure she might receive from trucks carrying the Heritage Minerals material, to avoid the road over which the trucks would travel, citing various sources, many on the dangers of radiation to persons who work with radioactive materials.⁶¹ While the Petitioner (who does not work with radioactive materials) may choose to do this, she has provided no relevant information that would contradict the information provided by Dr. Chambers.

Based on the information provided by Dr. Chambers, to the effect that any radiological exposure to the Petitioner as a result of the transportation of the Heritage Minerals material through Moab would be “negligible” at most, I conclude that the source of radioactivity at issue herein is not significant such that it would produce an “obvious potential for offsite consequences” during its transportation through Moab. Therefore, Petitioner Fields’ proximity to the transportation route is not sufficient on its own to grant her standing in this case.

With regard to the broader question whether the Petitioner has shown any injury arising out of the amendment at issue in this proceeding, the 10 trucks per week that will transport the Heritage Minerals material through Moab for a period of one to three months constitute a small

⁵⁹See Third Supplement, Exh. A at 1-2 of 8.

⁶⁰See Chambers Affidavit at 7.

⁶¹See Petitioner’s Fourth Supplement at 15-17, 26-27. It is noted that the Petitioner in several of her (often voluminous and somewhat rambling) filings has cited a variety of sources on radiation and its effects. But with few exceptions (such as the letter from Attorney Thompson discussed at note 6, *supra*), none of the sources relied on by the Petitioner have been found to be of a nature to affect the possible outcome of this proceeding, and many are irrelevant to the matters actually at issue in this proceeding, notwithstanding the Petitioner’s resourcefulness in finding them despite her evident lack of expert assistance in this proceeding.

portion of the total truck traffic to the White Mesa Mill for *all* mill activities during the time in question, and will involve material with a small fraction of the radiological content of other materials transported to the mill. As stated by IUSA in its Response to the Petitioner's "First Supplement," IUSA has transported, and will continue to transport, larger quantities of similar or more radiologically active feeds through Moab in accordance with existing licenses.⁶² It is noted that the Petitioner has made references to an accident involving transportation of materials to the White Mesa Mill, and to some trucks having been found to have "high radiation readings."⁶³ There has been no indication or showing, however, of any particulars or of any pattern that would suggest any greater likelihood of any additional such incidents occurring with the trucks that would transport the Heritage Minerals material to the mill. Moreover, given the information provided by Dr. Chambers, the very low radiological inventory and activity of the material in question herein leads to a conclusion that, even in the event of a similar incident, the likelihood of any exposure significantly above background levels would be negligible.

Construing the petition in the Petitioner's favor, the question becomes: whether a negligible likelihood of any radiological exposure that would be significantly above background level is sufficient to establish an "injury in fact," resulting from the amendment at issue in this case. I find, in the circumstances of this case, that such a negligible likelihood has not been shown to constitute a *new* or *increased* harm, threat, injury or risk as a result of the proposed license amendment, over and above the risk or threat of injury already arising from continuing activities under the mill's existing license and amendments. And based upon this finding, I further conclude that the Petitioner has not demonstrated in this proceeding the requisite injury in fact, traceable to the proposed license amendment and likely to be redressed by a favorable

⁶²International Uranium (USA) Corporation's Response to the Presiding Officer's October 26, 2000 Request for Information (Nov. 13, 2000), at 2.

⁶³Transcript at 25-26 (Sept. 14, 2000).

decision, to establish standing to be admitted as a party in the proceeding. Any challenge to continuing activities under IUSA's license, which appear to be Petitioner Fields' main concern, would have to be brought pursuant to a request for action under 10 C.F.R. § 2.206.

III. CONCLUSION

In conclusion, although her sincerity in her concerns is unquestionable, and although her Hearing Request was timely and presents one germane area of concern, Petitioner Fields has not demonstrated the requisite injury in fact needed to establish standing under 10 C.F.R. § 2.1205(e) and (h) and relevant case law. Her request for hearing must therefore be denied. In addition, as noted above, her request for stay is denied.

For the foregoing reasons, it is, this 28th day of February, 2001, ORDERED that:

1. The August 9, 2000, hearing request of Petitioner Sarah M. Fields is denied and this proceeding is terminated; and
2. In accordance with the provisions of 10 C.F.R. § 2.1205(o), as it rules upon a hearing request, this Memorandum and Order may be appealed to the Commission by filing an appeal statement that succinctly sets out, with supporting arguments, the errors alleged. To be timely, an appeal statement must be filed within 10 days after this Memorandum and Order is served (i.e., on or before Thursday, March 15, 2001.)

BY THE PRESIDING OFFICER⁶⁴

/RA/

Ann Marshall Young
ADMINISTRATIVE JUDGE

Rockville, Maryland
February 28, 2001

⁶⁴Copies of this Memorandum and Order were sent this date by Internet e-mail transmission to all participants or counsel for participants.

ATTACHMENT A

Uranium and Thorium Activities in Licensed Ores and Products

11/10/00

Mill Feed & Production	Description	Tons	Uranium Isotopes Average (Wt% U)	Uranium Isotopes Activity Average (pCi/g)	Total Uranium Inventory (Ci)	Thorium Isotopes Activity Average* (pCi/g)	Thorium Inventory* (Ci)	Estimated Total Activity of U and Th (pCi/g)	Estimated Total Inventory of U and Th (Ci)
Linde (2)	Soil	140,400	0.07%	469	59.8	40	5	509	65
Ashland 1 (3)	Soil	108,810	0.06%	402	39.7	238	24	640	63
Heritage (4)(5)	Monazite Sands	2,910	0.05%	335	0.89	1,190	3.1	1,525	4
Cabot (6)	Tantalum residues	16,828	0.343%	2,298	35.1	4,73.0	7.23	2,771	42
Natural Ores (7)(8)(9)(10)	Mill Inception to Date	3,846,667	0.310%	2,077	7,254	1,024	3,576	3,101	10,830
Ashland 2 (11)	Soil	43,981	0.01%	67	2.7	6,950	278	7,017	280
Cameco (12)	KF product	1,966	4.6%	30,800	55.0	3,170	5.7	33,970	61
Allied Signal (13)(14)	Calcium Fluoride	2,343	3.0%	20,100	43	14,448	30.74	34,548	74
Cameco (15)	Phosph. regen. product	567	8.0%	53,600	27.1	-	-	53,600	27
Cameco (16)	Calcined product	2,197	6.53%	43,751	87.3	16,472	32.86	60,223	120
Allied Signal (17)	KOH solution recovery	1,526	26.8%	179,560	249	-	-	179,560	249
Rhone-Poulenc (18)(19)	Uranyl nitrate hexahydrate	17	50%	335,000	5.0	0.10	0.00	335,000	5
Cameco (20)	UF4 with filler ash	10	65%	435,500	3.9	0.10	0.00	435,500	4
Uranium Product (21)	Yellowcake	14,153	72%	482,400	6,199	-	-	482,400	6,199
New Test Site (22)	Colter Concentrate	363	16.00%	107,200	35.3	628,026	207	735,226	242
CURRENT ESTIMATED FEED TOTAL		4,182,728		3,712	14,097	1,098	4,169	4,809	18,266
CURRENT ESTIMATED WEIGHTED AVERAGE									

* Total thorium activity is stated to the degree the information is available.

Notes:

- (1) Appendix A includes general calculations for conversion of units.
- (2) Based on Linde Amendment Application, IT pre-excavation field data 7100, and RMPR (See Appendix B).
- (3) Tonnage based on current estimates from the Ashland site, other information based on License Amendment Application, IT pre-excavation field data and RMPR (See Appendix C).
- (4) Based on Heritage License Amendment Application and RMPR (See Appendix D).
- (5) Thorium estimate provided by S. Fields of 4,000 pCi/g is for only a portion of the material being sent to IUC. The value quoted is the estimated average value for all the material sent to IUC.
- (6) Cabot information included in Appendix E.
- (7) Tons and wt% based on Mill production logs (See Appendix F).
- (8) Thorium values estimated by the Mill's Radiation Safety Officer (See Appendix F).
- (9) Mill head grades typically range from 0.11% to 0.86% uranium or 1,100 to 8,603 pCi/g.
- (10) Only a portion of the natural ores were transported through Moab, Utah.
- (11) Production based on Mill production report, uranium and thorium information contained in Appendix G.
- (12) KF data is included in Appendix H.
- (13) Data from Mill production logs only for production in 1996 and 1999, data for previous runs is not available (See Appendix I).
- (14) Thorium content based on discussions with generator (See Appendix J).
- (15) Tonnage based on Mill receipts. Uranium based on License Amendment information (See Appendix J).
- (16) Tonnage based on Mill production and receipts. Head grade based on actual production estimates. (See Appendix K).
- (17) Tonnage and assays based on Mill production. Thorium content based on information from generator. (See Appendix L).
- (18) Based on USNRC Technical Evaluation Report for Energy Fuels Nuclear License Amendment #41 and Rhone Poulenc Data (12/21/94). See Appendix M.
- (19) This material was not trucked through Moab, Utah.
- (20) No material has been received at the Mill to date. The information is based on the License Amendment information (See Appendix J).
- (21) Tonnage based on actual Mill production logs and average grade based on Mill data (See Appendix F). A majority of the yellowcake is shipped through the Moab area.
- (22) Values calculated by K. Schlager in letter of 7/10/97 and tonnage based on actual Mill receipts. (See Appendix N.)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
INTERNATIONAL URANIUM (USA))	Docket No. 40-8681-MLA-8
CORPORATION)	
)	
(Source Material License Amendment))	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (DENYING HEARING REQUEST) (LBP-01-08) have been served upon the following persons by deposit in the U.S. mail, first class, or through NRC internal distribution.

Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Ann Marshall Young, Presiding Officer
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Charles N. Kelber, Special Assistant
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dennis C. Dambly, Esq.
Office of the General Counsel
Mail Stop - O-15 D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Sarah M. Fields
P.O. Box 143
Moab, UT 84532

Anthony J. Thompson, Esq.
Frederick S. Phillips, Esq.
David C. Lashway, Esq.
2300 N Street, NW
Washington, DC 20037

[Original signed by Evangeline S. Ngbea]

Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 28th day of February 2001