

May 20, 2002

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of)
) Docket No. 40-8681-MLA-11
INTERNATIONAL URANIUM (USA))
CORPORATION)
)
(White Mesa Uranium Mill))

NRC STAFF'S RESPONSE TO WRITTEN PRESENTATIONS
FILED BY INTERVENORS SIERRA CLUB AND WILLIAM LOVE

INTRODUCTION

The NRC Staff ("Staff") hereby responds to the written presentations filed by the Intervenors in this proceeding, the Sierra Club and William Love, requesting suspension, modification or revocation of the license amendment at issue. The Staff finds no support for Intervenors' allegations and asks that their request to suspend, modify or revoke the license amendment be denied.

PROCEDURAL BACKGROUND

IUSA requested, and in December of 2001 received, a license amendment to process Molycorp material. A December 11, 2001 *Federal Register* notice relating to the license amendment noticed an opportunity for a hearing. Sierra Club and Mr. Love submitted hearing requests on December 15, 2001 and January 10, 2002, respectively. IUSA submitted responses to both these hearing requests on December 31, 2001, and January 25, 2002. In an Order dated January 30, 2002, the Presiding Officer granted both Sierra Club and Mr. Love standing to intervene in this matter, and the decision was affirmed by the Commission on April 3, 2002, thereby allowing a hearing on the merits to proceed. Following a telephone conference conducted on February 21, 2002 to discuss scheduling matters, the Presiding Officer ordered the Sierra Club and

Mr. Love to file their written presentations no later than April 1, 2002, and IUSA to file their written presentations by May 1, 2002. On March 27, 2002, Sierra Club filed a motion requesting an additional fifteen (15) days to file a supplemental written presentation, and by order the same day, the Presiding Officer granted Sierra Club's request. On April 1, 2002, the Presiding Officer directed NRC Staff to become a party to this proceeding, and instructed the Staff to respond to Petitioners' written presentations by May 1, 2002. IUSA and Staff requested an extension of time, and the Presiding Officer partially granted the requests allowing IUSA and Staff until May 20, 2002 to file their responses. The Staff is hereby providing its response to Intervenors' petitions.

DISCUSSION

Intervenors in this matter seek the modification, suspension and/or revocation of License Amendment 20 to SUA-1358, which authorized the receipt and processing of Molycorp material at the White Mesa Mill.¹ For the following reasons, the Staff finds no basis to Intervenors' claims and thus, respectfully requests denial of the Intervenors' presentations. Due to the general nature and broad scope of the claims presented, the Staff has attempted to combine issues, where possible, and address the similar issues collectively. Based upon Intervenors' written presentations, the Staff has identified five general areas of concern, including a miscellaneous category, each of which will each be addressed independently.

Initially, however, the Staff notes that a vast majority of Intervenors' claims fall outside the scope of this license amendment, and thus, outside the scope of this proceeding. In a license amendment proceeding, a Licensing Board or Presiding Officer has limited jurisdiction, and may only consider those matters which are within the scope of the amendment application. See,

¹ The Staff often will refer to Intervenors collectively throughout this Response both because Intervenors' arguments sometimes overlap, and because Intervenors have incorporated each others' presentations by reference. However, the Staff notes the Commission's guidance in *Consolidated Edison Company of New York* (Indian Point Generating Units 1 and 2), CLI-01-19, 54 NRC 109, 131-133 (2001), regarding the incorporation of claims by reference.

Vermont Yankee Nuclear Power Corporation (Vermont Yankee Nuclear Power Station), LBP-88-19, 28 NRC 145, 152 (1988). In this instance, the amendment application was submitted for the limited purpose of obtaining approval to receive and process the Molycorp material. The issues which bear directly on the amendment are whether issuance of the license amendment would violate NRC regulations, constitute an unreasonable risk to public health and safety, or have a significant effect on the quality of the human environment.

The purpose of a license amendment proceeding is therefore limited to the activities subject to the amendment, in this case the processing of the specific Molycorp material, not the operations of the mill in general. With respect to the environmental aspects of the amendment, the Presiding Officer's review is limited to the question of whether the activities authorized, in this case the processing of this specific material, will involve, or result in, environmental impacts other than those previously considered and evaluated. See, *Portland General Electric Co. (Trojan Nuclear Plant*", LBP-78-40, 8 NRC 717, 744-45 (1978), *aff'd*, ALAB-534, 9 NRC 287 (1979).

While the Presiding Officer is responsible for determining whether the license amendment was properly issued from a public health and safety and environmental perspective, he has no authority over the review process which is entrusted to the Staff. See, *Arizona Public Service Co. (Palo Verde Nuclear Generating Station, Units 2 and 3)*, LBP-83-36, 18 NRC 45, 48-49 (1983), *citing, New England Power Co. (NEP Units 1 and 2)*, LBP-78-9, 7 NRC 271 (1978). Thus, the process used by the Staff to determine whether or not to approve a license amendment, including the Staff's evaluation reports such as the Technical Evaluation Report and Environmental Assessment, are not the issues to be examined and ruled upon in this hearing. Rather, the focus of the hearing, and the ultimate conclusions of the hearing officer, must be on the propriety of permitting the processing of the Molycorp material.

Similarly, the Presiding Officer has no authority over issues relating to violations of NRC regulations which do not directly pertain to issuance of the license amendment subject to this

proceeding. As a Licensing Board stated in a case concerning the issuance of an amendment to a construction permit, the responsibility for determining whether a license has been violated rests not with the Licensing Board but with the NRC Office Director pursuant to the provisions of 10 C.F.R. Part 2, Subpart B, of the Commissions regulations. *Detroit Edison Company* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-11, 7 NRC 381, 386 (1978). Thus, issues concerning potential violations of NRC regulations from general operation of the mill, and of safe operation in general, must be raised pursuant to the provisions of that subpart, and 10 C.F.R. § 2.206 in particular, not in this hearing.

Intervenors have repeatedly raised issues throughout their presentations which greatly exceed those which bear directly on the Molycorp license amendment and instead focus upon activities surrounding the general licensing or renewal of the White Mesa Facility. Although the Staff will occasionally address these arguments and explain why it has determined none of the claims to have any basis, the Staff's decision to do so is in no way meant to diminish Staff's position that the issues are outside the scope of this proceeding. The Staff maintains its position that, even if supporting information had been provided, a large number of these concerns have no relevancy to the license amendment application that Intervenors challenge, and accordingly, should be dismissed. The NRC regulations provide ample opportunity for interested parties to raise general concerns regarding the operation of a facility through other means, such as §2.206 petitions. This hearing should be reserved only for those issues germane to the license amendment.

I. Issuance of the Amendment Permitting the Processing of Molycorp Material was Proper and Within NRC's Jurisdiction

BACKGROUND

The amendment at issue permits IUSA to receive and process at the Mill material from the Molycorp facility as alternate feed material under Part 40 of the NRC's regulations. A license amendment is required before IUSA may process the Molycorp material, or any alternate feed material, because IUSA's license only permits the processing of natural ore. This is because the original license, which was requested by IUSA's predecessor in 1978, contemplated the processing of ores originating from independent mines, or natural ore.²

The license amendment was granted pursuant to Part 40 of the Commission's regulations, which provide the provisions for "the issuance of licenses to receive title to, receive, possess, use, transfer, or deliver source and byproduct materials, as defined in this part, and establish and provide for the terms and conditions upon which the Commission will issue such licenses." 10 C.F.R. § 40.1. The term "byproduct material" is defined as ". . . the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. . ."³ and the term "source material" is defined to mean "(1) uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores which contain by

²Material License SUA-1358 provides, in Section 9.3, that the "licensee shall conduct operations in accordance with statements, representations, and condition contained in the license renewal application submitted by letter dated August 23, 1991. . ." The Licensee's submittal of August 23, 1991, provided in Section 1.0, Proposed Activities, Activity Summary, that "feed for the mill will be provided through: 1) mining operations of Umetco Minerals Corporation, 2) mining operations of Energy Fuels Nuclear, Inc., 3) other uranium/vanadium mining operations in Western Colorado, Utah, New Mexico and Arizona, and 4) other feed materials (in combination with 1, 2 or 3 above).

³The Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) amended the Atomic Energy Act to include "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content" in Section 11(e)(2). Thus, these types of materials are referred to as "11e(2)" byproduct material.

weight one-twentieth of one percent (0.05%) or more of: (I) uranium, (ii) thorium or (iii) any combination thereof. . .” 10 C.F. R. § 40.5.⁴

In order to determine whether feed material is “ore,” the NRC considers a two-pronged definition. Ore may be a “natural or native matter that may be mined and treated for the extraction of any of its constituents,” or, alternatively, it may be “any other matter from which source material is extracted in a licensed uranium or thorium mill.” 60 Fed. Reg. at 49,296. This definition is included in the most recent guidance issued by the NRC regarding the use of uranium mill feed material other than natural ores.⁵ According to that guidance, the Staff must first determine whether the feed material is ore within that definition. Secondly, the Staff must determine whether the feed material contains hazardous waste in order to determine whether the material is subject to EPA or State regulation under the Resource Conservation and Recovery Act of 1976 (RCRA) (codified as the Solid Waste Disposal Act, 42 U.S.C. § 6901, *et seq.*). Finally, the guidance call on the Staff to determine whether the ore is being processed primarily for its source-material content.

RCRA is an environmental statute under which EPA is granted authority to regulate solid and hazardous wastes. RCRA includes two major parts. One deals with non-hazardous solid waste management and the other with hazardous waste management. Because the term “hazardous waste” is defined as a subset of “solid waste,” 42 U.S.C. § 6903(5), the scope of EPA’s jurisdiction is limited to materials that constitute “solid waste.” Thus, materials which are not solid wastes are not regulated as hazardous wastes under RCRA.

⁴The Atomic Energy Act in Section 11z defines the term “source material” to mean “(1) uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of section 61 to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time.” 42 U.S.C. 2014(z).

⁵“Interim Position and Guidance on the Use of Uranium Mill Feed Material Other Than Natural Ores,” November 30, 2000, commonly known as the Alternate Feed Policy.

By definition, RCRA provides that “source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended” is excluded from the definition of “solid waste.” 42. U.S.C. § 6903(27). As noted above, the term “source material” means ores which contain uranium and/or thorium. The term “ore” means matter from which source material is extracted in a licensed uranium or thorium mill. Therefore, the alternate feed material subject to this amendment, which contains uranium in a concentration of 0.15%⁶ and which will be extracted at the mill, is not subject to EPA jurisdiction under RCRA.⁷

As noted in Staff Affidavit at 3, the Staff discussed the classification of the alternate feed material subject to this amendment with representatives of the EPA on October 24, 2002. At that time, the EPA stated that it did not see any concern with the Staff’s classification of the Molycorp material as source material and agreed with the Staff that as source material, the Molycorp material is excluded from RCRA.

This conclusion was echoed by the Utah Department of Environmental Quality Division of Solid and Hazardous Waste (“DSHW”) in a letter addressed to Ms. Woodard dated March 21, 2002. (Attachment A). Because EPA has authorized Utah to implement state RCRA programs in lieu of the federal RCRA program, the DSHW is primarily responsible for ensuring that operations of the mill comply with any applicable RCRA requirements. According to that letter, after evaluating the information submitted by IUSA and the approval of the NRC, and discussing the issue with EPA, DSHW concluded that the material does not meet the definition of solid waste and therefore

⁶See “Technical Evaluation Report Request to Receive and Process Molycorp Site Material” at 3.

⁷With regard to byproduct material, as defined by 11 e(2), section 84a of the Atomic Energy Act requires the NRC to conform with the applicable general standards promulgated by the EPA under RCRA. These include groundwater protection standards codified by the NRC in Appendix A to Part 40, and derived from EPA regulations codified in 40 C.F.R. Part 192. These apply “during processing operations” and require that “[u]ranium byproduct materials shall be managed so as to conform to the ground water protection standard in [EPA’s RCRA regulations].” 40. C.F.R. § 192.32.

cannot be considered a hazardous waste. Accordingly, DSHW concluded that the it could not regulate the Molycorp material.

Mixed waste is a term used to refer to waste that contains a mixture of commercial low-level radioactive waste that is subject to the jurisdiction of the NRC and non-radiological hazardous waste that is subject to regulation by the EPA or EPA authorized states pursuant to RCRA. As explained above, the Molycorp material, as source material, is specifically exempted from RCRA jurisdiction. Therefore, regulation of this material lies solely within the jurisdiction of the NRC. Low level waste is defined in Section 2 of the Low-Level Waste Policy Act as “radioactive material that (A) is not high-level radioactive waste, spent nuclear fuel, or byproduct material as defined in section 11e(2) of the Atomic Energy Act of 1954 (42 U.S.C. § 2014(e)(2)); and (B) the Nuclear Regulatory Commission, consistent with existing law and in accordance with paragraph (A), classifies as low-level waste.” 42 U.S.C. § 2021b(9).

After concluding that the Molycorp material did not contain hazardous waste, and therefore not subject to RCRA regulation, the Staff examined whether the feed material was to be processed primarily for its source-material content. This aspect of the Staff’s review was recently considered by the Commission in *International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 9 (2000). In that decision, the Commission examined the portion of the definition of 11e(2) material in the Atomic Energy Act which states that the ore must be “processed primarily for its source material content.” *Id.* at 11, citing 42 U.S.C. § 2014e. After examining the legislative history of the statute which enacted the 11e(2) definition, the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the Commission concluded that the definition was intended to reach even “low grade” feedstock with less than a 0.05% concentration of uranium, and to ensure that the NRC’s jurisdiction did not expand into areas beyond the nuclear fuel cycle.

Id. at 18. Thus, the key to determining if material falls within the 11e(2) definition of byproduct material is whether uranium or thorium is being removed as part of the nuclear fuel cycle⁸. *Id.*

In that case, which concerned the application for an amendment to process a different alternate feed material at the While Mesa mill, the Commission concluded that the record supported issuance of the license amendment. Specifically, the Commission found that it had been reasonable for the Staff to conclude that (1) processing would take place, and (2) uranium would be recovered from the ore. On the basis of a finding that IUSA has a history of successfully extracting uranium from alternate feed material and has developed credibility with the NRC for carrying out proposals to recover uranium from alternate feeds, the Commission noted that it was not a case where there was no reasonable expectation that the mill operator would in fact process material to extract recoverable uranium. *Id.* at 23.

DISCUSSION OF SPECIFIC CLAIMS BY INTERVENORS

A. IUSA is Authorized to Receive Feed Material Containing Thorium

The Sierra Club alleges that the issuance of the amendment permitting the receipt and processing of the Molycorp material was improper because the mill is not licensed to possess “transfer source material Thorium-232 and progeny.” Specifically, the Sierra Club maintains that the mill is only authorized to receive natural uranium, as specified in certain license conditions, and not thorium of any kind or amount. Therefore, the Sierra Club concludes that the amendment violates the provisions of 10 C.F.R. § 40.51.

Section 40.51 of the Commission’s regulations concern the transfer of source material. Specifically, it provides in subpart (a) that no licensee shall transfer source or byproduct material except as authorized by that regulation. Further, subpart (b)(5) provides that, except as otherwise

⁸The Commission determined that purely economic considerations should not be a determinative part of the Staff’s review of whether ore is processed primarily for its source material content. *Id.* at 18-22.

provided in his license, any licensee may transfer source or byproduct material to any person authorized to receive such source or byproduct material under terms of a specific license or a general license issued by the Commission.

As discussed above, the license issued for the mill contemplated the processing of ores originating from independent mines, or natural ore. Sierra Club is correct that the general license issued to IUSA does not authorize the mill to receive and process the Molycorp material. That is the reason that IUSA was required to obtain an amendment to receive alternate feed material, and the reason for this hearing. Only after the NRC has reviewed and approved the amendment does IUSA have authorization to take receipt of and process material from the Molycorp site.

It is clear that the NRC can authorize the mill to receive and process materials which contain thorium. 10 C.F.R. § 40.1 provides that the purpose of the regulations in Part 40 is to establish the criteria for the issuance of licenses regarding source materials. Source material is in turn defined in 10 C.F.R. § 40.4 as “uranium or thorium, or any combination thereof, in any physical or chemical form.” Sierra Club’s claim that the Staff improperly allowed a uranium mill to accept material containing thorium must therefore be rejected.

B. The Definition of the Term “Ore” Contemplates the Molycorp Material.

The Sierra Club argues that the Molycorp material cannot meet the definition of “ore.” Furthermore, they claim that the NRC’s guidance on the definition of “ore” is unreasonable and inconsistent with the definition of 11e(2) source material. Mr. Love claims that the EPA has determined that the Molycorp material is processed material, and concludes that it therefore cannot be considered ore.

As explained above, ore is defined to be *either* natural or native matter that may be mined and treated for the extraction of any of its constituents *or* any other matter from which source material is extracted in a licensed uranium or thorium mill. The Molycorp material, which as Mr. Love notes has already been processed, fits the latter part of this definition. While the Sierra

Club takes issue with this definition, and the guidance which implements it, this is not an appropriate matter to be considered in this hearing. The only issues appropriate for consideration here are those that relate specifically to the amendment authorizing the mill to receive and process Molycorp material. NRC policy and guidance on alternate feed processing in uranium mills in general are not an appropriate subject for review in this license amendment proceeding.

C. The Molycorp Material is Not Hazardous Waste Under RCRA or Mixed Waste

Mr. Love claims that the Molycorp material contains a listed hazardous waste under RCRA, lead oxides, and is therefore consists of mixed low-level waste. He claims that this fact contradicts NRC guidance which provides that if a licensee can show that proposed feed material does not contain a listed hazardous waste, the issue is resolved.

The NRC guidance referenced by Mr. Love is the “Interim Position and Guidance on the use of Uranium Mill Feed Material Other Than Natural Ores,” commonly known as the Alternate Feed Guidance. Under step 2, which concerns the determination of whether the feed material contains hazardous waste, the policy states “[i]f the licensee can show that the proposed feed material does not contain a listed hazardous waste, this issue is resolved.” In a situation such as this, where the licensee shows that the material subject to the amendment request is source material and therefore exempt from RCRA this issue is indeed resolved since it cannot contain hazardous waste within the meaning of that statute. Therefore, the guidance is in fact consistent with the Staff’s determination that the Molycorp material does not contain hazardous waste.

As explained above, RCRA jurisdiction only extends to solid wastes and, by definition, source and byproduct material is not considered solid waste under RCRA. Thus, regulations of source material lies solely with the NRC. Because source material, such as the Molycorp material, is not hazardous waste under RCRA, it cannot be considered “mixed waste.” Mr. Love’s claim that it must be considered low level waste because it contains a listed hazardous waste under RCRA also fails.

II. Intervenors Have Presented No Significant New Circumstances or Information Regarding the License Amendment that Alters Staff's Finding of No Significant Impact or Requires the Supplementing of any Environmental Document

BACKGROUND

On February 6, 1978, Energy Fuels Nuclear, Inc. (then owner of the White Mesa Uranium Mill) applied to the Nuclear Regulatory Commission (NRC) for a Source Material License for the construction and operation of the White Mesa Uranium Project. As part of this original licensing process, the Staff, adhering to the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, et. seq., and NRC's NEPA implementing regulations located at 10 C.F.R. Part 51, prepared a Final Environmental Statement which was issued in May, 1979.⁹ This original FES addressed the environmental impacts of construction and operation of the mill in detail, including specific discussion of the use of the acid leach-solvent extraction process, the effluents produced during operations, and specifics regarding the tailings retention area. As a result of studies conducted for the FES, NRC concluded that mitigative measures proposed and implemented by the applicant would reduce any adverse environmental impacts associated with the White Mesa project to acceptable levels. Following issuance of the FES and the Staff's Safety Evaluation Report (SER), NRC issued Source Material License SUA-1358 on August 7, 1979.

Subsequently, in September, 1980, the NRC issued the Final Generic Environmental Impact Statement on Uranium Milling (GEIS). See NUREG-0706. In preparing this GEIS, the Staff evaluated a wide range of issues, with the primary purpose of the Statement being "[t]o assess the nature and extent of the environmental impacts of conventional uranium milling in the United States from local, regional, and national perspectives on both short- and long-term bases, to determine

⁹ Although at the time the NRC was in the process of issuing a Generic Environmental Impact Statement on Uranium Milling (GEIS), the GEIS was not yet complete when the Staff was faced with reviewing this license request, and thus, the Staff issued a Final Environmental Statement related to operation of the White Mesa Uranium Project (NUREG-0556). The GEIS was subsequently finalized and issued in September, 1980 (NUREG 0706).

what regulatory actions are needed...” NUREG-0706, pg. 2. This GEIS provided the NRC with an opportunity to examine, in detail, the generic environmental issues associated with uranium milling. Thereafter, the licensee sought renewal of Source Material license SUA-1358 in 1985 and again in 1997. Just as the original process involved in granting a source material license included an FES which evaluated the potential environmental impacts of construction and operation of the facility, granting of a renewal license involved the preparation of an Environmental Assessment (EA) which evaluated the potential environmental impacts associated with the continued commercial operation of the White Mesa Mill.

More recently, in August, 1999, the licensee submitted a Reclamation Plan during the review of which the Staff also performed an Environmental Assessment which evaluated the potential impacts of reclaiming the site. Consequently, the White Mesa mill has undergone several environmental reviews which evaluated the potential environmental impacts associated with its operation.

On December 19, 2000, the licensee filed a license amendment application to receive and process alternate feed material from the Molycorp site. The licensee was required to seek amendment of its source material license because alternate feed material is non-natural ore and therefore, was not a material identified in White Mesa’s original source material license. Unlike the original source material license request, or the requests for renewal of the source material license, this request for an amendment sought only to allow the receipt and processing of the Molycorp material. The amendment request specified that the facility would use the same processing technique (acid leach) as existing material and that no significant physical modifications to the facility were required or envisioned as a result of this request. Staff Affidavit at 2. Thus, in evaluating this license amendment, the Staff prepared an environmental assessment which appropriately focused upon the environmental impacts of the receipt and processing of the Molycorp material. 10 C.F.R. § 51.21. See “Environmental Assessment for International Uranium

(USA) Corporation's Uranium Mill Site; White Mesa, San Juan County, Utah; In Consideration of an Amendment to Source Material License SUA-1358 for the Receipt and Processing of the Molycorp Alternate Feed," dated November 30, 2001, Hearing File at 6.

DISCUSSION OF SPECIFIC CLAIMS BY INTERVENORS

A. Intervenors' Reliance Upon 10 C.F.R. §51.92(a) is in Error As the Regulation Does Not Require the Staff to Supplement the original FES in this Matter

Intervenors' argument that a supplement to the original FES was necessary in this instance rather than an EA is entirely misplaced. The NRC regulation requiring supplementation of a final EIS, upon which Intervenors rely, states that, "[i]f the proposed action has not been taken, the NRC Staff will prepare a supplement to a final environmental impact statement ... if: (1)[t]here are substantial changes in the proposed action that are relevant to environmental concerns; or (2) [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact." 10 C.F.R. § 51.92(a). This regulation clearly indicates that it applies to situations in which a final EIS has been prepared, but prior to the action taking place, there are either changes in the proposed actions or new information comes to light requiring supplementation of the original environmental review. This is simply not the case in this instance.

The purpose of the original 1979 FES pertaining to White Mesa Mill was to evaluate the potential environmental impacts from construction and operation of the mill. The action upon which this original FES was based has clearly already been taken - the White Mesa facility has been constructed and operational for over twenty years. Therefore, the regulation cited by Intervenors does not apply to completed actions such as the original granting of the source material license in 1979 upon which the original FES was based.

That is not to say that the Staff could not determine a supplement to a final EIS is necessary if new and significant information exists and is brought to the Staff's attention. Section 51.92(b)

provides the Staff with just such discretion, stating that, “[t]he NRC staff may prepare a supplement to a final environmental impact statement when, in its opinion, preparation of a supplement will further the purposes of NEPA.” 10 C.F.R. § 51.92(b). However, to the extent Intervenor attempts to argue that any of the alleged significant new information or circumstances pertain to general issues regarding the construction and operation of the White Mesa mill, this hearing is an inappropriate forum. Issues which involve the general operations of the mill are not pertinent to this license amendment. Rather, this forum is limited to the license amendment under discussion which simply requests authorization for the receipt and processing of Molycorp material without any significant construction or operational modifications to the facility. Consequently, Intervenor’s many attacks on the original FES are not only without merit, but are also inappropriate in this forum.

The appropriate aspect of this forum, just as the appropriate scope of Staff’s environmental review, is the application from IUSA to NRC seeking an amendment to its Source Material License SUA-1358 which would allow the White Mesa Mill to receive and process Molycorp material. The amendment requesting the authority to receive and process the Molycorp material did not involve any significant physical changes to the mill, or modifications to either the mill circuit or recovery process. Staff Affidavit at 2. The amendment did not seek changes to the construction or operation of the facility, but only sought to process and receive a new material at the existing site. Thus, the Staff’s scope of environmental review was completely appropriate in this instance as it properly focused on the proposed action at hand.

B. Intervenors Have Presented No Significant New Circumstances or Information Regarding the License Amendment that Alters Staff's Finding of No Significant Impact in the EA

The proposed action under discussion in the November, 2001 EA was the granting of a license amendment to allow the receipt and processing of Molycorp material. To the extent Intervenors are alleging that new and significant information exists which requires a supplement to the EA, their argument again fails. The Intervenors have presented no new information that would change the Staff's conclusion that this amendment as submitted will not involve any significant environmental impacts. Staff Affidavit at 10.

Intervenors argue that the neither the original FES¹⁰ for the White Mesa facility nor the EA issued regarding this amendment "effectively address[ed] 'alternate feed material' or any non-ore 'ore'. Initially, Staff notes that the original FES did not address alternate feed material, nor was it required to do so. The original FES was drafted to evaluate the potential environmental impacts of the construction and operation of the facility. The license requested at that time did not authorize the processing of alternate feed material. The original FES only evaluated the potential environmental impacts of material that would be authorized under the source material license requested.

In order to process any alternate feed material, such as the Molycorp material, the licensee is required to present an application for a license amendment to add the specific material it seeks to receive and process to its license - which is exactly what occurred in this instance. As part of the review of the license amendment, the Staff prepared an environmental assessment to evaluate the potential environmental impacts of the Molycorp material. Although Intervenors allege that the Staff's review in the EA was inadequate, they provide no specific basis in support of their allegation.

¹⁰ While the Staff maintains that this is an inappropriate forum for discussion of the original FES, whenever possible, the Staff has taken the opportunity to explain Intervenors' concerns in that regard.

Rather, it appears the Intervenors are simply disappointed in the EA's conclusion. NEPA's mandate to agencies has long been determined to be an "essentially procedural" one intended to "ensure a fully informed and well-considered decision, not necessarily a decision the judges ... would have reached had they been members of the decisionmaking unit of the agency." *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978).

The Intervenors also allege that they have presented new information regarding groundwater conditions that was not addressed in the EA for this license amendment. To the contrary, Staff maintains that issuance of this license amendment will not have any significant environmental effects on groundwater. The only substance in this Molycorp material that concerned the Staff from an environmental, health and safety perspective was the lead content, and Staff's concern included potential groundwater impacts from the lead. Staff Affidavit at 3-4. The licensee adequately addressed Staff's concerns regarding any potential groundwater effects from the lead content of the Molycorp material in its January 5, 2001 and March 20, 2001 submittals. Staff Affidavit at 4. See Hearing File at 11 & 13. Intervenors have not presented any significant new information pertaining to the Molycorp material that would cause the Staff to question its conclusion that this license amendment will not result in any significant environmental impacts, including any significant groundwater impacts. Staff Affidavit at 6.

Additionally, the Intervenors make similar arguments in a variety of other areas, including endangered species, and processing and disposal of alternate feed material. Again, the Intervenors have presented no new information that would alter the Staff's finding of no significant impact regarding the receipt and processing of this Molycorp material. Evidence that the information on endangered species is not new is contained in the Intervenors' presentations wherein they state, "the December 2001 EA states that, in addition to these three species, four more species have become endangered or threatened and may occur in the vicinity of the project

site.” See Sierra Club’s Second Supplemental Presentation, pg. 18. Thus, it is evident that the Staff was aware of the additional endangered species potentially existing in the vicinity of the site.

Moreover, the amendment under discussion did not request any changes to its processing or disposal procedures such that a new environmental review regarding alternatives to disposal was warranted. As discussed above, the environmental impacts from the general issues surrounding construction and operation of the mill were analyzed in the original FES, and in two EAs prepared upon renewal of the license. Because the amendment under discussion did not seek to physically modify the facility or its processing or disposal methods, the Staff determined that nothing specific to this Molycorp amendment would result in any significant environmental impact to the environment. Staff Affidavit at 10. The Intervenors have presented no new information that alters the Staff’s conclusion. Staff Affidavit at 10.

C. Intervenor’s Claim that the NRC Must Prepare a Programmatic EIS Regarding an “Alternate Feed Material Program” is Premature, at Best

Intervenors’ allegation that the Staff should perform a Programmatic EIS is also in error. NEPA mandates the preparation of an environmental impact statement on any major Federal action “significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). Additionally, “[w]hen there is a regional plan or when multiple federal programs will have a ‘cumulative or synergistic environmental impact upon a region,’ the relevant agency must prepare a programmatic environmental impact statement (“PEIS”) on the regional plan or on the programs’ combined impact.” *Churchill County v. Babbitt*, 150 F.3d 1072, 1076 (9th Cir. 1998); *citing Kleppe v. Sierra Club*, 427 U.S. 390, 400-02 & 410 (1976) and 42 U.S.C. § 4332(2)(C).

In this instance, Intervenors have presented no information suggesting that the receipt and processing of the Molycorp material is part of a larger, regional alternate feed program. Nor is there any information accompanying this license amendment request which evidences any larger program. In fact, as noted by Intervenors, IUSA had, in the past, considered presenting the NRC

with a request for acceptance of a program regarding processing of alternate feed material. See Sierra Club's Second Supplemental Presentation, pg. 22-24. As also documented by Intervenors, the Staff at that time informed the licensee that if it intended to proceed with its request, an additional environmental analysis would have to be performed, and thus, the licensee would need to supply additional information. *Id.* (Hearing File, Tab C) Presently, however, the NRC has not received any additional information regarding this request. If, in the future, the licensee indicates its desire to proceed with this request, the Staff, at that time, will perform the appropriate environmental review. However, any request to do so at this time is clearly premature.

III. The Approval of the License Amendment was Based on the Staff's Determination that the Supporting Information Was Complete and Accurate

BACKGROUND

NRC regulations require that applications for amendment of a license shall specify the respects in which the licensee desires the license to be amended and the grounds for such amendment. 10 C.F.R. § 40.44. In considering such an application, the Staff is to apply the applicable general requirements set forth in 10 C.F.R. § 40.32. 10 C.F.R. § 40.45. Section 40.9 requires that information provided by a licensee to the Commission must be complete and accurate in all respects.

In the course of applying for the license amendment at issue, as with any license amendment, IUSA submitted supporting information to the Staff for review. The Staff's review is guided by the "Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act," NUREG-1620. As stated in the General Review Procedure, the application should describe the proposed changes in detail and discuss potential environmental and health and safety impacts. When considering a license amendment the Staff only reviews the proposed changes to determine whether they have an adverse impact on the performance or functionality of some of the approved features at the site.

If an adverse impact is found, the Staff then reviews those items for compliance with regulations.

Initially, the Staff conducts an initial acceptance review to assess whether the application is complete, meaning that it contains appropriate analyses and design information to demonstrate that the applicable regulatory criteria will be met. NUREG-1620 at xv. Thereafter, a detailed technical review is performed. During that review, the Staff will request any additional information deemed necessary. *Id.*

For this license amendment request, IUSA submitted a package on December 19, 2000, which included information on material composition and volume, including hazardous constituent data, transportation considerations, process, safety measures and other information. In the course of performing its acceptance review the Staff asked additional questions to which IUSA responded on January 20, 2001, providing details regarding transportation of the material. Additional supplemental information in response to Staff requests was provided in submittals of February 2, March 20, August 15, October 17, and November 16, 2001.

DISCUSSION OF SPECIFIC CLAIMS BY INTERVENORS

A. Intervenors have Identified No Material Accuracies in the Information Relied Upon by the Staff

Intervenors point to a number of alleged inaccuracies in the information provided by IUSA in support of the license amendment, and conclude that the Staff's review was therefore tainted. As explained above, however, the Staff follows a rigorous review process, during which IUSA was asked on numerous occasions to provide written information in response to questions regarding the amendment request. In addition, the Staff is in constant communication with IUSA and through that means was able to resolve additional questions regarding the amendment request.

The Staff's decision to grant the requested amendment was based on a careful review of all of the information submitted, and a determination that it was sufficient to establish that the receipt and processing of the Molycorp material would have no adverse impact on public health and

safety or the environment. The Staff has reviewed the inaccuracies alleged by the Intervenors and concluded that none of the issues raised, alone or collectively, warrant a different conclusion. Staff Affidavit at 5. The specific allegations made by the Intervenors are addressed below.

The Sierra Club takes issue with a statement made in IUSA's Groundwater Information Report which states that there is "no probable cause to believe discharge of tailings water to the underlying perched water zone. . . will occur. . ." As explained in the Staff's Affidavit at 6-10, the Staff in fact concurs with this assessment. However, it should be noted that the Staff does not simply accept every conclusion stated by any licensee. The Staff's conclusions are based on an independent review of all the supporting information; in this instance the hydrogeology of the site, as well as the natural and engineering barriers to prevent contamination of the perched water zone.

Mr. Love points to a number of alleged inaccuracies which he concedes may be insignificant alone, but which he believes are of concern collectively. First, he states that a submission of IUSA refers to the high bioavailability of lead salts, but not the high concentration of lead oxide in Molycorp ponds. The Staff examined the information regarding the contents of the Molycorp material, which is found primarily in a Waste Characterization Study performed on August 8, 1995, by Converse Consultants southwest, with laboratory analysis performed by the California state certified laboratory Lockheed Analytical Laboratory, and found it to be reliable and comprehensive. Indeed, this information lead to Staff concerns regarding the presence of lead which were addressed through mitigative measures. See, Staff Affidavit at 3-4.

Next, Mr Love claims that the plan to place the Molycorp material on pads, which will be constructed of bermed concrete will not protect public workers or wildlife. This actions were actually taken in response to requests by the Staff, which was concerned about the possibility of ground water contamination while the material was stored, awaiting processing. Staff Affidavit at 4. Also on this subject, Mr. Love makes additional claims that IUSA has improperly concluded that the impacts of storing the Molycorp material will be no greater than the storing of mined ores in

view of the high lead content. Again, the Staff agrees with IUSA's conclusion in light of the added precaution of placing the material on the concrete pad. Staff Affidavit at 4.

With regard to thorium, Mr. Love claims that IUSA was incorrect in stating that a comparison can be made of ore processed at the mill in previous years to the Molycorp material. In reviewing this amendment, however, the Staff ascertained that the thorium level in the Molycorp material was not at an unusually high level, and therefore did not warrant additional procedures to mitigate the radiological hazards beyond those already in place. See Staff Affidavit at 5.

With regard to Mr. Love's claims regarding IUSA's representations regarding the State of California, the Staff independently verified that California considers the material to be source material. Staff Affidavit at 3. Moreover, the fact that any particular document, including the memorandum of an independent consultant reference by Mr. Love, is not State certified is in no way a violation of NRC requirements or reason to disregard its accuracy.

Mr. Love makes additional allegations regarding the accuracy of information provided by IUSA, claiming that the State of California is taking action on charges of pollution. The Staff has no knowledge of any reason to believe at this point in time that the information provided was inaccurate.

Mr. Love also argues that IUSA has made false representations about the contents of the Molycorp material in that IUSA has made statements to the effect that similar constituents are found in the tailings cells and that the drummed uranium material is similar to pond uranium. These allegedly false statements must be placed in the context of all of the information submitted by IUSA and reviewed by the Staff. As discussed in the Staff Affidavit at 3-4, the supporting information provided by IUSA included complete characterization of the Molycorp material which was reviewed by the Staff in the course of approving the amendment. Thus, IUSA provided a complete listing of the constituents in the material which the Staff found to be reliable. Any generalizations that

IUSA may have made in statements to the NRC are simply that, and were not relied upon by the Staff in lieu of the detailed characterization provided.

B. Intervenors have Presented no Evidence that IUSA Violated NRC Regulations by Providing Inaccurate or Incomplete Information

Intervenors allege that the issuance of the amendment was improper because IUSA violated the provisions of 10 C.F.R. § 40.9 by submitting incomplete and/or inaccurate information. As discussed above, however, the alleged inaccuracies which Intervenors have identified are primarily conclusions with which Intervenors disagree. The Staff has reviewed all of the allegations, and has not found that IUSA has submitted any information which is inaccurate or incomplete in any material respect. Given the volume of information submitted to support the amendment request, the fact that some information may be misstated in some minor respect is to be expected. The Staff's expectation is not that applications be perfect, but they be accurate and complete in all respects that are material, or significant.

With regard to the conclusions with which Intervenors take issue, it is not surprising that different individuals and entities may reach different conclusions from the same set of facts. The fact that Intervenors, or even the Staff, does not come to the same conclusion does not evidence any inaccuracies in the underlying information; only the interpretation of those facts. As discussed above, the Staff does not simply accept the conclusions of the licensee but instead conducts a wholly independent review to reach its own conclusions.

Intervenors, and particularly Mr. Love, also allege that the information provided by IUSA, and upon which the Staff relied in deciding to approve the amendment was incomplete. In particular, Mr. Love claims that IUSA should have provided an analysis of the reactivity of trace minerals with the processing chemicals used and the storage pond solutions and that testing should have been performed on the liquid phase of the Molycorp material.

As explained above, an important element of the Staff's review of a license amendment application is the determination of whether sufficient information is provided to establish that issuance will not adversely impact public health and safety. This process is an iterative one, in which the Staff performs its review in stages, all the time analyzing the information provided and requesting more and clarifying information as needed. Not until the Staff is satisfied that all the necessary information is received is the license amendment approved. In this case, the Staff was satisfied that the contents of the Molycorp material would not pose any threat to the public health and safety or the environment when processed at the mill.

Ultimately, it is the determination that issuance of the amendment is not inimical to the public health and safety, not the sum or substance of the information submitted by IUSA, that is at issue in this proceeding. Even if the analysis Mr. Love suggests could have been provided, IUSA's failure to do so does not represent a violation of NRC requirements¹¹ or even a reason to conclude that the issuance of the amendment was not appropriate. Mr. Love's suggestions that adverse chemical reactions could occur which would in turn be released from the facility are mere speculation unsupported by any technical basis.

IV. Intervenors have Raised No Potential Groundwater Contamination Issues which Warrant Recission of the License Amendment _____

BACKGROUND

The White Mesa mill is located in central San Juan County, Utah, approximately six miles south of Blanding, Utah. The site of the mill consists of 50 acres and the tailings cells another 450 acres. Ore and other feed material is delivered to the site by truck. Once there, the ore load is

¹¹The provisions of 10 C.F.R. § 40.9 only require that information submitted to the NRC, or required to be maintained by the licensee, be complete and accurate. Failure to submit information would only be a violation of NRC regulations if there is a regulatory requirement to submit the information. The studies Mr. Love is requesting, however, are in no way required to be submitted as part of a license amendment request.

dumped at a specific location on the ore pad. Processing of the material to extract uranium is performed within an enclosure with concrete curbing and sumps to intercept any spillage.

After processing, the mill tailings, along with liquid waste, are placed in the impoundment system which consists of synthetically-lined cells. The cells were constructed by excavating a swale, or a shallow natural basin. Embankments were constructed to form the downstream side of the cell, so that the final elevation matched the natural ground along the edges. Seepage from the cells is controlled by synthetic liners placed over and overlain by layers of packed silt-sand materials. In addition, each cell has a leak detection system which utilizes perforated pipes in a sand layer on the downstream side of the cell. When filled, the surface area of the water surface of each cell is approximately 100 acres.

The tailings discharged from the mill into the cells is a slurry which contains both solid and liquid components. The tailings liquid contains residual acid from the leaching of the material during processing which is performed on all mill tailings as well as dissolved solids placed in solution by the leaching and solvent extraction. The composition of the waste solution was estimated to contain a pH of 1.8-2.0 and lead in the amount of 0.001 grams/liter¹² in the Final Environmental Statement of May 1979, NUREG-0556, at 3-11. The existing material in tailings cell 3, which will receive the tailings from the processing of the Molycorp material is 1,587,056 tons. The Molycorp material will comprise no more than 17,750 tons. Therefore, the Molycorp material will account for approximately 1.1% of the tailings in cell 3 once processing is completed.

The licensee implements a groundwater monitoring program which is required under its license (License Condition 11.3). The monitoring system was designed to detect potential releases

¹²The NRC follows a standard review plan when reviewing reclamation plans for mill tailings sites under Title II of UMTRCA, NUREG- 1620, in order to assess environmental impacts and compliance with regulatory compliance with respect to matters such as operation and reclamation. The constituents commonly associated with uranium mill tailings is found in Table 4.1.3-1 on page 4-9. That table includes lead as an inorganic constituent.

to groundwater from mill processing wastes, and is outlined in a report entitled "Points of Compliance, White Mesa Uranium Mill," submitted by letter dated October 5, 1994. Under this program, samples are collected quarterly from five "point of compliance" wells placed in locations which are expected to be the first to detect contamination. Samples from the wells are analyzed for chloride, potassium, nickel and uranium. These are indicator parameters, meaning that any seepage from the tailings cell would most likely be detected through one of these elements first, since they are typically more mobile in groundwater and can be distinguished from natural background water quality.

Data from the wells is analyzed to determine whether they exceed certain controls levels that have been established for the indicator parameters. If the control levels are exceeded, a program of confirmatory sampling is performed over a six month period. If a statistically significant difference is found when the samples collected during the confirmatory period and those analyzed to determine background levels, a corrective action plan must be developed.

DISCUSSION OF SPECIFIC CLAIMS BY INTERVENORS

A. Intervenors Present No Evidence to Conclude that Issuance of the Amendment was Improper Because Groundwater Contamination Will Result from Leakage from the Tailings Cells

Mr. Love and the Sierra Club allege that tailings cell 3, which they allege will receive most of the effluent from the processing of the Molycorp material, was improperly constructed, has a defective liner, and is probably leaking. The Utes also conclude that the tailings cells are leaking, and therefore contaminating ground water, based on their allegation that uranium, ammonia and gross alpha contaminants have been detected in wells. Because the solution in the tailing cell is acidic, they claim that it will dissolve lead compounds and eat through the strata underlying the cell until it reaches groundwater. Further, they allege that since the lead is in solution, it will move freely and permeate into the subsurface, surfacing in springs and seeps and thereby threatening the health of humans and wildlife. Mr Love states that the state of Utah has expressed concerns

with the tailings cell and claims that until the state's concerns are satisfied, no additional material should be placed into the cell.

As a threshold matter, issues regarding the construction and maintenance of the tailing cells, and for that matter any aspect of the construction and maintenance of the mill are not appropriate subjects for this proceeding. The design and construction of the tailings cells was approved and licensed long ago. The only matters for consideration at this time are those specific to the license amendment being considered, concerning the receipt and processing of the Molycorp feed material.¹³

This is not to say that the NRC is not concerned with continuing safe operation of the mill. The NRC has ensured that a leak detection system is in place for each of the tailings cells is in place and, through license condition, that groundwater is continuously monitored and if any leakage is detected, a corrective action plan is implemented. Periodic inspections are conducted by the NRC to ensure that compliance with the license and NRC regulations is maintained.

The NRC also responds to safety concerns identified by people outside the agency, such as the ones presented here by the Intervenors. However, the proper forum to raise such concerns formally is the process outlined in 10 C.F.R. § 2.206. Under that regulation, any person may file a request to modify, suspend, or revoke a license, or take any other action as may be proper to address the issue. Within a reasonable time after receiving the request, the appropriate NRC Office Director must either take the action requested or provide the person for the reasons the request was not granted. Thus, the Staff will take a careful look at the allegation to determine

¹³ Thus, the variety of claims raised by Intervenors regarding the dangers imposed by the cell, including the allegation of the dangers to wildlife from drinking from the ponds, need not be specifically addressed. All of these issues were considered upon original licensing and renewal of IUSA's Source Material license, and because this license amendment did not in any way seek to alter the tailing cells as originally licensed, these claims, just as those regarding construction of the cell are inappropriate in this forum.

whether a genuine safety concern has been identified and, if so, ensure that action is taken to address it.

As explained in Staff Affidavit at 6-10, the Staff approved operation of the mill based on a determination that the hydrogeology of site and the engineered barriers would prevent the contamination of ground water. Recognizing that not all barriers will perform perfectly at all times, leak detection systems were placed beneath each of tailings cells and groundwater monitoring is performed on a continuous basis. If any contamination is detected, a corrective action plan to address the problem must be implemented. To the Staff's knowledge, the groundwater monitoring conducted at this site thus far has not detected any contaminants attributable to operation of the mill. Thus, the fact that leaks may be possible has been accounted for in the design of the facility and the licensing of the mill. These are not issues to be revisited at the time a specific license amendment is issued.

With respect to the license amendment at issue, the Staff's review was appropriately much more limited. Rather than reviewing the overall design of the mill, and all of the safety and environmental implications of operating such a mill, the Staff considered whether the specific chemical constituents found in the Molycorp material would have an adverse impact on public health and safety. Of the constituents found in the material, the only one of concern to the Staff was the presence of relatively high levels of lead. See Staff Affidavit at 3-6. Specifically, the Staff addressed two concerns. First, the possibility of lead exposure from airborne dust was addressed by IUSA by implementation of a dust suppression system consisting of water sprays. Secondly, the Staff was concerned about contamination of ground water while the material was stored on the ore pad because the material also has a relatively high moisture content. To alleviate this concern, IUSA will store the material on a bermed concrete pad.

The remaining constituents of the Molycorp material were not found to raise any concerns regarding the safe operation of the mill. Indeed, with regard to the Intervenor's claims that

contamination will be the consequence of the acidic nature of the solution in the tailings cell, which will contain elements such as lead in solution, these conditions the result of normal operation of the mill and therefore were considered the Staff beginning when the mill was originally licensed. The Staff's approval of the operation of the mill originally, and when the license was subsequently renewed, was premised on a determination that adequate safeguards were in place to prevent contamination of the groundwater from highly acidic liquid containing dissolved elements including lead in the tailings cells. Intervenors here have not posed any reason to conclude that there is some unique characteristic of the Molycorp material which would adversely impact the integrity of those safeguards.

B. Intervenors have Presented No Evidence Indicating that Issuance of the Amendment Was Improper Because Groundwater Contamination, Including Chloroform, Has Occurred As a Consequence of Mill Operations

Intervenors allege that because chloroform has been detected in the monitoring wells at the mill, the chloroform contamination must be the consequence of mill operations and therefore processing of the Molycorp material should not be permitted. In support of this allegation, Intervenors point to information provided by the State of Utah Department of Environmental Quality Division of Radiation Control, which is conducting an ongoing investigation to ascertain the source of the contamination. The Utes claim that the groundwater is also contaminated by other constituents, including iron, manganese, selenium, and tetrahydrofuran, as well as gross alpha contamination, which they believe may be linked to the processing taking place at the mill.

Once again, Intervenors are questioning the design and operation of the mill. As discussed above, the design and operation of the mill has already been approved and licensed by the NRC and cannot be revisited in this proceeding. The proper avenue for raising this concern to the NRC is through the 10 C.F.R. § 2.206 process. If, in response to that Petition, the Staff determines that mill operations have contaminated ground water, appropriate action to address the issue will be required, including corrective actions if necessary.

Before taking any action in response to such a Petition, the NRC would make a number of determinations. At the outset, it must be noted that the presence of contaminants is significant only if they are above background, or at levels which are greater than those found in water in the area generally. While the Utes claim that a number of pollutants have been identified in wells, they do not provide any reason for concluding that these are present at levels above what would be expected in that area.

Furthermore, contaminants may be present in the water which are from sources other than the operation of the mill. Thus, as a second step the Staff would have to determine whether any contaminants found in the groundwater are attributable to NRC licensed mill operations. In this regard, the Staff notes that the only documented evidence of ground water contamination above background levels provided by the Intervenors concerns the chloroform that has been detected in the monitoring wells at the site. Despite an extensive, ongoing investigation by the State of Utah into this matter, however, the cause and/or source of the chloroform contamination has not yet been established¹⁴. Thus, Intervenors have provided no evidence to support the allegation that chloroform is contaminating the ground water as a result of the mill operations that will be used to process the Molycorp material.

Finally, even if the NRC were to conclude based on other evidence that ground water had been contaminated by mill operations, the action taken by the NRC would necessarily depend upon the underlying reason for the contamination. Any current contamination would obviously be the consequence of past discharges. If the source is found to be from a discharge that will not recur, current mill operations could continue despite the contamination. Only if the contamination

¹⁴See, Letter from William J. Sinclair, Director, State of Utah Department of Environmental Quality Division of Radiation Control, dated February 20, 2002. (Attached to IUSA's April 9, 2002, Response to Ute Mountain Ute Tribe's Written presentation)

is found to the consequence of *ongoing* mill operations, would it be appropriate to take action which would prevent the processing of additional feed material.

In conclusion, Intervenors have an avenue to obtain the relief they seek. It is not, however, in this license amendment proceeding which is limited to the issue of whether the characteristics of the Molycorp material present any adverse impacts on the public health and safety.

V. Remaining Miscellaneous Arguments

A. Intervenors' Allegation that IUSA is in Violation of § 40.38 is Erroneous

Mr. Love contends that IUSA is “a wholly foreign controlled and owned corporation” and thus, in violation of 10 C.F.R. § 40.38. See Petitioner William Love’s Written Presentation, pg. 24. Section 40.38, upon which Mr. Love relies, states that certain applicants, including a “Corporation [that] is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government” is ineligible to receive a license. 10 C.F.R. § 40.38(a). The term “Corporation”, however, is defined in 10 C.F.R. § 40.4 as “... the United States Enrichment Corporation (USEC), or its successor, a Corporation that is authorized by statute to lease the gaseous diffusion enrichment plants in Paducah, Kentucky, and Piketon, Ohio, from the Department of Energy, or any person authorized to operate one or both of the gaseous diffusion plants, or other facilities, pursuant to a plan for the privatization of USEC that is approved by the President.” IUSA, the licensee at issue, does not meet this definition of “Corporation” and thus, the provisions of 10 C.F.R. § 40.38 do not apply in this instance. Therefore, the Staff respectfully requests that Intervenors’ argument requesting suspension, rescission, and/or revocation of License Amendment 20 to SUA-1358 due to alleged violation of 10 C.F.R. § 40.38 be denied.

B. Intervenors' Assertion that IUSA is Required by 10 C.F.R. § 40.31(j)(1)(ii) to Provide an Emergency Plan is Mistaken

Mr. Love asserts that "IUSA emergency plans for Moab City and Grand County are not yet completed as required under 10 C.F.R. § 40.31(j)(1)(ii)..." However, Mr. Love has apparently misunderstood the cited NRC regulation. NRC's regulations at 10 C.F.R. § 40.31 provide details regarding applications for specific licenses. Specifically, § 40.31(j) requires that, "each application to possess uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total" must contain either, information regarding potential public intake of uranium in a release; or, and most pertinent here, "an emergency plan for responding to the radiological hazards of an accidental release of source material and to any associated chemical hazards directly incident thereto." 10 C.F.R. § 40.31(j)(1)(I-ii). Clearly, this requirement for an emergency plan applies to applications for a specific license to possess uranium hexafluoride in the aforementioned quantities. The license amendment at issue here did not seek such possession, but instead sought authorization of the receipt and processing of the Molycorp material, an alternate feed material, not uranium hexafluoride. Consequently, the Staff respectfully requests that Intervenors' claim that the license amendment under discussion be suspended or rescinded pending compliance with 10 C.F.R. § 40.31(j)(1)(ii) be denied.

CONCLUSION

For the reasons stated above, the Staff respectfully requests that Intervenors' claims that License Amendment 20 to SUA-1358 be suspended, rescinded, or revoked, be denied.

Respectfully submitted,

/RA/

Lisa B. Clark
Counsel for NRC Staff

/RA/

Angela B. Coggins,
Counsel for NRC Staff

Dated at Rockville, Maryland
this 20th day of May, 2002

May 17, 2002

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of)
) Docket No. 40-8681-MLA-11
INTERNATIONAL URANIUM (USA))
CORPORATION)
)
(White Mesa Uranium Mill))

AFFIDAVIT OF WILLIAM VON TILL

I, William Von Till, being duly sworn, state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards in the Uranium Processing Section, Fuel Cycle Facilities Branch of the Division of Fuel Cycle Safety and Safeguards. I am the NRC Project Manager responsible for managing environmental and safety reviews for International Uranium (USA) Corporation's White Mesa facility at White Mesa, Utah, and have served in this capacity since June, 1999. A statement of my professional qualifications is attached.

2. In preparation of this affidavit, I read (1) Petitioner William Love's 10 C.F.R. 2.1233 Written Presentation for Suspension and or Revocation of Amendment 20 to License SUA-1358 and License SUA-1358, dated April 1, 2002; (2) Petitioner Sierra Club's 10 C.F.R. § 2.1233 Written Presentation Requesting Suspension, Modification, or Revocation of Amendment 20 to License SUA-1358, dated April 1, 2002; (3) Supplement to Petitioner Sierra Club's 10 C.F.R. § 2.1233 Written Presentation Requesting Suspension, Modification, or Revocation of Amendment 20 to License SUA-1358, dated April 10, 2002; (4) Second Supplement to Petitioner Sierra Club's 10 C.F.R. § 2.1233 Written Presentation Requesting Suspension, Modification, or Revocation of Amendment 20 to License SUA-1358, dated April 14, 2002; and (5) Third Supplement to Petitioner

Sierra Club's 10 C.F.R. § 2.1233 Written Presentation Requesting Suspension, Modification, or Revocation of Amendment 20 to License SUA-1358, dated April 15, 2002.

3. The purpose of this affidavit is to address the basis for the Staff's granting of License Amendment 20 to Source Material License SUA-1358. The Molycorp material which is the subject of the amendment resulted from the extraction of lanthanides and other rare earths and consists of 17,750 tons of lead sulfide sludge with an average uranium content of approximately 0.15%. The Molycorp material will be temporarily stored on a bermed concrete pad on the ore pad until a sufficient quantity of ore is available for processing. Dust control will be implemented, as necessary, to minimize dusting during operations. The material will be processed utilizing an acid leach, in existing mill equipment, to dissolve uranium. The solution will be advanced through the remainder of the mill circuitry with no significant modifications to either the mill circuit or recovery process. Since no significant physical changes to the mill will occur from this action, no significant impacts beyond those previously assessed will be involved. Waste from the processing of the Molycorp material will be placed in the existing tailing cell 3. Tailings cell 3 is a 70 acre lined cell with leak detection and groundwater monitoring that has been previously approved by the NRC.

4. In my review of the proposed license amendment, I followed the formal guidance, "Interim Guidance on the Use of Uranium Mill Feed Material Other Than Natural Ores" provided in the NRC Regulatory Issue Summary 2000-23 that was mailed to uranium recovery licensees on November 30, 2000 (Also known as "Alternate Feed Policy"). I also reviewed health, safety, and potential environmental impacts from the receipt of the Molycorp material and the results of these evaluations are documented in the NRC's December 11, 2001, License Amendment to IUSA and the Environmental Assessment dated November 30, 2001.

5. On October 24, 2001, I, and other NRC staff, participated in discussions with Richard Graham of EPA's Radiation and Indoor Environment Unit, and Terry Brown of EPA's Solid

Waste and Hazardous Waste Program concerning this issue. During that conversation, the EPA representatives stated that they did not see a concern with the NRC's classification of the materials as source material.

6. I spoke to Barbara Hamerick, of the Radiological Health Branch, Department of Health Services, for the State of California on November 19, 2001. In review of the Molycorp request, I asked Ms. Hamerick the following questions:

1. **Question:** Does California consider the material in question at Molycorp (pits and 35 drums) to be "Source Material".

Response: Yes, California considers the material to be "Source Material".

2. **Question:** Has California classified any of the material as a hazardous waste?

Response: No.

3. **Question:** Do the 35 drums fall under the California Radioactive Material License Number 3229-36?

Response: Yes

7. I reviewed material supplied by the IUSA Molycorp submittals that characterized the Molycorp material. This includes IUSA's December 19, 2000 submittal, and supplemental information in letters dated January 29, 2001, February 2, 2001, March 20, 2001, August 15, 2001, October 17, 2001, and November 16, 2001. Much of the characterization of the material was conducted in a Waste Characterization Study performed on August 8, 1995, conducted by Converse Consultants Southwest with laboratory analysis performed by the California state certified laboratory Lockheed Analytical Laboratory. From my review of the chemical constituents in the Molycorp material and their concentrations it was my opinion that the only constituent of concern from a public health and safety, and environmental perspective, was lead. Many of the chemical

constituents in the Molycorp materials are at such low concentrations that I determined potential impacts were not probable from the material being temporarily stored on a concrete pad or from the process waste stored in lined tailings cells with leak detection and groundwater monitoring, and with the dust suppression procedures utilized at the mill.

8. Specifically, I reached the following conclusions regarding the presence of lead, copper, thorium and barium in the Molycorp material:

A. Lead (sulfide and oxide): Lead is typically contained in other ores as indicated in the "Final Generic Environmental Impact Statement on Uranium Milling" (NUREG 0706, 1980). The lead values in the Molycorp material were an initial health and safety concern as lead can be harmful if an exposure pathway exists. I raised the issues regarding potential exposure of lead from airborne dust and potential groundwater impact while the material was temporarily stored on the ore pad on an un-lined surface with the licensee. Regarding the airborne lead exposure, IUSA adequately addressed these concerns, in lengthy detail, in their January 5, 2001, and March 20, 2001 letters. Due to the lead content in the material and the fact that the Molycorp material has a higher moisture content than other materials processed at this mill, IUSA agreed to store the material on a bermed concrete pad in their March 20, 2001 submittal to prevent contamination of the ground water while the material was stored on the ore pad before processing. The ore pad is an area at the mill where ore is temporarily stored until it is processed. Thus, the material will be temporarily stored on a bermed concrete pad to prevent groundwater contamination and a dust suppression program will be implemented by the mill to prevent lead airborne exposure. These measures will also prevent contamination of ground water or inhalation of dust from the other constituents in the Molycorp material.

B. Copper: As indicated in Table 5.3. of the "Final Generic Environmental Impact Statement on Uranium Milling" (NRC, 1980), copper is typically found in mill tailings.

C. Thorium: As indicated in Table 5.3. of the "Final Generic Environmental Impact Statement on Uranium Milling" (NRC, 1980), thorium is typically found in mill tailings. Thorium-230 levels in the Molycorp material are below levels anticipated in generic mill tailings.

D. Barium: Barium is also a typical constituent found in mill tailings and ore. Barium in the Molycorp material is somewhat higher than in an average ore, however, dust suppression actions and the bermed concrete prevent any adverse impact to public health and the environment.

9. Based upon my professional judgment, there is nothing in the Molycorp material that would compromise the integrity of the tailings cell. This cell is designed to safely contain tailings materials from the processing of ore at the facility which contain a variety of chemical constituents including acidic chemicals and heavy metals.

10. I also ensured that the information I needed to review the Molycorp license amendment application was complete. The staff issued a technical evaluation report in staff's December 11, 2001 license amendment and an environmental assessment in staff's November 30, 2001 letter. The technical evaluation report covers health and safety concerns and the environmental assessment covers potential environmental impacts of this action.

11. I have reviewed the allegations of inaccurate and/or incomplete information regarding the amendment application. None of the issues raised, alone or collectively, alter my opinion that the issuance of the amendment was appropriate. With regard to the specific allegations, I have the following comments:

A. The Molycorp material will be stored on a bermed concrete pad prior to processing. This measure should prevent groundwater contamination from the material as it is stored on the ore pad. Further, a dust suppression system will be implemented to prevent lead airborne exposure from the material while it is stored on the ore pad.

B. Both natural ore and alternate feed ore contain uranium and thorium and their progeny. As part of the review of the amendment, staff determined that thorium levels in this material were not at an unusually high level which would warrant procedures at the mill to mitigate the radiological hazards of this material beyond the procedures already in place to mitigate the radiological hazards of source material at the mill. In addition, the mill implements an environmental monitoring program to assure that the public is safe from the radiological hazards of these materials which include air monitoring stations. The NRC staff performs semi-annual inspections to ensure that these procedures are implemented in accordance with the regulations and White Mesa's license conditions.

C. Following my initial review of the amendment application, the only material in the Molycorp material that concerned me from an environmental, health, and safety standpoint was lead, which the licensee addressed to staff's satisfaction. I have reviewed Mr. Love's statements in his written presentation, and nothing in his presentation has caused me to question my original assessment.

12. For the following reasons, the NRC staff does not believe that groundwater beneath or in the vicinity of the site will be adversely impacted by the receipt and processing of Molycorp material at the mill:

A. There are basically two pathways by which the Molycorp material could theoretically migrate into groundwater. The first is while the material temporarily is stored on the ore pad. Staff and IUSA addressed this pathway by the Molycorp material being placed on a concrete pad that will be bermed around the edges to contain moisture. The fact that the Molycorp material will be contained on a bermed concrete surface, should itself, as long as it is properly maintained, prevent any seepage of the Molycorp material into underlying soils and then groundwater. Maintenance of the Molycorp material, as it is temporarily stored on the ore pad, will

be evaluated by NRC inspectors during routine semi-annual inspections. The Molycorp material is estimated to be on the ore pad only temporarily prior to a mill processing run.

B. The second potential theoretical pathway for Molycorp material to migrate to groundwater is when the waste from the processing of the Molycorp material is placed in tailings cell 3. It is important to point out that the Molycorp material waste represents a small percentage of material that is in cell 3. The Molycorp material is a maximum of 17,750 tons and the existing material in tailings cell 3 is 1,587,057 tons. Therefore, the Molycorp material would account for approximately 1.1% of the tailings in cell 3. Tailings cell 3 is a 70 acre cell constructed to accept tailings slurry and solutions and other approved wastes. This cell has been designed and constructed to minimize seepage of tailings fluids into the subsurface. Cell 3 has a 6-inch compacted sandstone bedding layer, an overlying synthetic liner, and a leak detection system consisting of: (1) a 12-inch thick compacted sand layer on the upstream face of the downstream retention dike, (2) a 3-inch diameter perforated pipe installed at the toe of the sand layer, and connecting to (3) a 12-inch diameter access riser pipe (See Environmental Assessment for Renewal of Source Material License SUA-1358, 1997).

C. As part of IUSA's inspection procedures for the tailings management system, daily measurements are taken of liquid levels in the leak detection system for each cell. If specific changes in these levels are recorded, site management is notified immediately. Quarterly sampling of a number of monitor wells completed in the Burro Canyon perched water zone and located around and among the tailings cells, is also required by IUSA's inspection procedures.

D. If the Molycorp material were to theoretically seep from the tailings cell it would have to migrate through 73-110 feet (See Environmental Assessment for Renewal of Source Material License SUA-1358, 1997) of unsaturated material before encountering the first groundwater zone in the Burro Canyon formation. Then to flow into the Entrada/Navajo aquifer that

the Ute's use as a water supply, seepage would have to travel through an approximately 1200-foot thick low-permeability barrier consisting of the Morrison and Summerville Formations that separate the Entrada/Navajo Aquifer from the Burro Canyon perched zone. The NRC staff considers that this barrier makes it very unlikely that constituents from the tailings disposal cells would ever impact water quality of this aquifer.

E. If the Molycorp material were to theoretically seep from the tailings cell, it should be detected by the licensee's groundwater detection monitoring program. The licensee implements a groundwater monitoring program as required in its license (license condition 11.3). This groundwater detection monitoring system was designed to assure compliance with 10 C.F.R. Part 40, Appendix A, and is implemented in accordance with the report entitled "Points of Compliance, White Mesa Uranium Mill," submitted by letter dated October 5, 1994. The monitoring system is designed to detect potential releases to groundwater from mill processing wastes from the processing of natural and conventional ores. Under this program, samples are collected quarterly from five "point of compliance" (POC) wells, completed in the Burro Canyon Formation (wells WMMW-5, -11, -12, -14, -15, and -17). These wells were set in locations to provide early detection of seepage from the tailings cells. These samples are analyzed for chloride, potassium, nickel, and uranium, and water level measurements also will be taken. IUSA selected these indicator parameters because the concentrations of these species are significantly higher in the tailings pond fluid than in the perched water of the Burro Canyon. It is common practice in a groundwater detection monitoring program to use indicator parameters, such as those used here, to detect the presence of seepage from a tailings cell. Indicator parameters are selected because they are typically more mobile in groundwater and can be distinguished from natural background groundwater quality.

F. The data is then analyzed using the Shewhart-Cusum control chart technique which uses a statistical methodology to identify an exceedance from natural background groundwater quality. These charts have been developed on a well-by-well basis, with a separate control chart for each of the four indicator parameters. If limits on the control charts are exceeded for a parameter at a well, a program of confirmatory sampling will commence. This will involve monthly sampling for six months; a separate analysis-of-variance technique will be employed to determine whether there is a significant difference between these samples and those collected prior to the confirmatory sampling program. If the data are significantly different, then a corrective action plan will be developed.

G. Finally, even if groundwater contamination were detected in the adjacent monitoring wells in the Burro Canyon Formation, the NRC would require the licensee to perform corrective action in accordance with 10 C.F.R. Part 40, Appendix A, Criterion 5D which states:

If the ground-water protection standards established under paragraph 5B(1) of this criterion are exceeded at the licensed site, a corrective action program must be put into operation as soon as practicable, and no later than eighteen (18) months after the Commission finds that the standards have been exceeded.

The objective of the corrective action program is to return hazardous constituent concentration levels in ground water to the concentration limits set as standards.

H. In addition, in a letter to Mr. Bill Love from William Sinclair, Director of the Division of Radiation Control, Utah Department of Environmental Quality, dated February 20, 2002 (IUSA Response April 9, 2002), states that:

Several factors combine that allow us additional time to investigate and remediate the groundwater pollution [chloroform] at the IUC facility, including:

1. *The isolated location of the IUC facility on White Mesa that provides long distances between the contaminant plume and the facility boundaries.*

2. *The lack of shallow aquifer wells in a downgradient direction, both on and off the IUC facility, that could become possible points of exposure to the public; and*
3. *Local hydrogeologic conditions that hydraulically isolate and prevent the shallow aquifer contamination from adversely impacting the deep confined aquifer that provides drinking water to the other groundwater users in the region.*

13. For the Molycorp amendment, the potential environmental impacts resulting from the receipt and processing of the Molycorp alternate feed material were evaluated in an Environmental Assessment, dated November 30, 2001. After evaluating the potential impacts associated with the receipt and processing of the Molycorp material, I, as the Project Manager for the White Mesa Mill, with the assistance of other technical staff and approval of management, concluded that there were no significant environmental impacts associated with the proposed action as submitted.

14. I have reviewed all of the presentations filed by Sierra Club and Mr. Love in this matter and continue to support the initial conclusion that the receipt and processing of this Molycorp material will not result in any significant environmental impacts.

W. Von Till
May 17, 2002

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15. The foregoing is true and correct to the best of my knowledge and belief.

/RA/

Randolph William Von Till

Sworn and subscribed before me
this ____ day of May, 2002

Notary Public
My Commission expires: _____

PROFESSIONAL QUALIFICATIONS STATEMENT

William von Till
Uranium Processing Section
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Office of Nuclear Material Safety and Safeguards

I am a Project Manager in the Uranium Processing Section, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, in the Office of Nuclear Material Safety and Safeguards. My duties include planning, managing, and participating in projects involving the policy, safety, and environmental considerations associated with the NRC program of licensed uranium recovery facilities and conducting technical reviews concerning groundwater monitoring and remediation at Uranium Recovery sites. I have been the NRC project manager for the White Mesa facility since June of 1999 and started my employment with the NRC on May 9, 1999.

From August 1, 1991 to May 8, 1999, I was a Senior Project Manager/Senior Hydrogeologist with the Virginia Department of Environmental Quality. In this job I managed and performed technical reviews of groundwater investigation/remediation projects and programs including Department of Defense facilities and base closures, chlorinated solvent leaks, and high profile Leaking Underground Storage Tank sites within the regulatory framework of the Resource Conservation and Recovery Act, and Comprehensive Environmental Response, Compensation, and Liability Act.

From January of 1991 to August of 1991 I worked as a Senior Hydrogeologist for Handex Incorporated. I managed and conducted various subsurface investigations including Site Characterizations, Corrective Action Plans, Underground Storage Tank Site Closure Assessments, Site Checks, Initial Abatement Reports, Phase II preliminary Site Assessments, Property Relinquishment Assessments, and Quarterly Reports. These sites are regulated under the Resource Conservation and Recovery Act.

From May, 1, 1988 to January 1, 1999, I worked as a Regional Geologist for the Virginia Department of Environmental Quality. I administered and implemented the regional Underground Storage Tank program. I conducted site investigations in response to Underground Storage Tank releases and coordinated investigative and remedial actions. I reviewed Corrective Action Plans, Site Characterization Reports, Alternate Water Supply sites, State Lead Sites, Underground Storage Tank closure reports, and other environmental investigations. I managed over 400 projects and reviewed over 500 reports in this period. These sites were regulated under the Resource Conservation and Recovery Act.

My formal education consists of study in Geology at Radford University where I received a B.S. in Geology in May of 1988 and study in Geology at East Kentucky University where I received a M.S. in Geology in August of 1993. As part of my M.S. I completed a Thesis entitled "Hydrogeology of the Sinking Creek Valley, Craig County, Virginia" that involved a series of tracer tests and running a chemical equilibrium modeling code to determine the flow paths of groundwater and the geochemical conditions of the groundwater as it flowed through the subsurface in a mature karst geologic setting.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of)
)
INTERNATIONAL URANIUM (USA)) Docket No. 40-8681-MLA-11
CORPORATION)
WHITE MESA URANIUM MILL)
)
(White Mesa Uranium Mill))

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC STAFF'S RESPONSE TO WRITTEN PRESENTATIONS FILED BY INTERVENORS SIERRA CLUB AND WILLIAM LOVE" have been served upon the following persons by United States mail, first class; through the Nuclear Regulatory Commission's internal mail distribution as indicated by an asterisk (*), and by electronic mail as indicated by a double asterisk (**) on this 20th day of May, 2002.

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