

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judge  
Peter B. Bloch

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USNRC

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In the Matter of )  
 )  
THE CURATORS OF )  
THE UNIVERSITY OF MISSOURI )  
 )  
(Byproduct License )  
No. 24-00513-32; )  
Special Nuclear Materials )  
License No. SNM-247) )

Docket Nos. 70-00270  
30-02278-MLA

RE: TRUMP-S Project

ASLEP No. 90-613-02-MLA

**LICENSEE'S SUBMITTAL IN ACCORDANCE WITH  
"MEMORANDUM (MEMORANDUM OF  
CONFERENCE CALL OF OCTOBER 19, 1990)"**

Intervenors (on behalf of themselves and the Individual Intervenors) filed on October 15, 1990, the Written Presentation of Arguments of Intervenors and Individual Intervenors ("Intervenors' Written Presentation") and Intervenors' Renewed Request for Stay Pending Hearing ("Renewed Stay Request").

During a conference call on October 19, 1990, Licensee's counsel pointed out that since Intervenors' request for a stay apparently incorporated their entire direct case, a full and complete response to the Renewed Stay Request would require Licensee to present its entire direct case within 10 days after service (i.e., by October 30, 1990). In response to Licensee's request that the time for its response to the Renewed Stay Request be extended to the same date that its direct case is due (November 14, 1990), the Presiding Officer ordered that:

1. The due date for Licensee's response to the request for a stay was extended to November 14, 1990 except for the two following matters:

a. Licensee will respond to Intervenor's allegation that the plutonium possessed by Licensee exceeded 2 curies and that Licensee possessed plutonium in excess of the amount authorized by the subject license amendment; and

b. Licensee will respond to Intervenor's allegation that the Columbia Fire Department would not fight a fire at the Alpha Laboratory involving radioactive materials, and Licensee will describe the arrangements with the Columbia Fire Department that provide assurance of an adequate response to a fire relating to the TRUMP-S experiments.

2. Licensee will call NRC Region III and/or NRC counsel on October 19, 1990 to inform the NRC Staff of Intervenor's allegations that Licensee possesses plutonium in excess of the amount authorized by the subject license amendment. <sup>1</sup>/

See Memorandum (Memorandum of Conference Call of October 19, 1990) ("Memorandum of Conference Call") at 4 (Oct. 30, 1990).

During the conference call of October 19, 1990, the Presiding Officer did not inform the Licensee that he was considering taking immediate action or direct the Licensee to respond immediately to any allegations of the Intervenor. Nevertheless, on October 20, 1990, apparently based solely upon

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<sup>1</sup>/ Licensee so informed Region III on October 19, 1990, and counsel for the NRC Staff on October 22, 1990 (after attempting to do so on October 19).

his further consideration of the matter, the Presiding Officer issued a stay of TRUMP-S experiments involving plutonium, neptunium and americium, prior to receiving any response from Licensee. See Memorandum and Order (Grant of Temporary Stay), LBP-90-35, \_\_\_ NRC \_\_\_ ("Temporary Stay Order") (issued on Oct. 20, 1990; reissued with editorial changes on Oct. 22, 1990). Although that Order permits Licensee to respond at the earliest opportunity that it chooses, it does not modify the schedule for required submittals under the order quoted above issued during the conference call of October 19. Accordingly, this present submittal by Licensee is submitted in accordance with that schedule and consists solely of information responding to the order quoted above. 2/

The Memorandum of Conference Call (at 7) also required Licensee to inform Intervenors and the Presiding Officer if it disagrees with Intervenors' interpretation of the Seehars and Schwendiman articles. Licensee does disagree with Intervenors' interpretation. Accordingly, Intervenors should provide for the record copies of those articles or the portions thereof relied upon by Intervenors.

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2/ Licensee will respond to other matters raised in the Temporary Stay Order either in its direct written presentation, in its response to the Renewed Stay Request or in other filings.

Possession of Plutonium

In their Renewed Stay Request (at 5), Intervenors incorporated their entire direct case by stating "Intervenors' written presentation, filed herewith, and incorporated herein by reference, demonstrates many reasons why they must prevail." However, they did not include in the Renewed Stay Request any of the arguments from their direct case relating to Licensee's application for a license amendment for plutonium or relating to Licensee's possession of plutonium, and the Renewed Stay Request is silent on those subjects. Nevertheless, as noted above, the Presiding Officer directed that the Licensee respond by October 30 to Intervenors' allegations on these subjects contained in their direct case. 3/

The basic allegations of the Intervenors are that Licensee's application was deficient because it failed to identify accurately the isotopic composition and curie content of the plutonium to be used by Licensee in the TRUMP-S experiments, and that the Licensee possesses unlicensed plutonium. Intervenors' Written Presentation at 16-19.

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3/ During the conference call on October 19, 1990, Licensee's counsel represented that Licensee had laboratory analyses supporting its license application for plutonium, that Licensee did not possess in excess of 2 curies of plutonium and that it was in compliance with its license. Nevertheless, without requesting that Licensee submit such supporting information immediately, the Presiding Officer relied in part on the contested allegations of the Intervenors on these subjects in issuing his ex parte order on October 20. Temporary Stay Order, slip op. at 3-4, 8-9.

As shown in the attached Affidavit of Dr. J. Steven Morris Regarding Plutonium Content ("Morris Plutonium Affidavit"), the Intervenors' allegations are based upon numerous errors by Intervenors and their experts in Intervenors' Written Presentation, including the principal exhibit thereof, Exhibit 1, "Declaration of the Review Panel."

Dr. Morris' affidavit and attachments thereto demonstrate that the Licensee, on the basis of shipping documents that are supported by laboratory analyses, correctly presented on its application the weight percentages of Pu-239 and Pu-240. Morris Plutonium Affidavit, at ¶¶ 10-16. In addition, based upon the guidance of Regulatory Guide 10.3, "Guide for the Preparation of Applications for Special Nuclear Material Licenses of Less Than Critical Mass Quantities," ("RG 10.3"), Licensee properly determined that, in the context of the Pu-239 and Pu-240, the trace quantities present of Pu-241 and Am-241 did not constitute "significant contaminants," taking into account the "dose contribution" of such contaminants. *Id.* at ¶¶ 7-9, 13. Even if the activity of the Pu-241 is taken into account, neither Licensee's application for nor possession of plutonium exceeds 2 curies. *Id.* at ¶ 16. Moreover, since the Pu-241 is a beta-emitter whose dose equivalent effect is a factor of 50 less than Pu-239 and Pu-240, which are alpha-emitters, its dose contribution is negligible. *Id.* at ¶ 29-33.

Intervenors' errors are spelled out in Dr. Morris' affidavit. Perhaps the most egregious error is that Intervenors'

made bald claims as to minimum quantities of Pu-241 that had to be present in Licensee's plutonium based on literature searches, without even looking into the possibility that -- as any knowledgeable user would be aware -- the National Bureau of Standards ("NBS") or the New Brunswick Laboratory ("NBL") had plutonium standards available that directly contradicted Intervenor's claims. *Id.* at ¶¶ 20-28. They relied on their preconceived notions, based on literature rather than fact, to accuse Licensee of incompetence. 4/

Intervenor's compounded their error by failing to recognize that RG 10.3 provides for specification on an application of "significant contaminants," and they misled the Presiding Officer by failing to include the succeeding sentence in their quotation from RG 10.3, which emphasizes the importance of dose contribution in determining which contaminants to specify. *Id.* at ¶ 17.

Moreover, Intervenor's misled the Presiding Officer in discussing even their assumed quantities of Pu-241 by considering

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4/ Although the rhetoric in Intervenor's direct case was inflammatory in itself, Intervenor's counsel was later quoted in the Columbia Daily Tribune as follows:

Green said members of the reactor staff were either "deliberately hiding" the other types of plutonium "or were ignorant of it."

"Either way, it makes you think these guys shouldn't be fooling around with this stuff in the middle of town," Green said.

only activity and by ignoring the concept of effective dose equivalent, even though they were well aware that Pu-241 was a beta-emitter and not an alpha-emitter. *Id.* at ¶ 31.

Intervenors' Written Presentation inaccurately represented Licensee's application as seeking authority to possess .07 curies instead of 0.7. Morris Plutonium Affidavit at ¶¶ 17-19. Although Intervenors have filed Intervenors' Correction (undated; served by Express Mail on October 25, 1990), Licensee does not agree with Intervenors' assertion that "The error does not change the substance of the points made." On such a key point, where Intervenors were seeking to compare their alleged quantities of Pu-241 present (5 to 120 curies) to their allegation that a miniscule quantity (.07 curies) of Pu-239 and Pu-240 was identified in Licensee's application, such error by Intervenors loomed large indeed. Such erroneous comparison could well have influenced the Presiding Officer when he reviewed the record overnight in deciding to issue the Temporary Stay Order on October 20. Although the curie content of 0.7 curie was correctly stated in Intervenors' Exhibit 1, there is no indication in the Temporary Stay Order that the Presiding Officer had perceived the discrepancy and was acting with knowledge of the correct version.

The Intervenors have also selectively misused isotopic composition data (*Id.* at ¶ 21, n.8) and have miscalculated Pu-241 activity (*Id.* at ¶ 22).

In summary, there is no merit to the Intervenor's' allegations that Licensee has improperly applied for a plutonium license or is in violation of the license it received.

Fighting a Fire at the Alpha Laboratory

In their Renewed Request for a Stay, Intervenor's allege that the Columbia Fire Department will not fight a fire involving radioactive materials at the MURR Facility, based on Mr. Ottinger's declaration regarding a conversation with a Battalion Fire Chief. Renewed Stay Request, at 5, based on Intervenor's' Exhibit 2. They also allege that there is no plan for dealing with a fire at the Alpha Laboratory, should one occur, and that the Fire Department would not be familiar with precautions that need to be taken in fighting a fire involving transuranics, *Id.* at 5. These allegations, in turn, are based upon somewhat lengthier discussions of these subjects in the Intervenor's' Written Presentation, including Intervenor's' Exhibit 1. 5/

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5/ This portion of Licensee's Submittal provides only the information required by Paragraph 1.b of the order of the Presiding Officer, as quoted above from the Summary of Actions Taken. To the extent that Intervenor's in their various submittals and pleadings have raised additional questions, *e.g.*, whether Licensee's application complied with § 30.32(i), Licensee will respond to them in due course in other pleadings, such as in Licensee's written direct presentation, in its response to the Renewed Stay Request or in its response to Intervenor's' Motion for Summary Disposition and Other Relief filed under § 2.749. It should be noted, however, that § 30.32(i) did not become effective until April 7, 1990 (*see* 52 Fed. Reg. 14051) and thus did not apply to the issuance of Amendment No. 74 to License No. 24-00513-32, which was applied for and issued prior to that date.



The brief answer with respect to Intervenor's allegation that the Columbia Fire Department would not fight a fire involving radioactive materials at the MURR Facility is contained in the attached affidavit of Mr. Erman Call, the Fire Battalion Chief, with whom Mr. Ottinger had previously spoken. See attached Affidavit signed by Erman L. Call, dated October 24, 1990. In the first paragraph of Exhibit A, Chief Call states, among other things, that:

"I advised Mr. Ottinger that according to the Columbia Fire Department's copy of the MURR Emergency Plan, discussions with MURR officials, and on-site exercises which I had participated in that the Columbia Fire Department would perform fire duties in response to an alarm at the MURR. These duties would include fighting a fire which could involve radioactive materials at the MURR facility, including the Alpha Laboratory."

Chief Call states, in his affidavit, that Exhibit A contains his recollection of the conversation he had with Mr. Ottinger on these subjects, and that paragraph 4 of the Declaration of Mr. Ottinger does not accurately reflect what Chief Call told Mr. Ottinger regarding the response of the Columbia Fire Department to a fire at the MURR.

With respect to the assurance of an adequate response by the Columbia Fire Department to a fire relating to the TRUMP-S experiments, detailed information is provided in the attached Affidavit of Walter A. Meyer Regarding Emergency Planning (Meyer Affidavit).

Mr. Meyer is the Reactor Manager at MURR who was personally involved in developing the MURR Facility Emergency Plan and the procedures at MURR that implement such Plan, including the TRUMP-S emergency procedures. Meyer Affidavit at ¶¶ 5-6. He also has responsibilities for implementing such Plan, including training of and exercise drills involving on-site and off-site personnel, and is one of the individuals who could be designated as Emergency Director in the event of an incident, including fire. Id. at ¶ 7.

In his affidavit, Mr. Meyer first describes the objectives and scope of MURR Facility Emergency Plan, and the emergency organizations that have responsibilities under the Plan. Id. at ¶¶ 12-17. He then discusses the general role of the Columbia Fire Department in responding to a fire at the MURR Facility, including the Alpha Laboratory, in accordance with letters from officials of the City of Columbia (the latest of which is dated February 19, 1990). Id. at ¶¶ 18-23. This discussion includes references to the training, site visits and participation in exercise drills by the Columbia Fire Department, which buttress Chief Call's statement that the Department would fight a fire involving radioactive materials at MURR.

Mr. Meyer also describes the features of the Alpha Laboratory that would minimize the effects of a fire, including its location and construction, the fire detection and fire-fighting equipment in the Laboratory and the fire-fighting equipment available in the adjacent area. Id. at ¶¶ 24-32.

Next, he describes the training for emergency preparedness of on-site and off-site organizations, including the Columbia Fire Department. Id. at ¶¶ 36-43. This includes the training with respect to the systems at the Alpha Laboratory and locations of radioactive and chemical materials that is given to members of the MURR staff who would provide information to and assist the Columbia Fire Department when they respond to a fire. Id. at ¶ 42.

Mr. Meyer also includes a discussion of how the MURR emergency organizations and the Columbia Fire Department would respond to a fire at the Alpha Laboratory. Id. at ¶¶ 44-60. Finally, he responds to several allegations of the Intervenor that were not previously encompassed in his affidavit. Id. at ¶¶ 61-74.

Intervenor chose simply to ignore MURR Facility Emergency Plan, notwithstanding that Licensee had indicated from its earliest filings that the Plan was applicable to the Alpha Laboratory. See Response of Licensee to Request for Hearing and Stay Pending Hearing, at 16-17, 22, 35 (May 25, 1990) and Affidavit of J. Steven Morris, at 5 (May 24, 1990). Intervenor also chose to ignore that the Plan had been provided to them by the NRC in the supplemental hearing file on August 16, 1990, as well as having been made available to them by Licensee even earlier on June 26, 1990. They cannot ignore that the Plan, as augmented by numerous general procedures and TRUMP-S specific procedures, the arrangements with the Columbia Fire Department,

the specific fire-related features of the Alpha Laboratory, and the training and exercise drills provided for MURR organizations and the Columbia Fire Department provide assurance that there will be an adequate response to a fire at MURR, including the Alpha Laboratory. Intervenors' allegations to the contrary are without merit.

#### Conclusion

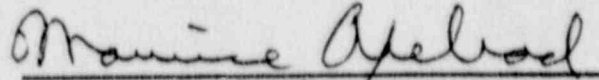
Licensee has shown that its application for plutonium was based upon shipping documents supported by laboratory analyses and that trace contaminants which are not major dose contributors need not be identified. Intervenors' arguments, based on a literature search and riddled with errors, are without merit.

Licensee has submitted an affidavit by the Battalion Fire Chief attesting to the fact that the Columbia Fire Department will fight a fire involving radioactive materials at MURR, including the Alpha Laboratory and that Mr. Ottinger's declaration does not accurately reflect their conversations.

There exist a MURR Facility Emergency Plan, which Intervenors ignore, and arrangements with the Columbia Fire Department. Together with the relevant procedures, safety-related features of the Alpha Laboratory, training and exercise drills, they provide ample assurance that there will be an

adequate response to any fire at the MURR Facility, including the Alpha Laboratory.

Respectfully submitted,

  
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