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9 (Contention XX)
10 Committee to Bridge the Gap

11 UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION
12 BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

13 In the Matter of)
14) Doc. No. 50-142 OL
15 THE REGENTS OF THE UNIVERSITY)
16 OF CALIFORNIA) (Proposed Renewal of Facility
17) License No. R-71)
18 (UCLA Research Reactor))
19)
20)

21 INTERVENOR COMMITTEE TO BRIDGE THE GAP'S
22 FINAL SUPPLEMENTAL RESPONSE TO NRC STAFF'S
23 MOTION FOR SUMMARY DISPOSITION AS TO THE
24 ISSUE OF THE APPLICABILITY OF 10 CFR 73.60
25 AND THE NEED TO PROTECT AGAINST SABOTAGE

26 Pursuant to Board Order, Committee to Bridge the Gap
27 (CBG) hereby submits its response to Applicant's March 16, 1983
28 reply and the NRC Staff's March 23, 1983 response and March 29,
1983 fuel shipment documentation relating to the issue of the
quantity of Special Nuclear Material currently possessed by
Applicant.

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I.

INTRODUCTION

In its March 4, 1983 memorandum and order the Licensing Board directed Staff and Applicant to respond to CBG's allegations that Applicant currently possesses more than a "formula quantity" of Special Nuclear Material (SNM) and granted CBG an opportunity to respond thereto. These submissions are the latest step in the Board's consideration of the Staff's motion for summary disposition on Contention XX and are the direct result of CBG's allegations that despite Applicant's July 21, 1982 shipment of a quantity of unirradiated fuel off-site, that Applicant currently possesses a formula quantity of Special Nuclear Material. A review of the evidence currently before the Board, demonstrates clearly that neither the Applicant nor the Staff have provided the Board with accurate and reliable information as to the quantity of SNM possessed by Applicant and that their own documents indicate that Applicant possesses more than 5,000 grams of SNM. In light of this fact, a brief review of the standards for summary disposition of a contention is in order.

Summary disposition may only be granted when the record shows that there is no genuine issue as to any material fact and that the movant is entitled to a decision as a matter of law. 10 C.F.R. § 2.749(d). The burden of proof lies upon the movant, who must demonstrate the absence of any genuine issue of material fact. Adickes v. Kress & Co., 398 U.S. 144, 157 (1970); 10 C.F.R. § 2.732. Furthermore, the record must be viewed in the light most favorable to the party opposing the motion. Poller v. Columbia Broadcasting System, Inc., 368 U.S. 464, 467 (1962).

1 Applying these standards to the instant controversy over
2 the applicability of 10 C.F.R. § 73.60 and the quantity of SNM
3 possessed by Applicant, the Staff cannot prevail on its overall
4 summary disposition motion as to Contention XX unless the record
5 viewed in a light favorable to CBG demonstrates that there is no
6 genuine issue or question as to the exact amount of SNM possessed
7 by Applicant. As will be shown below, the record does not and
8 cannot support such a conclusion.

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10 II.

11 APPLICANT AND STAFF HAVE NOT DEMONSTRATED
12 THROUGH COMPETENT AND RELIABLE EVIDENCE
13 THAT APPLICANT POSSESSES LESS THAN 5,000 GRAMS
14 OF SNM

15 Other than taking an actual physical inventory of Appli-
16 cant's SNM, a measure CBG is unable to undertake and one which
17 neither the Applicant nor Staff have undertaken, in order to
18 determine the amount of SNM on site it is necessary to establish
19 some reliable baseline quantity in the past from which to
20 calculate the current inventory. In its February 8, 1983
21 submission, CBG uses as a baseline the NRC inspection reports
22 from 1974, 1975, 1978 and 1979. As CBG stated therein, these
23 reports indicate that on October 31, 1978 and October 10, 1979,
24 the NRC inspectors determined that Applicant possessed 9,000
25 grams U-235 plus two Pu-Be startup sources. In its March 16,
26 1983 submission, the Applicant accuses CBG of attempting to
27 deliberately mislead the Board by using these baseline
28 quantities. Applicant states on page 4:

1 In fact, as is clear in reading the first
2 sentence on page three of the 1978 inspection
3 report (CBG's Exhibit I), that the 9.0
4 kilograms of SNM estimated by the NRC
5 inspector included the two 32 gm Pu-Be neutron
6 sources . . .

7 The following is the relevant portion of the 1978 inspection
8 report:

9 The inspector determined through interview of
10 licensee employees that the licensee presently
11 has in its possession 9.0 kg. of special
12 nuclear material in the form of 93% enriched
13 uranium (fuel plates, fuel scraps and uranyl
14 nitrate) and two 32 gm Pu-Be neutron sources.
15 The U-235 is located as follows: 3.6 kgs. U-
16 235 is in _____ and 0.7 kg. is in the
17 radioactive storage pits, and 4.7 kgs. is non-
18 irradiated fuel stored in _____. (Blanks in
19 the censored copy provided to CBG.)

20 Simple addition of 3.6 plus 0.7 plus 4.7 kgs. equals 9.0 kg. of
21 Special Nuclear Material without the neutron source. The
22 inspector's estimate of Applicant's SNM did not include the two
23 32 gram Pu-Be neutron sources. We submit that either Applicant's
24 counsel cannot add or it is the Applicant which is attempting to
25 deliberately mislead the Board. The baseline inventory on
26 January 1, 1979 should be 9,000 grams, not the 8,866 grams that
27 the Staff uses as its baseline, or the 8,870 grams which
28 Applicant uses.

Having established that the baseline should be 9,000
grams, let us examine the off-site transfers of SNM after January
1, 1979. Staff's March 29, 1983 letter enclosing certain nuclear
material transaction reports indicates off-site transfers after
January 1, 1979 in the amount of 3,938 grams. Several facts
regarding these transfers must be noted. First, the nuclear
material transaction reports are documents prepared by Applicant

1 and apparently not subject to any independent verification.
2 Second, the transaction reports for the July 21, 1982 shipment of
3 fuel plates themselves raise several discrepancies and questions.
4 The three transactions reports for this shipment which are at-
5 tached hereto as Exhibit "A" each indicate a shipment of 55 alloy
6 fuel plates. The isotope weight noted on the three transaction
7 reports are 778 grams, 781 grams and 796 grams, for a total of
8 2,355 grams. If one divides 2,355 grams by 165, the number of
9 alloy fuel plates, one finds that each fuel plate has an isotope
10 weight of some 14.27 grams. Interestingly, on page III/5-4 of
11 Applicant's Application for License Renewal, each fuel plate is
12 listed as containing approximately 13.0 grams of U-235. Thus,
13 according to the specifications listed in the Application, 165
14 fuel plates should contain 2,145 grams of U-235. It would appear
15 that either the Application is wrong, in which case it is very
16 likely that there is a greater amount of fuel in the core than
17 heretofore accounted for, or that Applicant and Staff have over-
18 counted the fuel shipped off site by as much as 210 grams. A
19 genuine issue of fact exists as to precisely how much fuel has
20 been shipped off site.

21 The fuel transaction reports also omit a notation as to
22 the limit of error, or error bars despite the fact that a space
23 is provided for such a notation. Given the quantities of fuel
24 involved, an error of even one or two percent could be very sig-
25 nificant in terms of the regulatory threshold. Particularly
26 given the unverified unattested to nature of the figures in the
27 reports, some error should be assumed.

1 In light of the foregoing, a genuine issue of material
2 fact exists as to the precise quantity of SNM possessed by Appli-
3 cant. Based on the foregoing discussion, the following is one
4 likely calculation of Applicant's SNM inventory.

5 UCLA Inventory of SNM on 1/1/79: 9,000 grams

6 Off-site transfers of SNM after 1/1/79: 3,728 grams

7 Burnup loss of SNM reported: 4 grams

8 Present inventory of SNM: 5,268 grams

9 Since the "formula quantity" of SNM is 5,000 grams
10 (10 C.F.R. § 73.2(b)), the present inventory of SNM possessed
11 by Applicant is greater than the "formula quantity" without even
12 considering the two 32 gram Pu-Be sources.

13 As CBG has briefed extensively in its earlier submission,
14 the Pu-Be sources must be included in the determination of the
15 total inventory of SNM possessed by Applicant for safeguard
16 purposes. As Applicant has admitted, 10 C.F.R. 73.60 does not
17 include an exemption for Pu-Be sealed sources. Furthermore,
18 Applicant has once more misled the Board regarding the existence
19 and location of the Pu-Be sources. The Affidavit of Neill C.
20 Ostrander attached to Applicant's March 16, 1983 submission
21 states that on July 22, 1982 a single 32 gram Pu-Be sealed source
22 was physically transferred from the reactor facility to a calib-
23 ration building remote from the reactor site. In fact, CBG is
24 informed and believes that the calibration building alleged to be
25 remote from the reactor site is, in fact, within several hundred
26 feet of the reactor.

27 In sum, if one includes the 32 gram Pu-Be sources, one
28 finds that Applicant could have as much as 5428 grams SNM on
site.

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III.

CONCLUSION

The issue before the Board is whether or not a genuine issue of material fact exists and whether the Staff is entitled to judgment on Contention XX as a matter of law. The sub-issue which the parties have focused on in this series of submissions is the applicability of 10 C.F.R. 73.60 to Applicant's facility. Within this issue, the critical determining factor is the quantity of SNM possessed by Applicant. As the quantity of SNM possessed is a critical material fact in reaching a decision as to the applicability of 73.60 and as to reaching a decision on the entire summary disposition motion, if a genuine dispute exists as to the amount of SNM on site, Staff has failed to uphold its burden and summary disposition cannot be granted.

The Board does not have before it a current direct physical inventory of the SNM possessed by Applicant. Not having that, it can only rely on the record that has been created before it by the parties. In determining whether or not there is a dispute as to the amount of SNM on site, the reliability of the evidence on the record and the credibility of its proponents must be considered by the Board. In light of this, let us review Applicant and Staff's course of conduct concerning Contention XX throughout this proceeding.

Shortly after CBG submitted its initial petition for Leave to Intervene on May 22, 1980, Staff requested an opportunity to meet with CBG and discuss CBG's concerns about the reactor. The meeting took place on July 9, 1980, and included both legal

1 and technical members of the Staff. During the discussion, Mr.
2 James Miller, Branch Chief in Licensing, and in charge of NRC
3 review of UCLA's security, told CBG that it would be permitted to
4 litigate any matter related to security "over my dead body."
5 This obstructionist attitude has continued throughout.

6 At the first prehearing conference, September 25, 1980,
7 when CBG was admitted to the proceedings, the Board directed that
8 Staff and CBG confer about the nature of NRC security regulations
9 in an effort to assist CBG in drafting an acceptable contention.
10 The Staff failed to follow through: information was not forth-
11 coming, phone calls were not returned, the little information
12 which was provided turned out to be inaccurate. (See Complaint
13 by M. Pollock, February 4, 1981; Prehearing Conference TR 84,
14 85.)

15 At that prehearing conference Staff argued that Appli-
16 cant need only comply with 10 C.F.R. § 73.67, and that it did not
17 have nor was it licensed to have more than a "formula quantity"
18 of SNM (TR 388-89) In fact, at that very moment Applicant pos-
19 sessed more than a "formula quantity" of SNM and Staff had so
20 informed Applicant a few weeks earlier. (Miller to Wegst, Jan-
21 uary 12, 1981). Interestingly, the January 12 letter was not
22 provided to CBG or the Board until many months later, after re-
23 peated protests by CBG that the Staff was withholding documents.

24 On April 13, 1981 Staff moved for summary disposition of
25 Contention XX premising its case, not on assertion that Appli-
26 cant's security was adequate, rather by arguing that Applicant
27 did not need to protect against theft or sabotage. This summary
28 disposition motion violated the stipulated discovery schedule and

1 was stricken as untimely.

2 In July of 1982 when the Board directed CBG to respond
3 to the summary disposition, it did so demonstrating that despite
4 Staff's assertion to the contrary in its motion, the NRC Staff
5 itself had informed Applicant and other non-power reactor oper-
6 ators of the sabotage protection requirements (CBG 2/5/83 Brief,
7 p. 3) and that they were not in compliance with the security
8 regulations. In fact, for a period of several years prior to the
9 filing of Staff's summary disposition motion, the NRC Staff con-
10 sistently stated in numerous documents that UCLA/NEL could not
11 operate in such a manner as to assure self protecting levels of
12 radiation (100 rem/hour) in the core fuel and that as early as
13 August 15, 1979, Applicant informed the NRC Staff in the person
14 of James R. Miller that it could not meet the self protection
15 criteria of 100 rem/hour at all times. (Harold V. Brown (UCLA)
16 to James R. Miller (NRC) letter 8/15/79.) On August 28, 1979, in
17 a letter from I. Catton, Director NEL to Robert W. Reid, Chief of
18 Operating Resources Branch #4, Catton told Reid that none of the
19 SNM at UCLA/NEL could be exempted by the 100 rem/hour at 3 feet
20 criterion. In SECY-79-187c dated December 19, 1979, UCLA was
21 listed as one of seven non-power reactors which cannot meet the
22 100 rem/hour exemption criterion. (SECY-79-187c, p. 3). On
23 January 12, 1981, James R. Miller wrote to Dr. Walter F. Wegst at
24 UCLA informing him that UCLA/NEL's operating and SNM sites are
25 contiguous and as such UCLA/NEL must meet the requirements of
26 73.67(a)(b)(c)(d) and 73.60. On February 4, 1981, NRC Staff
27 counsel argued before the Board that Applicant did not have
28

1 sufficient quantities of SNM to be subject to 10 C.F.R. § 73.60.
2 (2/4/81 Transcript, p. 388:22-23.) On April 8, 1981, James R.
3 Miller signed an affidavit in support of Staff's summary dispo-
4 sition motion which stated:

5 I have verified that the irradiated fuel in
6 the UCLA reactor core emits radiation such
7 that the dose at three feet will be in excess
8 of 100 rems per hour . . . In addition, UCLA
9 has committed to schedule reactor operations
to maintain the self-protection of the fuel in
the reactor core.
(Miller Affidavit, p. 2, ¶ 7.)

10 CBG's September 9, 1982 submission demonstrates, using Appli-
11 cant's own formulas, that the reactor fuel loses its inherent
12 self-protection capability within eight hours of reactor shut-
13 down. (CBG's Response Brief, p. 16-17). Thus, from 1979 to
14 1981, despite Staff's assertions in its moving papers, Applicant
15 and Staff agreed that the UCLA/NEL reactor fuel could not meet
16 the 73.60 exemption criterion at all times. Their record in
17 terms of providing a credible inventory is no better.

18 We have no current and physical inventory of the SNM.
19 The reports provided by Staff in an effort to verify its asser-
20 tions are merely shipping documents filled out by Applicant.
21 Even these reports omit the error bars, although the forms, them-
22 selves, have a place for such error limitations.

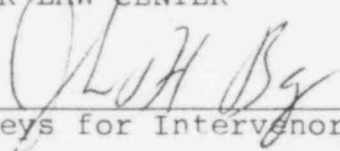
23 Applicant has a long history of MUF (Material Unaccount-
24 ed For) and their interpretation of the inventory records is by
25 their own admission uncertain at best. (See 8/25/82 Ostrander to
26 Cormier Memorandum, Exhibit K to CBG's February 8, 1983 sub-
27 mission).

1
2 Finally, we have assertions such as that made by Appli-
3 cant in its latest submission accusing CBG of double
4 counting the Pu-Be sources in the 1978 inspection report when
5 simple arithmetic demonstrates that the Pu-Be sources were not
6 counted.

7 Thus, there is no basis for the Board to conclude that
8 Staff and Applicant's estimates of SNM possessed by Applicant are
9 credible and accurate. In fact, there is every reason to believe
10 that Applicant currently possesses greater than the formula quan-
11 tity of SNM. Consequently, unless evidentiary hearings are held,
12 the Board cannot determine accurately how much SNM is on site,
13 and thus cannot determine whether Applicant is subject to the
14 requirements of 73.60.

15 Respectfully submitted,

16 JOHN H. BAY
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18 NUCLEAR LAW CENTER

19 By 
20 Attorneys for Intervenor (Contention
21 XX)
22 Committee to Bridge the Gap
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United States of America
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA
(UCLA Research Reactor)

Docket No. 50-142 OL

(Proposed Renewal of Facility
License)

CERTIFICATE OF SERVICE

I hereby certify that copies of the attached INTERVENOR COMMITTEE TO BRIDGE THE GAP'S FINAL SUPPLEMENTAL RESPONSE TO NRC STAFF'S MOTION FOR SUMMARY DISPOSITION AS TO THE ISSUE OF THE APPLICABILITY OF 10 CFR 73.60 AND THE NEED TO PROTECT AGAINST SABOTAGE in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, postage prepaid, addressed as indicated, on this date: April 13, 1983

John H. Frye, III, Chairman
Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Emmeth A. Luebke
Administrative Judge
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Dr. Oscar H. Paris
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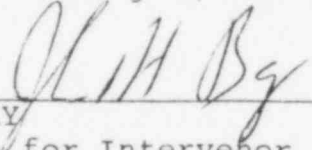
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