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OFFICE OF SECRETARY  
OF DEFENSE  
AMERICA BRANCH

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

April 6, 1984

UNIVERSITY'S PETITION FOR RECONSIDERATION OF BOARD'S ORDER  
RULING ON CBG'S OBJECTIONS TO UCLA'S REBUTTAL TESTIMONY

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THE REGENTS OF THE UNIVERSITY  
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## I. INTRODUCTION

In its Memorandum and Order of March 22, 1984, the Board ruled on each of CBG's objections to the prepared rebuttal testimony submitted by UCLA and Staff on November 7, 1983. The Board sustained objections to certain portions of UCLA's testimony as set forth in ¶¶ 5, 6, 7, 8, and 9 of the Board's Order (pp. 29-31). As to certain of the objections which the Board was prepared to sustain, namely, the objections to testimony identified in ¶¶ 6 a), and 7 c), d), and f) of the Order, the Board provided that UCLA could cure the defect in the testimony by supplying additional information. As discussed below, University requests reconsideration of ¶¶ 6 a), and 7 c) and f) of the Board's Order on the basis of the additional information supplied herewith and of ¶¶ 5 b) and 7 e) on other grounds.

## II. DISCUSSION

The Board sustained CBG's objection to answer 8 of UCLA's "Rebuttal on Credibility of a Graphite Fire at the UCLA Reactor". However, the Board permitted UCLA an opportunity to cure the defect by providing CBG with an identification of the "many studies" to which reference is made in the answer. Order, at 30 (¶ 6 a)). The Board also sustained CBG's objection to the first paragraph on page 7 (answer 2) of UCLA's "Rebuttal on Credibility of CBG's Fission Product Release Model", provided, however, that UCLA could cure this defect by identifying the empirical evidence on which this paragraph relies. Order, at 30 (¶ 7 c)). In a separate document submitted herewith University

supplements its rebuttal testimony by identifying the studies referred to in the graphite fire testimony and the empirical evidence referred to in the fission product releases testimony described above. With the provision of this additional information the Board should overrule the objections discussed in ¶¶ 6 a) and 7 c) of its Order.

The Board sustained CBG's objection to answer 8 of UCLA's "Rebuttal on Credibility of CBG's Fission Product Release Model", provided, however, that UCLA could cure the defect by providing CBG with the full text of Gerard L. Hofman's research report. Order, at 30 (¶ 7 f)). The information reported in that answer 8 (including the photo-micrographic exhibits supplied with the testimony) is based on unpublished research by Mr. Hofman conducted at Argonne National Laboratory on plate-type metal fuel. Professor Olander, who is an expert on the subject of metal nuclear fuels, consulted with Mr. Hofman on the specific topic addressed in the rebuttal testimony and, in particular, the photo-micrographs described in answer 8, which Mr. Hofman provided. The information exchanged between Professor Olander and Mr. Hofman is the type of information which experts in Professor Olander's field reasonably rely upon. As such, the information falls within the standard experts' exception to hearsay evidence. Professor Olander is well qualified to sponsor this testimony. However, to avoid questions concerning the reliability of this information Mr. Hofman has agreed to appear as an expert witness with UCLA's panel of witnesses on this subject. Mr. Hofman is currently out of the country; University will submit a statement of his professional qualifications as soon as possible.

The Board sustained, in part, CBG's objection to UCLA's testimony responding to CBG's rebuttal answer 9 ("Answer 2", pages 7-10 of UCLA's "Rebuttal to CBG's Wigner Energy Testimony"). The Board overruled the objection with respect to the last paragraph on page 8 and all of page 10 of that answer. Order, at 30 (¶ 5 b)). As grounds for its ruling the Board states that the "comments are argumentative and to a large extent repetitious of matters already in the record." Order, at 18. However, subsection "3)" of that section of Answer 2 (the bottom paragraph on page 9) contains factual information not otherwise in the record which directly responds to assertions contained in CBG's rebuttal answer 9 (pages 12-14). Specifically, the testimony describes differences in the water-moderating conditions in the Hanford reactor and in the UCLA Argonaut reactor. This paragraph should also be accepted as appropriate rebuttal testimony.

The Board sustained CBG's objections to all of answers 5, 6, and 7 of UCLA's "Rebuttal on Credibility of CBG's Fission Product Release Model." Order, at 30 (¶ 7 e)). As grounds for its ruling the Board stated that these answers introduce an entirely new consideration in the proceeding -- the chemical form of the fission products and their interaction with other materials in the environment. Order, at 23. The Board further stated that to accept this testimony would greatly expand the scope of this issue and would involve the Board in an attempt to resolve a difficult scientific question which is currently the subject of Commission inquiry (citing ¶ VII of the Proposed Commission Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation, 48 Fed. Reg. 16013, April 13, 1983).

It is true that the issue of chemisorption or plateout, which is addressed in UCLA's rebuttal answer 7 does introduce a new consideration which is related to the subject of source terms for power reactor facilities, a topic addressed in the policy statement cited by the Board. However, answers 5 and 6 relate to the chemical form of the iodine within the aluminum matrix material and not what happens to fission products that escape to the environment external to the fuel. Answers 5 and 6 convey information based on basic chemistry and thermodynamics principles as confirmed by empirical evidence. University does not believe that the information provided in its answers 5 and 6 concerns a difficult or controversial scientific question. In any event, the Commission's policy statement does not suggest that the Commission is considering source term regulations that would be applicable to UCLA's research reactor facility. Moreover, it is University's understanding that the source term topic discussed in the policy statement is not currently the subject of a Commission rule-making action. Consequently, there is no procedural reason to exclude consideration of this information in particular licensing proceeding assuming that the information is otherwise relevant and appropriate.

Answers 5 and 6, concerning the chemical form of the fission products within the fuel, do not raise a new consideration in this proceeding although they do provide new information. The issue being addressed is whether fission events in UCLA's plate-type fuel result in the creation of bubbles of gas (molecular iodine being the radioisotope of concern) which are available to escape in the event that the fuel is damaged. As part of UCLA's direct case presented in July, Professor

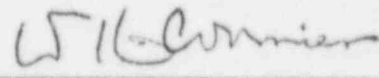
Olander testified at length concerning the form of the fission products in the matrix material. For example, in his written testimony it is stated that fission gas is not evolved from the fuel matrix until actual melting occurs. Page 9, following Tr. 1877; see also, Tr. 1922-23, 1942-44, 1946. CBG has attempted to rebut that basic position with the testimony of its witnesses Dr. Anderson and Ms. Reid and their proposed model that assumes the existence of gas bubbles in the matrix material. The "Anderson/Reid" model was presented for the first time in CBG's October testimony. It was precisely this unsupported assertion of CBG's witnesses about the chemical form of the fission products in the fuel that was the subject of extensive cross-examination by University's expert interrogator during the October session of the hearing. Tr. 2983-90. The information in UCLA's rebuttal answers 5 and 6 is relevant to the form of the fission products as they exist in the fuel material and rebuts the assumption of CBG's witnesses. It is not intended to provide information on processes that occur in the environment external to the fuel plate, that is, chemisorption or plateout and fallout which occur in the reactor systems and containment building of power reactor facilities. The Board should accept answers 5 and 6 as relevant to matters already admitted to the record in this proceeding.

### III. CONCLUSION

For the reasons above, University respectfully requests that the Board modify its rulings on CBG's objections to University's rebuttal testimony by overruling the objections to the portions of testimony considered in ¶¶ 5 b), 6 a), and 7 c), e), and f) of the Board's Order.

Dated: April 6, 1984.

DONALD L. REIDHAAR  
GLENN R. WOODS  
CHRISTINE HELWICK

By   
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WILLIAM H. CORMIER  
Representing UCLA

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
THE REGENTS OF THE UNIVERSITY	)	Docket No. 50-142
OF CALIFORNIA	)	(Proposed Renewal of Facility
	)	License Number R-71)
(UCLA Research Reactor)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the attached: UNIVERSITY'S PETITION  
FOR RECONSIDERATION OF BOARD'S ORDER RULING ON CBG'S OBJECTIONS TO UCLA'S

REBUTTAL TESTIMONY

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 6, 1984.

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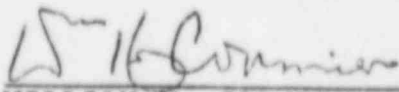
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