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	Docket No. 50-142 (Proposed Renewal of Facility License Number R-71)
(UCLA Research Reactor)	August 29, 1983

UNIVERSITY'S OBJECTIONS TO CBG TESTIMONY

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I. INTRODUCTION

In its March 23, 1983 Prehearing Conference Memorandum and Order, the Board identified the contentions that were to be considered in the first phase of the hearings on the safety of the UCLA research reactor. The Board ruled at pp. 8-12 of that Order that Contentions V, XIX, VIII, XV, XIV and, in part, XIII were to be taken up. The Board deferred consideration of contentions raising issues concerning normal operations, maintenance history, calibration of instruments, history of violations, and administrative matters. In general, the contentions the Board wished considered raised the issue of the "maximum credible accident" for the facility including, in particular, the hypothesized fast transient accident which was assumed to occur without the intervention of any "engineered" safety features. For convenience, the Board referred to the issues that were raised by these contentions as the "inherent safety issue."

At the recently concluded opening session of the current hearing the Board had occasion to elaborate upon the proper scope of the inherent-safety hearing. The Board was ruling on CBG's motion to strike certain portions of the testimony of UCLA and Staff witnesses. Tr. 1363-1389. With respect to the hypothetical fast transient accident, the Board stated that it wanted to consider the instantaneous insertion of the maximum available excess reactivity and, for background purposes, the physical characteristics of the reactor such as the operation of

the control blades and the size of the irradiation ports. Tr. 1363, 1382. Concerning fires that could occur at the facility, the Board stated that it wished to consider the risks of fire to the reactor as it is presently constituted, that is, surrounded by the graphite reflector and concrete shielding. Tr. 1363, 1382. With regard to seismic events, the Board stated that it wished to examine the conclusions of the Staff's analyses which were based on the assumption that the reactor core is crushed in the hypothetical seismic event. Tr. 1364.

Before adjourning the opening session of the inherent safety hearing, the Board directed that UCLA and Staff submit any "scope" objections to CBG's prefiled testimony by August 29, 1983 in order that such matters be resolved prior to reconvening the hearing in October. Tr. 2485-86, 2495-96.

II. DISCUSSION

A. Evidentiary Standards

The admissibility of evidence in NRC proceedings is governed by Section 2.743 of the Commission's Rules of Practice, which states in part

> (c) Admissibility. Only relevant, material, and reliable evidence which is not unduly repetitious will be admitted. Immaterial and irrelevant parts of an admissible document will be segregated and excluded so far as is practicable.

In addition, Section 2.757 of the Rules of Practice authorizes the presiding officer to, among other things, strike argumentative, repetitious, cumulative or irrelevant evidence to prevent unnecessary delays or an unnecessarily large record.

B. Objections to Evidence to be Offered by CBG

University objects to the admission of certain portions of the prefiled written testimony and certain exhibits to be offered by CBG as evidence at the October session of the currently adjourned safety hearing[1/] on the grounds that the objectionable portions of the testimony and exhibits, which are identified in the discussion below, are beyond the scope of matters which the Board has directed to be considered during the current hearing or are otherwise inadmissible under the Commission's Rules of Practice.

Panel i

Panel i represents a legal argument concerning the standard of review which CBG suggests the Board ought to apply in this proceeding. CBG identifies that standard as "inherent safety" and states the purpose of its Panel i discussion is to enlighten the Board as to "what the basic concepts of inherent safety are." CBG

1/ "Testimony on Behalf of the Committee to Bridge the Gap as to whether the UCLA Nuclear Reactor is Inherently Safe," prefiled by letter dated June 14, 1983.

purports to explain what it understands by the "inherent safety" standard by reference to TRIGA-type reactors and the "original" Argonaut reactor. Considerations of the "inherent safety", or not, of TRIGA-type reactors or the "original" Argonaut is well outside the scope of the current hearing. Moreover, although CBG is to be given an opportunity to make what arguments it wishes concerning the legal standards that should be applied, CBG's witnesses cannot be permitted to testify concerning what the proper standard of review should be. The few sections of Panel i that appear to offer relevant testimony on factual matters duplicate testimony offered elsewhere in CBG's several Panels. All of Panel i, with its related exhibits C-i-1 to 4, is objected to because it constitutes impermissible legal argument, is needlessly repetitious of testimony in other of CBG's Panels, and it seeks to examine the safety of reactors outside the scope of the current proceedings. Permitting further examination of any of the Panel i testimony will unduly delay the proceedings. More specifically

(1) Paragraphs 2-7 represent CBG's argument concerning the standard of "inherent safety" that CBG would have the Board apply in this proceeding. In CBG's view the standard is derived from the "history" and "philosophy" of research reactors, in particular, TRIGA-type reactors. CBG relies on excerpts from the Dyson book, identified in Exhibit C-i-1. Legal argument respecting the proper standard of review is beyond the scope of permissible testimony; the history and philosophy of TRIGA-type and other research reactors is irrelevant to this proceeding.

(2) Paragraphs 8-12 purport to compare the degree of "inherent" safety of the "original" Argonaut, the "10kW" Argonaut, and the TRIGA reactor. In paragraph 12 CBG cites an excerpt from a University reported comparison, identified as Exhibit C-i-2. Comparisons of the safety of different reactors, or different versions of the Argonaut reactor are irrelevant to this hearing; the scope of the current hearing is limited to the safety of the UCLA Argonaut reactor under the proposed licensed operating conditions.

(3) Paragraphs 13-15 discuss "multiple redundant barriers" including pressure vessels, "containment," and other engineered features, "exclusion zones" and "low-population zones." The Board has specifically deferred consideration of engineered safety features.

(4) Paragraph 22 purports to define the standard that should be applied in ruling on the UCLA license application. As such it constitutes legal argument which is beyond the scope of permissible testimony.

(5) Paragraph 26 represents a response to an assertion purportedly made in the UCLA Application to the effect that, according to CBG, the UCLA reactor is "automatically immune from any accident that could result in release of a substantial fraction if its inventory." Notwithstanding that no such assertion is made in the UCLA Application, the remarks are argumentative and beyond the scope

of permissible testimony. Moreover, CBG refers in this paragraph to the history of reactor accidents, mentioning by name the Fermi and TMI-2 reactors. Examination of the history of reactor accidents, whether at power or non-power reactor, is beyond the scope of the current hearing and would unduly delay these proceedings.

(6) Paragraph 27 purports to list non-power reactors that have experienced fuel-damaging accidents. Any investigation of the accident experience of these reactors is beyond the scope of the current hearing. The paragraph also contains the assertion that SPERT and BORAX tests demonstrate the possibility of fuel melting and core disassembly, citing films of the destruct tests of those reactors (the BORAX and SPERT destruct test films are identified elsewhere in CBG's testimony as Exhibits C-I-12 and C-I-13). The damage results of the SPERT and BORAX destruct tests are not at issue in this proceeding. The remainder of the paragraph alleges a lack of spare parts, lack of a system for identifying problems, lack of "backfitting", matters concerned with engineered features which should properly be deferred at this stage of the proceedings.

Panel I

(1) Paragraphs 4-9, 71 (and accompanying footnote) and 151 discuss the SL-1 reactor accident. (The SL-1 reactor is also mentioned in several other places in CBG's testimony.) The operating experience of the SL-1 reactor is irrelevant to any consideration of

the safety of the UCLA Argonaut reactor. None of CBG's contentions which are the subject of the current hearing raise the issue of the SL-1 reactor accident. The Board has not included consideration of the SL-1 reactor as part of the scope of the current hearing. Inquiry into the SL-1 reactor and the accident would unduly delay these proceedings. Paragraph 9 is also objectionable in that it is an argument for a particular standard of review of the UCLA license application, which is an impermissible form of witness testimony.

(2) Paragraphs 10 and 50-54 discuss the shutdown mechanism in TRIGA-type reactors. The features of TRIGA reactors are irrelevant to the safety of the UCLA reactor. Examination of such features would unduly delay these proceedings.

(3) The photographs following paragraph 25 on pages 7 and 8 purport to depict certain fuel damage results of the SPERT-1 destruct test. Consideration of the damage consequences of the SPERT tests is irrelevant to the safety of the UCLA Argonaut and would unduly delay these proceedings.

(4) Paragraphs 42 and 43 argue for the conversion from HEU fuel to LEU fuel to take advantage of the "doppler effect." Consideration of conversion to LEU is a matter which the Board has specifically deferred.

(5) Paragraphs 63, second sentence (alleging a lack of certain safety features) and 66, sentence beginning on 9th line

(alleging a lack of calibration of certain interlocks and safety trips) concern engineered safety features, matters which the Board has specifically deferred.

(6) Paragraphs 128, last parenthetical sentence (alluding to a 1981 notice of violation, identified as Exhibit C-I-3) and 132, last parenthetical sentence (alluding to a 1978 Annual Report, identified as C-I-4, and minutes of a 1977 Radiation Use Committee meeting, identified as C-I-5) seek to introduce aspects of the operating history of the facility. The Board has specifically deferred such matters.

(7) Exhibits C-I-1, C-I-2, C-I-6, C-I-7, C-I-8 (which apparently duplicates C-I-11), C-I-9, C-I-10, C-I-12, and C-I-13 are objected to as raising matters outside the scope of the current hearing. None of the objected to exhibits will materially contribute to the development of the record in this proceeding.

Panel II

(1) Paragraph 6 asserts that certain fire reponse actions can "vastly worsen the situation." The Board has specifically deferred consideration of emergency response actions in the event of any accident at the UCLA facility.

(2) Paragraph 19, fourth sentence and the next following parenthetical sentence assert certain public health consequences of

a plutonium metal fire. Specific health consequences of any of the hypothetical accidents being considered is beyond the scope of the current hearing.

(3) Paragraphs 20-27, 64, 74 and the third to last sentence of paragraph 29 discuss suppression of graphite-uranium fires relying on a report of the Windscale reactor accident. Fire suppression and other emergency responses have been specifically deferred by the Board.

(4) Exhibit C-II-1 is a report of the "Windscale Incident." An examination of that matter is beyond the scope of the current hearing. Exhibit C-II-4 purports to be the L.A. Fire Depts. Response Plan for fire at the NEL and is beyond the scope of the current hearing.

Panel III

(1) Paragraph 6, third sentence to end of paragraph, alludes to a leaking pipe and an alleged "flooding" of the reactor facility, citing a UCLA student newspaper story (identified as Exhibit C-III-4). A heavy water leak incident is also alleged, citing a 1965 operating log entry. Incidents from the operational history of the facility are outside the scope of the current hearing.

(2) Paragraph 7, first sentence, alleges a "history of control blade difficulties" at the UCLA facility. Consideration of

any control blade problems that may have occurred in the past is outside the scope of the current proceedings.

(3) Paragraph 11, last sentence, cites operating log entries for several occasions in the early 1960's when, purportedly, "fuel was removed from the core only a few days after shutdown." Review of such incidents from the early 1960's is outside the scope of the current hearing and irrelevant in view of the obvious difference in fission product inventory between the early 1960's and the present.

(4) Paragraph 14 alleges certain public health consequences of a fuel-handling or fuel shipment accident relying on minutes of a 1977 Radiation Use Committee meeting (identified as Exhibit C-I-5) and a June 1980 fuel shipment contamination incident alleged to have involved UCLA. The Board has previously ruled that the June 1980 shipment incident was outside the scope of the relicensing proceedings. In its March 20, 1981 Prehearing Conference Order (at pp. 14-15) the Board rejected CBG's attempt to get a contention based on the incident admitted to the proceeding, finding that the matter concerned the shipper and not UCLA. Subsequently, the Board granted UCLA protection when CBG sought to pursue the matter during discovery.

(5) Exhibits C-III-4, C-III-5, C-III-6, and C-III-7 purport to describe incidents occurring in the operational history of the UCLA facility. Consideration of such matters is outside the scope of the current proceedings. Exhibit C-III-8 concerns the

"June 1980 Shipment (contamination) Incident" which the Board has already specifically ruled is outside the scope of the relicensing proceedings.

Panel IV

(1) Paragraphs 45-48 are concerned with the toxicity of plutonium -239 and the lethal inhalation doses that might result from its dispersion. These are matters that are beyond the scope of the current hearing.

(2) Paragraph 50 compares risks of contained pressurized water reactors and uncontained research reactors. The comparison involves consideration of matters outside the scope of the current hearing.

(3) Exhibit C-IV-4 is an excerpt from the University of Florida SAR; consideration of that SAR is beyond the scope of this hearing. The excerpt from Nuclear Theft (Exhibit C-IV-7) concerns matters beyond the scope of this hearing. Exhibits C-IV-8 and C-IV-9 purport to describe incidents in the operating history of the UCLA facility, matters which the Board has deferred.

III. CONCLUSION

For the reasons discussed above, University respectfully

requests that the objectionable portions of testimony and exhibits identified above not be admitted as evidence in the current hearing.

Dated: August 29, 1983.

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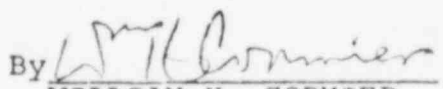
By 
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NUCLEAR REGULATORY COMMISSION

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CERTIFICATE OF SERVICE

I hereby certify that copies of the attached: UNIVERSITY'S OBJECTIONS TO CBG 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: August 29, 1983.

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