

COMMITTEE TO BRIDGE THE GAP

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DOCKETED  
USNRC

November 8, 1982  
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Judge John H. Frye, III  
Chairman  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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BRANCH

Dr. Oscar H. Paris  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dr. Emmeth A. Luebke  
Administrative Judge  
Atomic Safety and Licensing Board  
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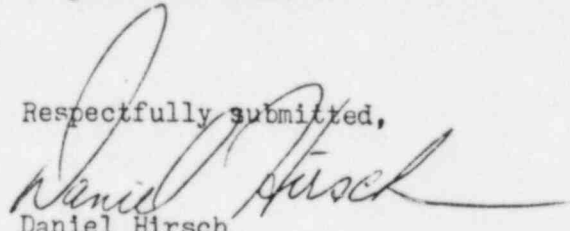
In the Matter of  
The Regents of the University of California  
(UCLA Research Reactor)  
Docket No. 50-142  
(Proposed Renewal of Facility License)

RE: CITATIONS FOR CBG STATEMENTS OF MATERIAL FACTS

Dear Administrative Judges:

As per your Memorandum and Order of October 22, 1982, please find enclosed citations for the statements of material fact averred to not be in dispute as to Contentions XIII (SNM License) and XVII (Seismic), as included in the CBG Motions for Summary Disposition thereto.

Respectfully submitted,



Daniel Hirsch  
President  
COMMITTEE TO BRIDGE THE GAP

cc w/ enclosure: service list

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CITATIONS FOR CONTENTION XVII  
(Seismic)

STATEMENT OF FACT

1. THE REACTOR IS IN A SEISMICALLY ACTIVE REGION. Application<sup>1/</sup>, page III/3-1; SER, page 2-6; Exhibit A, paragraphs 5-9; Exhibit C, p. 3, 15-19; Exhibit E, cover letter, page 11, 17, 24; Exhibit F, p. vii; Exhibit I, p. 145; Exhibit N; Exhibit O; Exhibit P.
2. THE UCLA REACTOR MAY BE IN THE PATH OF AT LEAST ONE ACTIVE EARTHQUAKE FAULT. SER p. 2-6; Exhibit A, paragraph 6-9; Exhibit D, p. 31, 33, map at last page; Exhibit F, p. vii; Exhibit N; Exhibit O; and Exhibit P
3. THE UCLA REACTOR IS WITHIN TWO MILES OF THE NEWPORT-INGLEWOOD FAULT. Application page III/3-1; Exhibit A, paragraph 8; Exhibits N, O, and P.
4. THE NEWPORT-INGLEWOOD FAULT WAS RESPONSIBLE FOR THE LONG BEACH EARTHQUAKE OF 1933. Exhibit F, p. vii; Exhibit O.
5. THE NEWPORT-INGLEWOOD FAULT IS CAPABLE OF AN EARTHQUAKE OF A MAGNITUDE 7.5 ON THE RICHTER SCALE. Application, p. III/8-3; Exhibit A, paragraph 8; Exhibit C, p. 15, 18.
6. THE CURRENT PROBABILITY OF OCCURRENCE OF A 7.5 MAGNITUDE EARTHQUAKE ALONG THE NEWPORT-INGLEWOOD FAULT IS AT LEAST .1% ANNUALLY, OR A ONE IN FIFTY CHANCE DURING THE PROPOSED TWENTY-YEAR LICENSE PERIOD. Application, p. III/8-3; Exhibit C, p. 15.
7. THE SANTA MONICA FAULT ZONE IS WITHIN ONE MILE OF THE REACTOR. Exhibits O, N.
8. THE SANTA MONICA FAULT ZONE IS CAPABLE OF A 7.5 MAGNITUDE EARTHQUAKE. Maximum Credible Rock Acceleration from Earthquakes in California, by Roger Greensfelder, published by California Division of Mines and Geology, Map Sheet 23, 1972, revised, August 1974, cited as reference 12 at page III/10-1 of Application; Exhibit A, paragraph 8.
9. THE REACTOR COULD ALSO BE AFFECTED BY A QUAKE ALONG THE SOUTHERN SAN ANDREAS FAULT, WHICH HAS A CAPACITY OF 8.3 MAGNITUDE WITH A PROBABILITY OF OCCURRENCE OF BETWEEN 2 AND 5% ANNUALLY, OR GREATER THAN 50% OVER THE NEXT THIRTY YEARS. Exhibit A, paragraph 6; Exhibit C, page 3, 15, 17.
10. A MAJOR EARTHQUAKE COULD BRING DOWN THE SEVERAL-STORY STRUCTURE BUILT ATOP THE REACTOR BUILDING AND CRUSH THE REACTOR CORE. Application p. III/8-3, 8-4; SER 14-8; TR 696, June 1982 prehearing conference<sup>2/</sup>; Exhibit A, paragraphs 9-20; and supporting Exhibits B; D, p. 11, 17, 24.
11. MECHANICAL DAMAGE TO THE FUEL (i.e. BREAKS IN THE CLADDING AND FUEL MEAT) COULD RESULT FROM CORE-CRUSHING. SER, p. 10; Application, III/8-4; Exhibit A, paragraph 14.
12. CORE-CRUSHING COULD RESULT FROM LATERAL<sup>3/</sup> ACCELERATIONS IN AN EARTHQUAKE, WITH OR WITHOUT THE ABOVE STRUCTURES COLLAPSING. Exhibit A, paragraph 13; Exhibit C, p. 2.

<sup>1/</sup> Except as otherwise indicated, references to the Application refer to the Application as amended in June, 1982.

<sup>2/</sup> Applicant's counsel is quoted in the transcript as saying Applicant would "concede" this fact, not "stipulate" to it as indicated in the CBG Motion.

<sup>3/</sup> Note typographical error in original statement of material facts

13. MECHANICAL DAMAGE TO THE FUEL RESULTING FROM AN EARTHQUAKE COULD RESULT IN FISSION PRODUCTS ESCAPING TO THE ENVIRONMENT. SER, p. 14-8; Application, P. III/8-3 and 4; Exhibit A, paragraph 14.

14. IT IS CONCEIVABLE THAT SUBSEQUENT FLOODING OF THE REACTOR ROOM COULD OCCUR AS THE RESULT OF EARTHQUAKE-INDUCED FAILURE OF THE STONE CANYON RESERVOIR WHICH IS POSITIONED IN THE HILLS TO THE NORTH OF THE UCLA CAMPUS. Application, P. III/8-5; Exhibit A, paragraph 15; Exhibit D (referenced in Application at page III/10-1 as reference 14), page 31, 32, 38, map on last page.

15. SUBSEQUENT FLOODING OF THE REACTOR COULD RESULT IN THE DISPERSION OF FISSION PRODUCT RELEASES IN THE FLOOD WATER. Application, page III/8-5; Exhibit D; Exhibit A, paragraph 15, 18.

16. NEITHER STAFF NOR APPLICANT HAS DONE A DETAILED SEISMIC ANALYSIS OF THE REACTOR SITE NOR A DETAILED STRUCTURAL ANALYSIS OF THE REACTOR STRUCTURE AND RELATED BUILDINGS AS TO HOW THEY WOULD RESPOND TO POTENTIAL EARTHQUAKES (i.e. ABILITY TO WITHSTAND VARIOUS RESPONSE SPECTRA WITHOUT SUFFERING DISPLACEMENT). SER, page 2-6; Application, III/8-3; interrogatories by CBG to Staff and Staff answers thereto, included as Exhibits J and K, particularly answers to interrogatories 40 a through j and 135, 138, 140, 141; interrogatories by CBG to Applicant and Applicant's answers thereto, included as Exhibits L and M, particularly answers to interrogatories 3, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 40, 41, 42, 43, 45, 46, 47.<sup>4/</sup>

17. EARTHQUAKE-INDUCED FISSION PRODUCT RELEASE COULD CAUSE DOSES IN UNRESTRICTED AREAS OF AT LEAST 10 REM TO THE THYROID. SER, p. 14-10; Battelle Study, p. 26 and 48 (referenced in Application and conducted for Staff).

18. THE UNIFORM BUILDING CODE ACCORDING TO WHICH THE REACTOR STRUCTURE AND THE BUILDING ABOVE IT WERE BUILT HAD NO PROVISIONS FOR REACTORS AND HAS SINCE BEEN SUBSTANTIALLY STRENGTHENED; AND BUILDINGS BUILT TO UBC STANDARDS HAVE FAILED IN RELATIVELY MODERATE EARTHQUAKES. Exhibit A, paragraphs 16 and 17; Exhibits H and I; answers to interrogatory 8, Exhibit L and M.

<sup>4/</sup> The interrogatory answers of Staff and Applicant, included as Exhibits J, K, L, and M, are attached to the Motion not only to demonstrate the truth of the listed facts, as in #16 above, but to demonstrate that no genuine dispute as to the truth of any of the facts exists, as shown by the lack of contrary information possessed by Staff or Applicant.

CITATIONS FOR CONTENTION XIII  
(Special Nuclear Materials License)

STATEMENT OF FACT --

1. THE FULL INFORMATION AS TO EQUIPMENT AND PROCEDURES DESIGNED TO PREVENT, MITIGATE, DETECT, AND RESPOND TO CRITICALITY ACCIDENTS REQUIRED BY 10 CFR 70.22(a)(7) AND (a)(8) AND 70.24(a)(1), (2) AND (3) HAS NOT BEEN PROVIDED IN THE APPLICATION.

- a. Application\*
- b. Applicant's May 20, 1981 interrogatory responses, pg. 135, Interrogatories 3 & 5
- c. NRC Staff Question to UCLA of 4/17/80, #12, and UCLA answer of 5/13/80, as to UCLA assertion at IV/C-1 of 1980 Application that a victim of direct radiation is not a hazard to others; compare with amended Appendix IV, in which no mention whatsoever is made of victims of direct radiation accidents.
- d. Staff answers to CBG's interrogatories 231-233 as to the SER

REACTOR

2. THE UCLA<sup>REACTOR</sup> CAN OPERATE WITH LESS THAN 9.4 KG U-235 ON SITE.

- a. Construction permit application, 5-30-59, pg. 7
- b. Exhibit T, Letter, June 3, 1970, from Thomas Hicks, NEL Director to Dr. Peter Morris, Division of Reactor Licensing, USAEC
- c. Exhibit T, Letter, June 24, 1970, from Donald J. Skovholt, Assistant Director for Reactor Operations, Division of Reactor Licensing, USAEC, to Dr. Hicks, NEL
- d. Applicant's interrogatory responses of August 26, 1982
- e. NUPEG/CR-2079, pg. 23
- f. Argonaut Reactor Databook by Strum and Daavettila, ANL-6285, January 1961; Exhibit M, and Summary Report on the Hazards of the Argonaut Reactor, Lennox and Kelber, ANL-5647, December 1956, Exhibit Q

3. THE UCLA REACTOR OPERATED WITH APPROXIMATELY 3.5 kg of U-235 ON SITE FOR TEN YEARS.

- a. Construction permit application, 5-30-59, pg. 7
- b. Exhibit T, Letter, June 3, 1970, from Thomas Hicks, NEL Director to Dr. Peter Morris, Division of Reactor Licensing, USAEC
- c. Exhibit T, Letter, June 24, 1970, from Donald J. Skovholt, Assistant Director for Reactor Operations, Division of Reactor Licensing, USAEC, to Dr. Hicks, NEL

4. THE UCLA REACTOR DID NOT USE MORE THAN 4.3 kg of U-235 DURING ITS ENTIRE LIFETIME TO DATE.

- a. Exhibit A, Declaration of David W. Hafemeister, paragraphs 9 and 10
- b. Environmental Impact Appraisal, pg. 5

5. THE UCLA REACTOR BURNS UP ON THE AVERAGE APPROXIMATELY 1 GRAM OF U-235 PER YEAR.

- a. Exhibit A, paragraph 9
- b. Exhibit N

\* Document cited shows that information is not there.

6. TOTAL FUEL DAMAGED OR BURNT-UP IN THE LAST TWENTY-TWO YEARS IS LESS THAN 750 GRAMS.

- a. Environmental Impact Appraisal, page 5
- b. Exhibit A, paragraph 10

7. 93% ENRICHED URANIUM IS WEAPONS-GRADE URANIUM.

- a. Exhibit A, paragraph 4

8. 93% ENRICHED URANIUM IS HIGHLY ENRICHED URANIUM (HEU).

- a. Exhibit A, paragraph 4

9. LOW ENRICHED URANIUM (LEU) THAT IS NOT SO LOW ENRICHED AS TO PRODUCE SIZEABLE PLUTONIUM GENERATION REDUCES PROLIFERATION RISKS.

- a. Exhibit A, paragraph 7
- b. Exhibits E and I

10. IT IS OFFICIAL U.S. POLICY TO REDUCE THE ENRICHMENT OF RESEARCH REACTOR FUELS.

- a. Exhibit C, Advanced Fuel Cycle and Reactor Concepts, International Nuclear Fuel Cycle Evaluation, IAEA, 1980
- b. Exhibit U, IAEA-TECDOC-233, "Research Reactor Core Conversion from the Use of Highly Enriched Uranium to the Use of Low Enriched Uranium Fuels Guidebook", a Technical Document issued by the IAEA, Vienna, 1980, pg.1
- c. Exhibit I, USNRC Statement of Policy: "Use of High-Enriched Uranium in Research Reactors" 47 FR 37007
- d. Exhibit A, paragraphs 3,6,7,8,12
- e. Exhibit D, pages 5,6,7 and 38 as marked
- f. Exhibit E, pages 4,7,8,10,13,14,15,20,21,23,25,26
- g. Exhibit F, pages 9,10
- h. Exhibit G, pages 28,29
- i. Exhibit H, page 24

11. REDUCED ENRICHMENT FUELS ARE CURRENTLY AVAILABLE ON WHICH THE UCLA REACTOR CAN RUN.

- a. Exhibit A, paragraph 7
- b. Exhibit H
- c. Exhibit D, pages 7,8,36
- d. Exhibit E, pages 1,5,7,8,10,13,14,21,25,26
- e. Exhibit F
- f. Exhibit G
- g. Exhibit U, pages 11,661,242
- h. Exhibit K
- i. Exhibit R



12. THE ORIGINAL ARGONAUT REACTOR RAN ON 20% FUEL.

- a. Exhibit Q, page 19
- b. Exhibit R, page 115

13. THE UNIVERSITY OF FLORIDA REACTOR RAN UNTIL 1970 ON 20% FUEL.

- a. Exhibit P, page 2 of 2
- b. NRC Staff Answer to Interrogatory 89 as to the SER (3/17/82)

14. OTHER ARGONAUT REACTORS HAVE OPERATED ON 20% FUEL.

- a. Exhibit P, page 2 of 2
- b. NRC Staff Answer to Interrogatory 89 as to the SER (3/17/82)

15. ADVANCED REDUCED ENRICHMENT FUELS OF HIGHER URANIUM LOADING WILL SOON BE AVAILABLE ON WHICH ALL BUT THE HIGHEST POWER RESEARCH REACTORS CAN RUN.

- a. Exhibit A, paragraph 7; Exhibits C,D,E,F,G,H,U

16. THE UCLA REACTOR DOES NOT USE A PLUTONIUM-BERYLLIUM NEUTRON STARTUP SOURCE.

- a. Application, page III/6-5
- b. Exhibit S, page 1

17. THE UCLA REACTOR USES A RADIUM-BERYLLIUM STARTUP SOURCE.

- a. Application, page III/6-5

18. TWO CURIES OF PLUTONIUM-239 ARE MORE HAZARDOUS IF RELEASED TO THE ENVIRONMENT THAN 6.6 MILLICURIES OF RADIUM.

- a. 10 CFR 20 Appendix B

19. UCLA DOES NOT HAVE A SECURITY PLAN AND SAFEGUARDS CONTINGENCY PLAN THAT MEETS THE REQUIREMENTS OF 10 CFR 73.60 for formula quantities of SNM.

- a. Exhibit T, Letter, 3-1-79, Catton to Berger; Letter 11-18-74, Lear to Hicks

20. THE AMOUNT OF SNM REQUESTED IN THE LICENSE, IF ALL WERE ON SITE, WOULD BE A FORMULA QUANTITY OF SNM.

- a. 10 CFR 73.60
- b. Memo, SECY-81-376, "PHYSICAL SECURITY REQUIREMENTS FOR NONPOWER REACTOR LICENSEES POSSESSING A FORMULA QUANTITY OF SSNM" from William J. Dircks, Executive Director for Operations, to the Commissioners, dated June 12, 1981
- c. Exhibit O, N
- d. Exhibit T, March 1, 1979 letter, UCLA's Catton, to DOE's Berger
- e. January 29, 1981, letter, NRC's Miller to UCLA's Wegst
- f. Application A-5

21. UCLA HAS RECENTLY REDUCED ITS SNM INVENTORY.
  - a. Letter, UCLA's Wegst to NRC's Miller, August 6, 1982
22. THE NRC HAS COMMITTED ITSELF TO REDUCING UCLA'S LICENSE AUTHORITY TO BELOW A FORMULA QUANTITY.
  - a. Exhibit J, page 2