

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ALTERNATE BOARD MEMBER JAMES A. LAURENSEN

In the Matter of	)	
	)	
THE REGENTS OF THE UNIVERSITY OF	)	Docket No. 50-142
CALIFORNIA	)	
	)	(Special Proceeding
(UCLA Research Reactor)	)	for Contention II)

COMMITTEE TO BRIDGE THE GAP PROPOSED FINDINGS OF FACT  
AND CONCLUSIONS OF LAW

I. SUMMARY OF PROCEEDINGS

A. Procedural History and Contentions

In February of 1980, the Regents of the University of California ("Applicant") applied to the Nuclear Regulatory Commission for renewal of their class 104 license to operate the Argonaut-type reactor at their UCLA campus (February 28, 1980, Application for License Renewal) in that Application, Applicant asserted that it was entitled to a class 104 license under 10 CFR §50.21 because the purpose of the reactor is "the education of senior under-graduate and graduate students in nuclear engineering and related sciences, as well as research at the M.S. and PhD levels (1980 Application; 5) to demonstrate that this was indeed the purpose of the reactor, the Applicant included in the 1980 Application a chart (page III/1-5) purporting to describe actual reactor activity, 1973 to 1979.

This activity chart reflected only three types of usage: research, class instruction, and maintenance. For example, 1979 figures indicated 411 hours of research activity, 34 hours of class instruction, and 1 hour of maintenance.

On May 22, 1980, the Committee to Bridge the Gap (CBG) petitioned the Nuclear Regulatory Commission for leave to intervene in the proceedings to determine whether the requested license should be granted. Among the issues raised by CBG was whether Applicant was entitled to the Class of license requested on the ground that only a small percentage of reactor usage fell within the stated purposes for which the Class 104 license was requested. CBG asserted at the time that less than 10% of the reactor's operating time was for classroom instruction and that only a fraction of the usage categorized by the University as "research" was in fact "research", the majority of that usage being sale of services to a non-university businessman using the reactor to assay mining samples. (Petition for Leave to Intervene, pages 9-10.)

On August 25, 1980, pursuant to Board order, CBG submitted its supplemental contentions, including Contention II, which asserts that Applicant is not entitled to a class 104 license because, in part, more than 50% of reactor usage has been devoted to sale of services, other than research and development or education and training, contrary to the requirements of 10 CFR §50.21 and that if any license Applicant

was at all entitled to, it should be under \$50.22 as a Class 103 license.

On September 25, 1980, the Atomic Safety and Licensing Board (ASLB) admitted Contention II in the proceedings. (See also Orders subsequent to pre-hearing conference, October 2, 1980, page 2.)

In October, 1980, CBG submitted a set of Interrogatories as to Contention II to Applicant for response. These Interrogatories, inter alia, attempted to elicit information about use of the reactor for purposes other than classroom instruction or scholarly research as well as the identity of usage and financial records for the reactor. Applicant responded on November 28, 1980, by denying any use other than education or research and denying that records of such use existed, as well as denying the existence of any financial records for the reactor.

On November 28, 1980, CBG moved the ASLB for an Order Compelling further Answers. On December 22, 1980, the Board granted the motion directing Applicant "to be open and candid as to details of all existing records," and stating further "we find it difficult to believe a sophisticated University does not have in its accounting records the information being sought." As to the Applicant's assertion that it had no information about commercial use of the reactor because its exclusive function was educational, the Board responded: "While it might be true that

everything concerned with the operation of the reactor or the University is 'educational,' we do not think this simple answer is responsive to the information being sought."

On January 22, 1981, Applicant responded, repeating its assertion that the sole function of the reactor was education, denying once again the existence of usage records which break down use into any categories other than research, instruction, and maintenance. Access was provided to the financial records for the reactor, the existence of which had previously been denied and which did indeed demonstrate the existence of commercial activity, primarily the use of the reactor by the Uranium West firm of Dr. Emil Kalil. (Examples of these records are CBG Exhibits C-21, C-23, C-24, and C-25)

CBG acquired from the Local Public Document Room, a copy of Applicant's answers to Interrogatories submitted by the NRC Staff on April 17, 1980. One of the Staff questions noted that the reactor usage table in the application only provides hours per year for research, class instruction, and maintenance, and that instruction accounts for only 8% of the total hours of operation. Applicant's response to Staff is contained in Applicant's Exhibit "1", and demonstrates that in the most recent year reported, 60% of the usage (264 hours) was "commercial" in the University's own terms, and that only 31 hours were for engineering classes, thus admitting that the bulk of use, which Applicant had been reporting as "research", was actually commercial use. However, this chart was not provided



by Applicant to CBG prior to the hearing in May, 1983 and Applicant, in response to CBG Interrogatories, continued to deny the existence of any records that could break down reactor usage into categories other than research, instruction, and maintenance, and further denied that any non-educational activity was occurring.

CBG, on February 6, 1981, submitted a Supplemental Motion to Compel, asserting that the information contained in what is now Exhibit "1" demonstrated that Applicant indeed had the information that it denied possessing in response to CBG Interrogatories. On February 27, 1980, the Staff filed a brief in support, of CBG's assertion that Applicant had not complied with the ASLB's order of December 22, 1980. The ASLB, on March 10, 1981, granted CBG's Motion, saying, "Once again, we direct UCLA to be open and candid as to the details of existing records."

Despite the second ASLB order, Applicant in a letter dated May 1, 1981, said it had no intention of providing further information, asserting in part, that none was required because the words "it is so ordered" did not appear on the Board's March 10 order. CBG's third Motion to Compel was granted on May 29, the ASLB stating, inter alia, "our order of May 10, 1981, relative to the Supplemental Motion to Compel told UCLA in paragraph in after paragraph to furnish responsive answers to the Interrogatories under Contention II. It is unimportant that it didn't use the magic words 'the Motion is granted'. UCLA was

ORDERED to respond to the CBG Interrogatories with a complete disclosure of all relevant information." The Board said further "UCLA's letter of May 1, 1981, is unacceptable and blatantly insulting from a great University to this Board. Enough is enough." UCLA was ordered to provide responsive answers within 10 days and it was directed to show cause within 10 days why sanctions should not be imposed under Section 2.707 and why counsel for UCLA should not be cited under Section 2.713 for refusal to comply with the ASLB's directions.

On June 11, 1981, Applicant finally provided information about commercial usage of the reactor, admitting for the first time that such usage did occur and that it represented more than half of the hours of usage. Applicant called such usage "extramural," although it stipulated that all "extramural" users to date have been commercial, for-profits firms.

An article appeared in the June 26, 1981, issue of SCIENCE Magazine, quoting Applicant's counsel, Mr. Cormier, as asserting that the ASLB's decisions in the above-cited matters were "sloppy" and that the University had apologized but that there was no reason was to do so (SCIENCE Vol 212, page 14-84). On June 25, 1981, the ASLB issued an Order relative to the article in SCIENCE, directing counsel for Applicant to furnish an affidavit within 10 days as to whether the article accurately reported the interview. On July 9, 1981, Mr. Cormier did so, asserting that portions of the interview are accurately reported and that others are not. On August 24, 1981, the ASLB

determined that while "Applicant was slow to fully recognize its obligation in responding to discovery requests," no sanctions were appropriate due to the inexperience of applicant's counsel. The ASLB said, "It is not unusual for interveners in our proceedings, particularly those proceeding pro se or pro bono, to have difficulty in complying with 10 CFR, part II, but our usual experience with Applicants is normally the reverse." The Board concluded, "We did not have such experience counsel for Applicant here and a sanction or censure of counsel is not required."

It took CBG nearly a year, three ASLB Orders, a threat of sanctions and censure, until Applicant finally admitted that there was substantial commercial (so-called "extramural") use of the reactor, representing approximately 60% of hours of usage as reported by Applicant in its own usage charts. The fiction that the only functions of the UCLA reactor were education and research was finally broken.

B. Summary Disposition

In early September 1982, Applicant and Staff moved for Summary Disposition of Contention II, among others. Both argued that while 60% percent of the usage of the reactor might be commercial, only 2% of the cost of owning and operating the reactor could be attributed to that commercial use, because the purpose of the reactor (unrelated to actual use) was education, and the only cost attributable to the commercial activity were

the incidental costs of turning on the electricity and water (identified in Applicant's Exhibit "4"), said to account for \$13.00 per hour.

CBG responded that it was an accounting charade to assert that 98% of the cost should be attributed to an activity (30-50 hours per year of instruction) that represents less than 10% of the use. CBG further argued that this absurd interpretation of the statute and regulation would amount to nulifying the law.

Applicant and Staff assert that the 360 hours in 1980 devoted, by their own admission, to commercial activity, represent less than 2% of the cost of owning and operating the facility, as defined in 10 CFR §50.22. How much commercial activity, then, would have to occur according to the proposed standard for the UCLA reactor to indeed be properly classified as a Class 103 reactor? Obviously, if 360 hours of commercial use represent less than 2% of the cost, it would take more than 25 times as many hours to exceed the 50% threshold. Twenty-five times 360 hours is 9,000 hours of commercial activity per year. There are, of course, only 8760 hours in a year.

Thus, if we were to accept Applicant's and Staff interpretation of the regulation, the UCLA reactor could operate 24 hours a day, 364 days a year for commercial purposes and still not lose its research reactor license; one day's worth of

instructional use, would more than compensate for 364 days worth of commercial activity. Their interpretation would obviously make both the Atomic Energy Act Provisions and Regulations a nullity.

On April 22, 1983, the ASLB ruled that "CBG's interpretation of 10 CFR §50.22 is correct." The ASLB said, "As CBG points out, UCLA's interpretation leads to an absurdity. Section 50.22 states that if the reactor is used so that more than 50% of its cost are attributable to commercial activity, then it is to be licensed under Section 103 of the Act. Clearly, this does not contemplate more than 50% of the cost may be attributable to less than 50% of the use." The ASLB set an evidentiary hearing before an alternate ASLB member on the remaining factual dispute, described by the ASLB as whether "this reactor has been devoted to commercial purposes more than 50% of its operating time." (Memorandum Order, April 22, 1983, page 8) It is that matter which is to be resolved by the alternate Board member based on the evidentiary record of the hearings of May 24th through 26th.

C. The Legal Standard for a Class 104 License.

Sections 103 and 104 of the Atomic Energy Act established two basic classes of reactor licenses, one being commercial, and the other basically for medical therapy or for research. The Atomic Energy Act mandated that the reactors licensed under Class 104 (e.g. for research) be given certain

advantages over Class 103 licensees because they were of greater social usefulness. The primary benefit they were to receive was that the Commission was directed to "pose only such minimal amount of regulation of the licensee as the Commission finds will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will permit the conduct of widespread and diverse research in development."

On December 19, 1970, Public Law 91-560 was enacted which made several amendments to the Atomic Energy Act. Many of these amendments were focused on changing the provision of Sections 103 and 104th act in order to facilitate the licensing of facilities which were actually commercial and industrial facilities as Class 103 commercial and industrial facilities. The legislative history of the Act clearly shows that the Congress anticipated that some Class 104 (c) licensees (e.g. University-based non-power reactors) might be using their facilities for industrial and commercial purposes and established a "substantial use" test for determining if such use was sufficient to require licensing under Section 103:

"The committee is aware that University-licensees under Sub-Section 104c., and other licensees under Sub-Section 104a. or 104c., sometimes use these reactors for industrial or commercial purposes. The intention of the committee that such insubstantial use not affect licensing under Section 104; however,



should the Commission find that any facilities so licensed is being used substantially for commercial or industrial purposes, then the Commission shall determine whether such use is sufficiently substantial to entail licensing under Section 103."

This is from Senate Report 91-1247, 2nd Session, September 29, 1970. Thus, the Congress clearly indicated that a University reactor could be sometimes (e.g. occasionally) used for commercial purposes without affecting its Class 104 license, so long as such use was not substantial. However, should the facility be used substantially for commercial purposes, the facility would not be entitled to licensing under Section 104. The reasons for this substantial use, as intended by the Congress are clear: that other commercial and industrial reactors should not be subjected to the unfair competition from reactors in similar use but favored by the regulatory benefits for Class 104 license, and that the public should not be subjected to the extra risks associated with Class 104 reactors, if the reactor is actually being primarily used for the less socially-useful purposes properly classed under Class 103.

The Atomic Energy Commission, based on the directive received from the legislative history quoted above, adopted amendments to 10 CFR 50.22 defining the circumstances under which research/development/training reactors would be considered to be used substantially for industrial and commercial purposes. This definition with a congressionally-mandated "substantial



use" test is currently found in 10 CFR 50.22: "---Provided, however, that in the case of a production or utilization facility which is useful in the conduct of research and development activities of the type specified in Section 103 of the Act, such facility is deemed to be for industrial or commercial purposes if the facility is to be used so that more than 50% of the annual cost of owning and operating facility is devoted to the production of materials, products, or energy for sale or commercial distribution, or to the sale of services, other than research and development or education and training. [Emphasis added] (Note: the legislation, as in the legislative history, makes the test one of how the reactor is used.)

A useful analogy can be found in IRS regulations, where the Congress granted non-profit educational organizations under Section 501(c)(3) special benefits because of the added social benefits they provide as compared to profit-making organizations (these special benefits provided under the code include freedom from certain fees and taxes) so long as they do not engage to any substantial degree in any non-exempt activities such as for profit business or involvement in electoral campaigns. The IRS code, defining "substantial" as approximately 20% of activities such as lobbying. In the NRC legislation substantial "was defined as 50%," which is considerably more substantial.

The following excerpts from the Federal Register set

forth the reasons for the NRC "substantial use" Rule and the context in which it was promulgated, as mandated by Congress:

"On October 15, 1971, the Atomic Energy Commission published in the Federal Register (36 FR 20051) proposed amendments to the 10 CFR, part 50, of its regulations which would define the circumstances under which research and development and training reactors will be considered to be used 'substantially for industrial or commercial purposes', and thus licensable by the commission under Section 103 of the Atomic Energy Act of 1954, as amended (the Act) . . . ."

". . . The legislative history also shows that the Congress was aware that some applications for facilities to be licensed under Section 104c, as research reactors might also be considered 'for industrial or commercial purposes' if such reactors had such a purpose to a significant extent. [Senate Report no. 91-1247, 91st Congress, 2nd Session at 28 (1970)] Such facilities might include, for example research reactors that are used to produce radioisotopes for sale or that are used for neutron radiography on a commercial basis.  
38 FR 11445 (Tuesday, May 8, 1973) [Emphasis added]

Thus, the Commission and the Congress anticipated virtually the precise situation before the ASLB "a University-

Court research" reactor used substantially for industrial or commercial purposes, such as neutron activation analysis on a commercial basis. Applicant is a University licensee presently holding a Class 104(c) license. The question then is whether Applicant meets the "substantial use" test.

Title 10 CFR §50.22 defines that "substantial use" test as being met when the facility "is to be used so that more than 50% of the annual cost of running and operating the reactor is devoted to . . . sale of services."

## II. FINDINGS OF FACT

1. UCLA categorizes uses of the reactor  
(1) classroom instruction, (2) research, (3) maintenance.  
(Ostrander, Tr. 12, 17)

2. When the reactor is used for operator training, it is classified as classroom instruction when used by students of the School of Engineering; it is otherwise classified as research. (Ostrander, Tr. 18)

3. Almost anything that involves sample irradiations is classified in the research category. The dominant of the reactor today is sample irradiation which can be provided to anyone who requests it so long as an experimental safety analysis indicates that it can be done safely. (Ostrander, Tr. 19, 136)

4. Users within the research category are generally classified as either other academic institutions or businessmen. (Ostrander, Tr. 19-20, 32) Commercial users have also been called non-academic users or extramural users. (Ostrander, Tr. 41)

5. Uses of the reactor have always been reported to the NRC by summarizing the port hours of use. (Ostrander, Tr. 23)

6. The license limit of the reactor is approximately 438 hours per year of operating time which averages out to a little more than 8 hours a week of permissible operation, however, the average amount of actual use is a little less than 5 hours per week. (Ostrander, Tr. 23)

7. The operating hours are recorded as port hours and are measured from the time the reactor goes to power until the time the rods are dropped and the power falls. The "on" time is recorded when the reactor reaches the desired power and the "off" time is recorded when the reactor is shut down. Recently, a running time meter has been installed which measures hours of use from the time the reactor is potentially capable of being taken critical, i.e. when the control rod drive mechanism is enabled. A pre-start check up is done no matter what use is being made of the reactor. Maintenance is vital to all uses of the reactor. (Ostrander, Tr. 24-26; 140; 157; Ashbaugh, Tr. 369).

8. Classroom instruction preempts all other uses.  
(Ostrander, Tr. 30, 31; 132)

9. Applicant charges \$65.00 per hour plus \$10.00 for a sample handling to all users other than the NEL staff. (Ostrander, Tr. 42) A comparable commercial laboratory charges \$440.00 per hour for the same service. (CBG Exc-32)

10. The basic cost elements of the NEL budget consists of staff salaries and benefits, and related expenses, purchase of equipment, operating, maintenance, parts.  
(Ostrander, Tr. 51)

11. The NEL Budget non-reactor costs from 1977 thru 1981 included reactor safety studies that were not dependent upon the existence of the reactor. (Ostrander, Tr. 52)

12. If the non-academic/commercial users of the reactor were eliminated, there would be no change in the permanent staff at the NEL facility. (Ostrander, Tr. 57, 58)

13. If the non-academic commercial users of the reactor were eliminated, the impact on the cost of operations of the NEL would be very small. (Ostrander, Tr. 60)

14. The cost of operating the reactor for non-academic/commercial use is approximately \$13.00 per hour.  
(Ostrander, Tr. 58) Non-academic commercial users are assessed

fees on the basis of their port hours of usage of the reactor.  
(Kalil, Tr. 204)

15. If classroom instruction was totally eliminated, the reason for the existence of the facility will vanish.  
(Ostrander, Tr. 69, 70)

16. Approximately \$33,000.00 in revenue was received from research users for the year 1980. (Ostrander, Tr. 71)

17. Approximately 10% of the total revenue from all users comprises the total operating cost of the reactor.  
(Ostrander, Tr. 72)

18. Most learning of the reactor system takes place in a classroom setting apart from the reactor.  
(Ostrander, Tr. 79)

19. In 1979, the number of research hours listed on the annual report of the NEL was larger than the classroom instruction hours by a factor of 10. (Ostrander, Tr. 88)

20. The port hour cost is determined by dividing \$13.00 an hour operating cost by the number of ports being used.  
(Ostrander, Tr. 89)

21. Roughly 98% of the costs of owning and operating the NEL are allocated by UCLA to an activity (classroom

instruction) that represents approximately 10% of the operational hours. (Ostrander, Tr. 93)

22. The usage of the reactor is in the exact opposite order of the professed priorities of reactor operations. (Ostrander, Tr. 98)

23. Productivity is defined by applicant as the number of student hours of instruction that is derived from an hour of reactor operation. (Ostrander, Tr. 104)

24. Parametric variations are included in the research category. Parametric variations constitute an attempt to reduce the argon emissions from the reactor. (Ostrander, Tr. 114, 115)

25. An NEL staff experiment is defined as something that meets the fancy or interest of any NEL staff person if it is not unsafe and can be done in connection with another one. (Ostrander, Tr. 117, 118)

26. The commercial users are and have always been charged on a port hour basis. (Kalil, Tr. 257, 274) Outside academic users are charged the same as any commercial user. The service is the same, the price is the same, the billing format is the same for academic users off campus as for people engaged in private business. (Ostrander, Tr. 121)



27. Research projects in reactor physics have "dried up" at the UCLA reactor. There are presently no research projects that are reactor related being conducted at the NEL. (Ostrander, Tr. 136, 152.) The last time a student did research on the reactor was in 1970. (Ashbaugh, Tr. 406)

28. There is no limit on how many hours the reactor may be used by commercial enterprises (except for maximum annual kilowatt hours restrictions). (Ostrander, Tr. 137; Kalil, Tr. 247, 248)

29. When a student operator is at the controls of the reactor as part of the training class and a commercial irradiation is occurring simultaneously, the uses are dually recorded as 1 port hour of commercial use and 1 port hour of classroom instruction. (Ostrander, Tr. 174)

30. The dominant commercial user admitted that only about 5 or 10 user hours were involved in student instruction. (Kalil, Tr. 226)

31. Approximately 60-70 percent of the commercial work could be mailed out by the commercial user to other companies that do the same work. (Kalil, Tr. 278, 279) Instrumental neutron activation analysis is a service that is offered elsewhere including General Activation Analysis Company in San Diego, California, or another University reactor. (Kalil, Tr. 241, 246, 259; CBG Exhibit C-32) TRIGA-type

reactors could be used for the kind of work done by the predominant commercial user at UCLA. (Kalil, Tr. 279)

32. General Activation Analysis, however, charges \$300.00 for the first sample whereas Dr. Kalil, using the UCLA reactor, charges \$3.00 for the first sample. (Kalil, Tr. 241)

33. If students assist in the commercial use of the reactor, it is only in the capacity of a hired employee. (Kalil, Tr. 250)

34. For a commercial use of the reactor, samples must be prepared prior to a run and the laboratory work done after the run is completed in the same manner as an academic use. (Kalil, Tr. 256)

35. The health radiation physicist has the responsibility for disposing of all radioactive as well as non-radioactive waste from the reactor. (Kalil, Tr. 258)

36. Class use of the reactor includes Engineering 135L, which is a 2-unit laboratory course that uses the reactor for four experiments per course, (Ashbaugh, Tr. 289); Engineering 135BL which uses the reactor for five experiments per course (Ashbaugh, Tr. 290); (the number of students in one of these classes varies from year to year from 3 or 4 to as high as 10 or 12,) (Ashbaugh, Tr. 292); Engineering 135F, a 2-unit course which is essentially a reactor-operator training course,

(Ashbaugh, Tr. 293, 294); Engineering 139A which is taught every quarter and does two experiments utilizing the reactor (Ashbaugh, Tr. 295).

37. The reactor is run approximately 1 hour every two weeks for classroom use. (Ashbaugh, Tr. 296)

38. The students in Physics 180A only observe the reactor operating and then analyze their samples in the laboratory away from the reactor. (Ashbaugh, Tr. 299)

39. The reactor operator irradiates the samples for Chemistry 184 classes, but all the analysis is done in the Chemistry laboratory. (Ashbaugh, Tr. 302)

40. Chemistry 221K uses approximately 10 hours annually of sample irradiation time. (Ashbaugh, Tr. 304)

41. Instrumentation time on the applicant's "class use of the reactor" chart is actually laboratory analysis time in which the reactor is not used. (Ashbaugh, Tr. 306)

42. Earth and Space Sciences 298 neutron activation analysis uses reactor for 6 hours per course. (Ashbaugh, Tr. 306)

43. Engineering Extension 497.17, nuclear reactor theory and operations course utilizes reactor for 1 day. (Ashbaugh, Tr. 307)

44. The reactor hours in the class use chart include reactor-related uses, in which the reactor is not actually operating. (Ashbaugh, Tr. 309)

45. The student reactor hours shown on the class use chart are approximate ranges based on estimates of the reactor supervisor. (Ashbaugh, Tr. 310)

46. There are some value judgements made in arriving at student reactor hours per year that have no statistical basis. (Ashbaugh, Tr. 313)

47. The "total" annual student hours of reactor dependent instruction refers to reactor related classes and not reactor operating hours. (Ashbaugh, Tr. 317)

48. A student in reactor operator training spends approximately 20 hours in classroom instruction in running the reactor and needs from 20 to 60 hours of console time to pass the reactor operator exam. (Ashbaugh, Tr. 321-322)

49. Since 1968, there had been 2 or 3 students per year who received a reactor-operator licence. (Ashbaugh, Tr. 345) Only two or three students over the years have been

senior reactor operators. (Ashbaugh, Tr. 326) In order to qualify as a senior reactor-operator, it is only necessary to pass a written test. No reactor operation is required. (Ashbaugh, Tr. 398)

50. Under the Reactor-Sharing Contract program of the NRC, another University or College can come in and have their samples irradiated or see a demonstration tour of the reactor. (Ashbaugh, Tr. 328)

51. Anywhere from 40 to 80 percent of an operator trainee's console time would be at power and therefore recorded as port hours. (Ashbaugh, Tr. 343)

52. Of the courses listed as reactor-related, only Engineering 135F would be impossible to have if the reactor were not operable. (Ashbaugh, Tr. 348-354)

53. Only 3 students are presently enrolled in Engineering 135F; 5 students were enrolled in Engineering 135F last year; roughly 6 to 8 students were enrolled in Engineering 135F the year before. (Ashbaugh, Tr. 352)

54. The reactor hours would be larger for all users if measured by applicant's expanded definition of "port hour" as used in applicant's Exhibit "5". (Ashbaugh, Tr. 371)

55. Applicant translates 31 port hours of classroom instruction for 1979 to 3,328 hours of reactor-dependent instruction. (Ashbaugh, Tr. 371-372)

56. To move from 1 hour of reactor console time to 1500 annual student hours of reactor-dependent instruction, the 1 hour of council time is added to 12 hours of laboratory time, plus 7 hours of lecture and preparation time which is then multiplied by 3 (since the course is offered 3 times per year) and that result is multiplied by 25 (the average number of students per class). (Ashbaugh, Tr. 373-374, 376)

57. Under the technical specifications which govern operation of the reactor, the maximum number of hours that the reactor can operate at full power in a year is 440 hours. (Ashbaugh, Tr. 377)

58. The term "reactor hours" is defined differently in the applicants' class use chart for each class that utilizes the reactor. (Ashbaugh, Tr. 378)

59. Applicant admitted that neither of its Exhibits "5" and "6", are 100% correct or accurate. (Ashbaugh, Tr. 379)

60. Applicant defines "reactor dependent" as the basic number of hours that a class meets. Applicant's Exhibit "6", which purports to show reactor-dependent hours, was entirely devised from an attempt by the senior reactor operator

to recall and reconstruct the number of hours in which instructional activities "related" to nuclear reactors was undertaken by University students. It was compiled without checking the supervisor's logs, the operating logs, or enrollment records. (Ashbaugh, Tr. 385-389)

61. Applicant contends that the measure of instructional use of the reactor is the "annual student hours of reactor dependent instruction" whereas the measure of commercial use is "port hours". (Ashbaugh, Tr. 388, 389)

62. University contends that the time a commercial user spends in preparation, fixing equipment and analyzing samples should not be included in the commercial users' summary of reactor use. (Ashbaugh, Tr. 391) However, preparation, analysis and laboratory work should, according to applicants' contentions, be included in measuring educational use. (Ashbaugh, Tr. 391)

63. If the formula which applicant advocates for measuring classroom instructional use were applied to commercial use, the commercial use would be roughly 3,000 hours per year. (Ashbaugh, Tr. 393)

64. Applicant has no conversion units for converting its various ways of measuring reactor use from one to other. (Ashbaugh, Tr. 397)



65. If the reactor Applicant did not have a license to pull control rods, there would be nothing that would prevent applicant from continuing that part of the training to show how the process pit works. (Ashbaugh, Tr. 400)

66. If the reactor was shut down, four of the six person staff would be eliminated. (Ashbaugh, Tr. 414)

67. Applicant's accounting witness based his opinions on a review of Exhibit "2" and his understanding that "port hours" meant "service irradiation as a part of the production productivity of the reactor;" and that reactor-dependent instruction meant "those hours that are instructional in nature and are dependent upon the existence, the presence of the reactor;" (Robinson, Tr. 421-422) and on the assumptions that the reactor has educational benefits, no matter how de minimus, whether its operating or not, (Robinson, Tr. 429); that the educational activity reflected on Exhibit "6" is dependent upon the existence of the reactor, (Robinson, Tr. 430, 443); that educational purposes include any classroom time, any instruction time, or any other time otherwise denominated educational and dependent upon the reactor by the Applicant. (Robinson, Tr. 431) Applicants' accountant made no independent effort to verify the accuracy of the numbers on applicants' Exhibits "2" and "6". (Robinson, Tr. 437)

68. Applicant's accounting witness opined that the total reactor-dependent educational use should be accorded the

same weight as the total commercial use, and based on the figures that he was given of 440 hours of educational use (from applicants' Exhibit "6") and 360 hours of commercial use (from applicants' Exhibit "2") that 55% of the cost allocation of the reactor should be for academic purposes and 45% for commercial purpose. (Robinson, Tr. 427-428)

69. An accounting principle that should be considered is allocating costs on the basis of the benefits, or in other words, the principle that "costs follow benefits." (Robinson, Tr. 425)

70. Applicants' accountant admitted there were other appropriate methods that could be used for allocation of usage. If the element of reactor-related classroom instruction were eliminated, it would be appropriate to allocate on a percentage ratio the uses of the reactor by the various different users. (Robinson, Tr. 436-437)

71. Depending on the definition of "use", it would be equally appropriate to allocate costs on the basis of use as well as costs on the basis of benefits. (Robinson, Tr. 437)

72. The NRC financial analyst opined that non-academic use of the reactor was not commercial since there was no profit to Applicant. (Petersen prepared testimony, A.3) The financial analyst did not review the reactor usage logs, the

supervisor's logs or any student enrollment reports to verify the accuracy of University's Exhibits on which his opinions were based. (Petersen, Tr. 452-455)

73. The financial analyst conclusion that the commercial usage is incidental use of the reactor is based primarily on "the number of classroom hours that the University states are dependent on the existence of this reactor; the number of students in those classes. . . ." (Petersen, Tr. 457) The financial analyst believes that placing a figure on allocation of commercial versus academic use is a judgement call that is not precise and that it is difficult to put the same unit of value on the different types of uses. The financial analyst conceded that it is just as reasonable to assume that applicant would incur the fixed cost of operation if all they were providing was a commercial service and they provided no academic services or the academic activity was the incidental activity. (Petersen, Tr. 461-462)

74. The primary accounting principle upon which the financial analyst relies is that the cost of operating the facility is identified as to the purpose for which that cost is incurred. (Petersen, Tr. 462); in addition to the purpose of the facility, the benefit to be derived in the use of the facility would be appropriate basis on which to cost out reactor usage. (Petersen, Tr. 462)

75. The financial analyst conclusion that the hours of reactor operation are not the primary determinant of use are based on statements made to him by the University that other activities are dependent on the reactor when it is not operating, primarily the teaching of classes and the preparation for those classes. (Petersen, Tr. 462-463)

76. The testimony of witnesses Aftergood and Hirsch is uncontroverted on the statements that the original purpose for which the reactor was licensed (education in nuclear engineering and related sciences and research at the MS and PhD levels) has long ceased to be a primary or substantial use of the reactor and activity unrelated to the licensed purpose of the facility (sale-of-services) has increased to become by far the largest category of reactor use. (Prepared testimony of Aftergood and Hirsch, paragraphs 4, 5, 6; Exhibits C-18, 20, 29, and 30).

77. The minimal instructional use and non-existent research use of the reactor has made the reactor, on a per-student basis, extremely expensive compared to other teaching tools in the sciences at UCLA. (Prepared testimony of Aftergood and Hirsch, paragraphs 7; Exhibits C-15 and C-16)

78. With the advent of the medical cyclotron, the reactor in the field of medical isotope production was displaced

by 1976 on the UCLA campus. (Prepared testimony Aftergood and Hirsch, paragraph 9; Exhibit C-20)

79. The vanishing instructional and research uses of the reactor have been replaced by the providing of activation analysis services to people outside of the School of Engineering and Applied Sciences. (Prepared testimony Aftergood and Hirsch, paragraph 9; Exhibit C-20)

80. Measured in port hours, the reactor was operated for classroom instruction 52 hours in 1978, 31 hours in 1979, 46 hours in 1980, and 61 hours in 1981 and in those same years sale-of-services to private businesses alone were 95, 264, 360 and 211 hours respectively. (Prepared testimony Aftergood and Hirsch, paragraph 10, including "Reactor Usage" tape)

81. A review of the supervisors' and operating logs, shows that the actual uses in the "research" category are service irradiations for a fee. (Prepared testimony of Aftergood and Hirsch; paragraph 12) Sample irradiation and activation analysis, the services provided by the reactor, are standard services provided in a number of other locations than UCLA. Activation analysis for instructional purposes can also be performed at UCLA without operation of the reactor, using instead the NEL neutron generator which does not require a federal license. (Prepared testimony of Aftergood and Hirsch; paragraph 15; Exhibit C-2) In addition, the activation analysis laboratory the sub-critical assemblies and the auxiliary

NEL are not required to be federally licensed. (Prepared testimony of Aftergood and Hirsch; paragraph 15)

82. The "sole" purpose of the reactor<sup>1</sup> is actually one-tenth of the reactor operation. (Prepared testimony of Aftergood and Hirsch; paragraph 17; Exhibit C-31, page 27)

83. Applicants' Exhibit 5 contains discrepancies in the number of reactor hours reported. (Aftergood, Tr. 489)

84. All of the records of the University measure use of the reactor in "port hours" and there is not substantial difference in how the reactor is used by the various users. (Hirsch, Tr. 494, 495) Time of usage is measured in the same manner and in the same units for all classes of users. (Hirsch, Tr. 497) Port hours are defined as the measure of user demand. (Hirsch/Aftergood, Tr. 502-504)

85. There is no entry in any of the logs which is attributable to use of the reactor when the reactor is not actually in operation. (Hirsch, Tr. 498)

86. General Activation Analysis Company in San Diego, California is able to perform delayed neutron counting. (Hirsch/Aftergood, Tr. 546, 547) General Activation Analysis Company also has a pneumatic rabbit system. (Hirsch, Tr. 598; Exhibit C-32)

87. The format of the University financial records for accounting for the sale-of-services is precisely the same whether they are selling the service to a user whose purpose is commercial, academic or interdepartmental at UCLA. Applicant charges the same amount of money for precisely the same service and records it in precisely the same way. (Hirsch, Tr. 558-559)

88. When applicant makes the reactor available to another professor on the campus for use to irradiate a substance to further his own research or classroom education, it is not commercial use, but it is sale-of-service other than research and education. (Hirsch, Tr. 569) The fact that the user who buys the service from applicant may be involved in research does not change the character of applicants' function, i.e. selling a service. (Hirsch, Tr. 570)

89. In all the records that applicant has kept to date, the only way measuring use of the reactor is in port hours. (Hirsch, Tr. 571-572) Both educational and commercial value exists beyond port hours. (Hirsch, Tr. 572)

90. The reactor can be used as a simulator without operation. The NRC does not require simulators to be licensed. (Hirsch, Tr. 573)

91. It is important that the reactor be maintained in order to accomplish the educational goals. It is also important



that it be maintained to accomplish the commercial goals.  
(Hirsch, Tr. 574)

92. The three categories of use described by applicant, research education and maintenance, include commercial use in the research category. (Hirsch, Tr. 564-565) The categories of use by which applicant has described the use of the reactor has changed over the years from research education and maintenance to include: classes, NEL experiments, maintenance, UCLA users, Colleges and Universities, demonstrations and commercial. (Hirsch, Tr. 567) "Commercial" use has also been called "extramural", "non-academic", and "research". (Hirsch, Tr. 567)

93. The only real tabulation in statistical form that the applicant had and has available of day-to-day educational use was the supervisor's logs drawn on the operator's logs, which report in port hours. (Hirsch, Tr. 569)

94. In more than 10,000 pages of applicant documentation presented for review in these proceedings, there was never any entry that was labeled "console use". (Hirsch, Tr. 565, 581) There is no raw statistical data available that reflects console hours. (Hirsch, Tr. 582)

95. All of the Universitys' records tabulate use in port hours. (Hirsch, Tr. 583)

96. An hour of education is defined in applicants' records as one port hour per hour of education. (Hirsch, Tr. 583)

97. Applicant has kept no records that reflect an actual lecture in which the reactor was utilized. (Hirsch, Tr. 583)

98. Applicant has kept no records that reflect a measure of usage for classroom instruction other than the port hour. (Hirsch, Tr. 584)

99. It is misleading to characterize classes in which students are brought to see the reactor, but the rest of the class is on other matters, as "reactor dependent". (Hirsch, Tr. 613)

100. Ninety-eight percent of the costs of operating the reactor have been arbitrarily charged to the educational framework but they have not been actually consumed that way. (Baefsky, prepared testimony, paragraph 5) Cost allocation charges in this manner are not matched to actual usage but charged according to original purpose. CBG's accountant opined contrary to Applicant's accountant, that this method of accounting is "not in accordance with accepted cost accounting principles." (Baefsky, prepared testimony, paragraph 5)

101. In 1972, direct commercial usage of the reactor was 2%; in 1980, direct commercial usage exceeded 60%. (Baefsky prepared testimony, paragraph 6)

102. A basic principle of cost accounting is that cost should follow services rendered. If 60% of the reactor is direct commercial work, then 60% of the cost should be allocated to the commercial activity. (Baefsky, prepared testimony, paragraph 8)

103. In 1971, direct commercial usage of the reactor was one hour, representing one-half percent of the total hours; in 1978, direct commercial usage was 95 hours, representing 28% of the total hours; in 1979, direct commercial usage was 264 hours, representing 59% of the total hours; in 1980, direct commercial usage was 360 hours, representing 60.5% of the total hours. (Baefsky, prepared testimony, paragraph 10)

104. Applicant has failed to revise its cost allocations summaries to reflect the change in distribution of services. (Baefsky, prepared testimony, paragraph 10)

105. The \$337,000.00 annual budget for the reactor solely applies to the educational and academic services rendered: for 1979, the total of 32 hours of education and direct research would cost \$10,351.00 per hour. If costs were charged according to service and usage, the 1979 commercial users would be charged with approximately 60% of the \$337,000.00

cost for a total of about \$202,000.00. (Baefsky, prepared testimony, paragraph 14)

106. It is a fundamental accounting error to allocate fixed costs. (Baefsky, supp. prepared testimony, paragraph 5)

107. CBG's accountant, contrary to Applicant's accountant, opined that "incidental" usage is measured either by comparing commercial usage to education and research usage or evaluating the usage in terms of its subjective social worth;. an evaluation of incidental usage based upon subjective valuation of social worth is not a measurement for generally accepted accounting principles which are reflected on financial statements. (Baefsky, supp. prepared testimony, paragraph 7)

108. For accounting purposes, port hours can be tied to hourly usage of the reactor. "Reactor dependent instruction" can only be tied to the classroom. (Baefsky, supp. prepared testimony, paragraph 9)

109. If it costs the NEL \$13.00 per hour to operate the reactor for commercial user and if the user is charged \$65.00 an hour for that service, the difference would be profit to the NEL. (Baefsky, Tr. 638)

110. CBG's accountant, contrary to Applicant's accountant, opined that adding on costs for a specific function,

as in Applicants' Exhibit 4, is not a generally accepted method of accounting. (Baefsky, Tr. 689)

111. Down time, or unused time, of the reactor must be allocated in the same ratio as usage. (Baefsky, Tr. 649, 650)

112. If 61% of port hours in a certain year were for commercial purposes, it would not be an appropriate accounting method to attribute only the incidental costs of operation to commercial use. (Baefsky, Tr. 653-654)

113. The reactor would have to be operated to be an educational tool. If it doesn't need to be operated, a simulator is sufficient. (Baefsky, Tr. 719) When the reactor is not operating, it is not being used. Use of the reactor is reactor time. (Baefsky, Tr. 719-722) To measure use of the reactor, it must be actually operating. "Reactor related" value is not usage. (Baefsky, Tr. 722)

### III.

#### CONCLUSIONS

The parties have been directed to address five factual issues, along with other matters relevant to the factual disputes concerning Contention II in these proceedings. It is remembered that the Applicant has the burden of proof on each and all of the issues in this proceeding. 10 C.F.R. Section 2.732. CBG first addresses the Board questions seriatim.

1. The extent to which UCLA Argonaut UTR is used as a tool to support educational and research programs when it is not operating.

The findings enunciated above are applicable to this issue:

18, 23, 27, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44,  
45, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 58, 60, 61,  
62, 67, 68, 69, 70, 72, 73, 74, 75, 78, 81, 82, 85, 90,  
91, 94, 97, 99, 107, 113.

conclusion re issue no. 1.

The extent to which the UCLA Reactor is used as a tool to support educational and research programs when it is not

operating is strongly contested between the parties. While Applicant concedes that most of the learning of the reactor system takes place in the classroom, apart from the reactor and the reactor in fact need not physically be in existence for such classroom learning to take place, and no research projects of any kind, as that term was originally defined, are being conducted by Applicant, and despite the fact that the class use of the reactor in terms of actual operation is minimal (approximately one hour every two weeks for classroom use), nevertheless, Applicant insists that because the primary purpose of the reactor is for educational use and there are educational benefits derived from "reactor related" activities that the usage of the reactor is primarily educational and therefore it should have its Class 104 license renewed.

CBG on the other hand contends that there is no difference in preparation laboratory or analysis time or prestart or shutdown time regardless of the classification of use, that moreover the Applicant has consistently since the inception of this reactor identified the "port hour" as the only means in which reactor usage may be measured and that it is patently absurd to distort the educational use, as Applicant does, to such an extent that the Applicant allocates 98% of the costs of operating the reactor to 2% of the use.

CBG's evidence clearly establishes that the subjective value analysis required to establish the educational "use" incident



to actual reactor use, is not quantifiable and therefore incapable of being measured by an objective standard.

Applicant concedes that of all the courses listed as reactor related, only Engineering 135F, a reactor operator training course, would be impossible to conduct if the reactor was not operable. Applicant further concedes that only about two or three students per year qualify for a reactor operator's license and that they require approximately twenty hours of time at the console, of which approximately 40 to 80% would be recorded as port hours anyhow. There is thus less than a maximum of 100 hours per year of so-called "reactor dependent" instruction that might be lost if the reactor were not operable. Indeed, Applicant did not controvert the evidence that such training could be accomplished at a simulator.

It is also important to remember that if the peripheral time, i.e. preparation analysis, etc. were added for educational uses, in order to make a valid comparison, such peripheral time would have to be added for commercial uses and the percentages would remain constant. This Board has already addressed Applicant's translation of 31 port hours of classroom instruction to 3,328 hours of reactor dependent instruction and the ensuing result as an absurdity. Nothing further need be said on that issue. Applicant's experts who concluded that the costs must be allocated on the basis of educational benefit based their conclusions on the statements by Applicant that in fact a certain

number of classroom hours were dependent upon the existence of the reactor. As shown above, Applicant's own testimony shows that the classroom instruction is in fact not "dependent" on the actual operation of the reactor, other than the port hours of operation actually recorded, and therefore, the underlying assumptions upon which the experts base their opinions are invalid. Likewise, the conclusions must fall. Thus, it must be concluded that the reactor is not necessary as a tool to support research and education programs when it is not in operation. On the other hand, if it is concluded that the reactor is necessary, despite the fact that it is not in operation, it is clear that no license is required at all, inasmuch as without operation, there is no fuel and without fuel, there is no need for a license at all.

2. The meaning of the term "port hours."

The findings enunciated above are applicable to this issue:

5. 30, 51, 52, 54, 55, 58, 60, 61, 62, 67, 75,  
80, 84, 85, 89, 93, 94, 95, 96, 98, 108, 112.

conclusion re issue no. 2.

The evidence adduced in the hearing unequivocally establishes that since the inception of this reactor, its use has always been measured in terms of "port hours." The concept of port hours is a quantifiable measurable objective standard by which reactor usage can be determined. Moreover, all of Applicant's reports to the NRC over the years have been made by summarizing the port hours of use. It would indeed be an anomaly to have port hours as the measure for one use and "reactor dependent hours" as the measure for another use and then try to compare those uses. The expansion of 31 port hours to 3,328 reactor dependent hours is a clear example of this anomaly. Port hours are defined by CBG as the measure of user demand. This is a measure that is clearly applicable to all users and provides an objective basis by which various uses can be compared. To measure in any other way than actual demand not only flies square in the face of Applicant's own procedures for measurement but controverts its own definition that one port hour equals one hour of education. CBG asserts that one hour of user demand or one hour of education or one port hour are synonymous and urges this Board to so find.

3. The extent to which UCLA faculty and staff salaries charged against reactor operating costs would be avoided if the reactor were not present.

The findings enunciated above are applicable to this issue:

10, 11, 12, 13, 14, 15, 37, 66, 77, 106, 109.

conclusion re issue no. 3.

The evidence proffered by Applicant establishes that the major cost element of the NEL budget is the staff salaries, benefits and related expenses. Applicant also adduced evidence that if the non-academic/commercial users of the reactor were eliminated, the impact on the cost of operations of the NEL would be very small and there would be no change in the permanent staff of the NEL facility. However, Applicant conceded that if the classroom instruction was totally eliminated or if the reactor was totally eliminated, that four of the six staff positions would be concomitantly eliminated along with the salaries, benefits and expenses related thereto. Moreover, CBG's accountant uncontrovertedly established that it is a fundamental accounting error to allocate fixed costs on the basis of usage.

4. The categorization of reactor usage and allocation of usage time to each category.

The findings enunciated above are applicable to this issue:

1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 16, 17, 19, 21,  
22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,  
37, 47, 57, 59, 62, 63, 64, 67, 68, 69, 79, 71, 72, 73,  
74, 75, 76, 79, 81, 83, 86, 87, 88, 92, 97, 98, 99, 100,  
101, 102, 103, 104, 105, 107, 108, 109, 110, 111

conclusion re issue no. 4.

UCLA has historically categorized the uses of the reactor as (1) classroom instruction, (2) research, (3) maintenance. The research category has been most troublesome to analyze, because it has become the dump site for almost any use that cannot be directly categorized as classroom instruction or maintenance. It has variously included other UCLA users, other academic institutions, and commercial users. The commercial users have been further alternatively categorized as "non-academic" or "extra-mural." The changes in terminology, however, can be traced to the uncontroverted fact that the uses of the reactor have drastically changed since the years of its inception from the original purposes for which the reactor was licensed, education in nuclear engineering and related sciences and scholarly research, to a predominance of sample irradiations for third-party users, other than students in the School of Engineering. Thus, sale of services has become the largest category of reactor use. While, as noted above, these uses have been historically measured in port hours, Applicant, in a desperate attempt to avoid the consequences of the shifted use

of the reactor, by an Orwellian double-speak contrivance, attempts to recategorize and redefine what constitutes "use" of the reactor. The evidence has clearly established though that despite Applicant's new definitions of "use" that allocation of use can only be measured quantifiably in terms of the "port hour," and that in fact this has been the only measure that has ever been used.

Moreover, even if the port hours, taken at their face value, were subdivided in the so-called research category, so that other UCLA users were eliminated from the tabulation, and even further, so that other academic institutions were removed from the tabulation, leaving the admitted commercial use only, more than 50% of the use of the reactor would still fall in the commercial category, as established by Applicant's own evidence.

CBG's evidence clearly established that while educational benefit is a worthwhile attribute to recognize, that actual consumption of reactor operating time is the only way in which use of the reactor can be measured and cost allocation charges must be matched to actual usage and not a subjective unquantifiable purpose. Moreover, Applicant's expert conceded that, as established by CBG's expert, that an acceptable accounting method would be that costs should follow use.

5. The extent to which the reactor is used to support teaching and/or research programs of other educational institutions.

The findings enunciated above are applicable to this issue:

26, 50, 78.

conclusion re issue no. 5.

Very little evidence was introduced on this subject other than a showing that an average of approximately 40 hours per year of reactor operating time was utilized by other educational institutions. However, these other academic users are charged the same as any commercial user of the reactor. The service is the same, the price is the same, the billing format is the same as for people engaged in private business. Moreover, with the availability of other instrumentation and other facilities to do the sample irradiations that UCLA performs for other institutions, there is in fact another source available and the UCLA services could be eliminated.



#### IV.

##### ALTERNATE REMEDIES.

CBG vigorously maintains that Applicant is not entitled to a Class 104 license and, at best, may be entitled to a Class 103 license for the reason that, pursuant to 10 C.F.R. Section 50.22, the UCLA facility is used so that more than 50% of the annual cost of owning and operating the facility is devoted to primarily the sale of services in the commercial area.

However, the alternate Board member has requested that the parties offer alternate remedies other than denial of a Class 104 license. In response to that request, CBG offers the following:

The only alternative to denial of a Class 104 license that CBG perceives as a possible reasonable alternative would be a Class 103 license with conditions. Those conditions would limit the use of the reactor, so that less than one-half of the actual hours that UCLA operates the reactor are devoted to commercial uses. Commercial use is defined as the production of materials, products for energy for sale or commercial distribution or to the sale of services. It would not include services performed for UCLA faculty, staff or students, for research and/or

for educational purposes, irrespective of whether a charge is made for those services. A further condition would be that UCLA would be required to record all reactor usage by either port hours or kilowatt hours of actual usage attributable to (1) direct educational and scholarly research uses; (2) commercial uses and; (3) maintenance and calibration of the reactor. A port hour would be defined as one hour of reactor operating time at power. Such records would be required to be filed with the NRC on an annual basis commencing with the grant of a license and shall be available at all times for public inspection.

A further alternative may be to measure the operating hours by the running time meter which has recently been installed at the reactor site, although it is not known how closely this meter correlates to actual port use hours.

As a means of enforcing the conditions of the license, CBG suggests that an automatic termination provision be written into the license, whereby if commercial use of the reactor operating time in a single calendar year exceeds 55% of the total use, the reactor operating license shall be immediately revoked by the NRC at the

request of any interested person without further notice. The revocation should become permanent if this condition is violated more than one year in succession and the reactor may then be ordered decommissioned by the NRC without further notice.

V.

CONCLUSIONS OF LAW.

Having considered all of the evidence properly before the alternate Board member and based on the Findings of Fact, the alternate Board member concludes that UCLA is not entitled to a Class 104 license and that at best, UCLA may be entitled to a Class 103 license pursuant to 10 C.F.R. Section 50.2 on the grounds that the UCLA reactor is so used that more than 50% of the annual cost of owning and operating the facility is devoted to the production of materials, products or energy for sale or commercial distribution, or to the sale of services, other than research and development or education of training and therefore, the UCLA reactor is not entitled to a Class 104 license.

The alternate Board member recommends to the Atomic Safety and Licensing Board that these Findings of Fact and Conclusions of Law be adopted as the decision of the Atomic Safety

and Licensing Board concerning Contention II in these proceedings.

DATED: June \_\_, 1983.

---

Judge James A. Laurenson  
Alternate Board Member