

MAR 1 1984

MEMORANDUM FOR: Cecil O. Thomas Chief
Standardization & Special Projects Branch
Division of Licensing

FROM: Harold Bernard, Project Manager
Standardization & Special Projects Branch
Division of Licensing

SUBJECT: HIGHLIGHTS OF THE UCLA RELICENSING/HEARING ACTIVITIES

Enclosed is a chronology of the UCLA activities indicating relicensing,
intervenor and hearing highlights.

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Harold Bernard, Project Manager
Standardization & Special
Projects Branch
Division of Licensing

Enclosure:
As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Enclosed is a chronology of the UCLA activities indicating relicensing, intervenor and hearing highlights.

A handwritten signature in cursive script, reading "H. Bernard", is positioned above the typed name.

Harold Bernard, Project Manager
Standardization & Special
Projects Branch
Division of Licensing

Enclosure:
As stated

HIGHLIGHTS OF THE UCLA
RELICENSING/HEARING ACTIVITIES

The UCLA reactor is a 100 kWt Argonaut reactor which uses plate MTR-type fuel. The reactor is light-water-cooled and graphite-reflected. Biological shielding for the reactor is 7-8 ft. of monolithic and concrete blocks with 5 and 10 ton concrete blocks on the top. Fuel elements are in a two-slab array surrounded by graphite (See Figure).

Operation is limited by the Technical Specifications to an average of 8.5 hrs/wk. with a maximum of 20 hrs. in any one week. Actual operation is about 5% of the time. The chronology of events for UCLA is as follows:

- | | |
|---------------------------|---|
| Oct. 1979 | Committee to Bridge the Gap (CBG) submitted a 2.206 petition stating that the UCLA reactor is unsafe and is contaminating students in adjacent buildings. |
| Feb. 1980 | UCLA submitted a request for a 20 yr. operating license. |
| Apr. 1980 | Noticed appeared in Federal Register regarding relicensing application and opportunity for review. |
| May 1980 | CBG submitted approximately 1300 contentions. |
| Sept. 1980 | H. Denton signed letter to CBG rejecting their 2.206 allegations. |
| May-Sept. 1980 | Staff, UCLA, CBG talked on the phone and met various times to define the contentions and to reduce the contentions to a manageable number. Twenty-one contentions and various subparts resulted -- for a total of about 230 contentions. |
| Sept. 1980 | The first pre-Hearing Conference was held. CBG became a bonafide intervenor and the UCLA licensing renewal action was now in an official hearing status. |
| Dec. 1980 | Commission reviewed and upheld Denton's 2.206 response of 9/80 |
| June 1981 | SER completed and forwarded to all parties. |
| July 1981 to
June 1983 | All parties were involved in numerous prehearings regarding the various contentions and subparts, discovery, summary dispositions, etc. |
| June 1983 | The first hearing was actually held. Prior to this hearing, the Board's instructions were to hold the hearings on the "inherent safety" of the UCLA Argonaut Reactor. Since "inherent safety" was pervasive throughout most of the contentions, the Board felt that if that concept was upheld, most of the other contentions would be answered satisfactorily. "Inherent safety" was eventually defined by the Board to be a maximum hypothetical instantaneous insertion of β_{eff} of 3.00 of reactivity, no dampening by the safety and control rods, include self-shut down by the negative void coefficient, coolant expulsion, and coolant draining. (Whether the safety |

rods are "permitted" to eventually drop by gravity has not yet been acknowledged by the Board). In addition, the Board wished to know the inventory of fission products in the fuel and the fate of fission products released, if any.

All testimony by the UCLA staff and experts and NRC staff and laboratory contractors has been in explanation and verification of the safety of the reactor under the postulated accident conditions and the various aspects of the SER.

CBG and their "experts" testimony has contested and contradicted almost every aspect of all the UCLA and staff safety analyses and testimony from basic physics through interpretation of SPERT and BORAX test data to interpretation of coolant performance during the postulated accident and, finally, the interpretation of meteorological performance and dose to parties at various distances from the reactor.

If the Board eventually rules in our favor, then most of the other CBG contentions vaporize. If the Board rules otherwise, then we start hearings on the "safety" of the reactor with the various engineered safeguards operating (control rods, dump valve, etc.).

Intermittent
to Present
Contention XX

The staff, UCLA, et. al. were at a pre-Hearing Conference on February 6, 1984 to determine the action to be expected on Contention XX - Safeguards/Security. CBG, apparently, convinced the Board of the need to expedite consideration of this contention by tying it to possible "terrorist" activities involving HEU at UCLA. The Board has ruled that in as much as "Sabotage" has not been specifically deleted from 10 CFR 73.40; it must be considered as part of safeguards considerations. NMSS has initiated a SECY paper to have the Commission include such a clarification as part of the current "Safeguards Upgrade Rules" that are now being considered for NPR's.

Sept. 1982-
Present
Contention II

The Board and an alternate Hearing Judge have heard testimony on whether UCLA is to be considered for a Class 103 or 104 license. Hearings revolved around income from a commercial source for irradiations. Staff and UCLA testified that it is a small percentage of the total cost of operating the reactor; CBG says it is the major cost. All testimony has been provided; the Board has yet to decide on this contention.

Findings

It is expected that the Board will rule within the next 3-6 months on the "inherent safety" concept, and within several weeks on safeguards and the 103 vs 104 license.

In regard to whether or not UCLA can convert to LEU fuel, there is no reason why UCLA cannot now convert to LEU fuel. Conversion, as for all university reactors, remains a case of the availability of LEU fuel money, time (Department of Energy responsibility) and the negative impact on the student programs already involving the reactor. An over riding fear of the universities is potential public hearings for the converting reactors.

Duration and
Cost

Hearing associated activities have been going on since September 1980, 3½ years with no end in sight. I estimate that the UCLA Hearings have already cost a total for all parties of \$1,000,000 to \$1,500,000. If the Board decides to rule on all the contentions, the hearings could be extended for another several years.

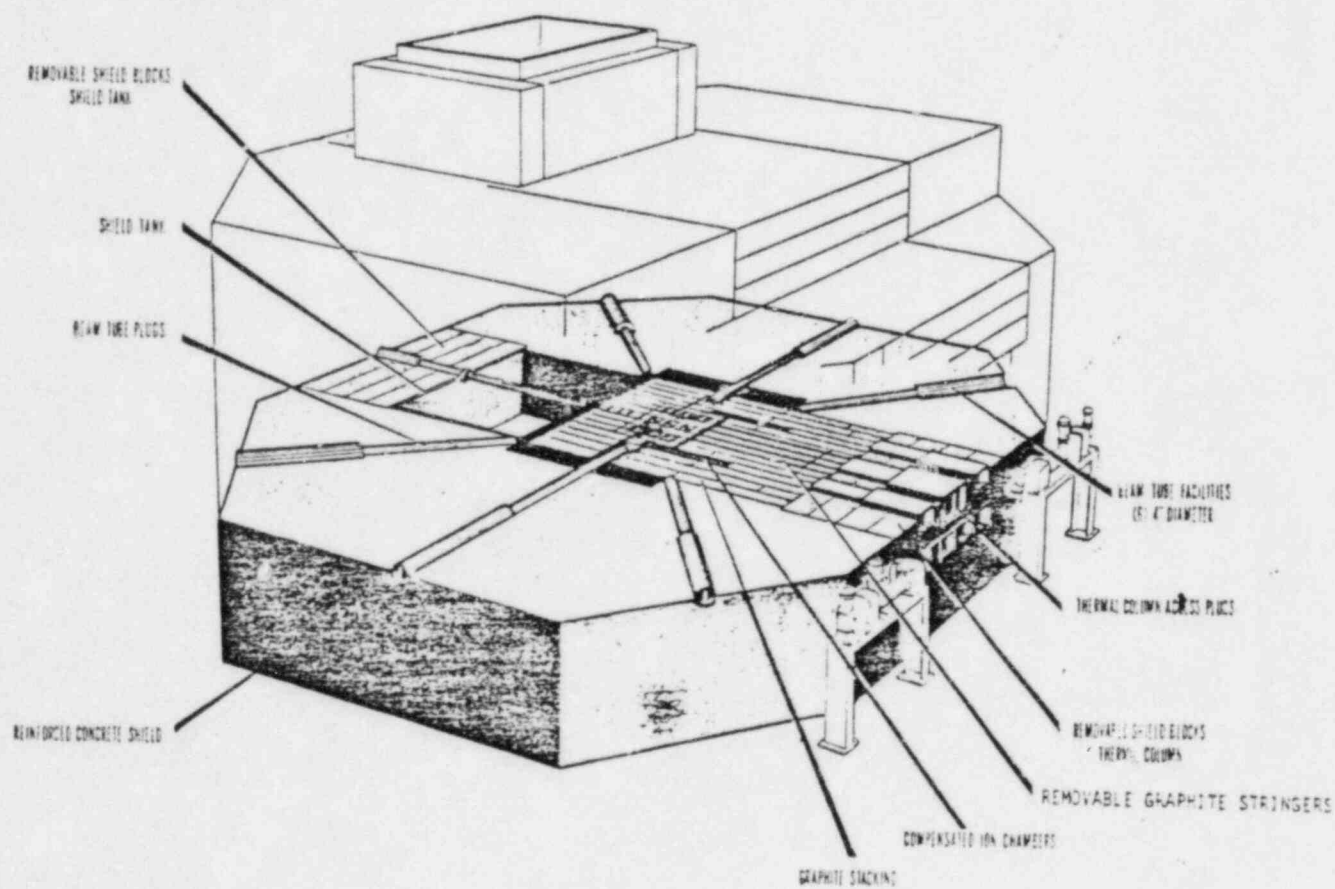


FIGURE III/5-3 REACTOR -

HORIZONTAL SECTION AT BEAM TUBE LEVEL

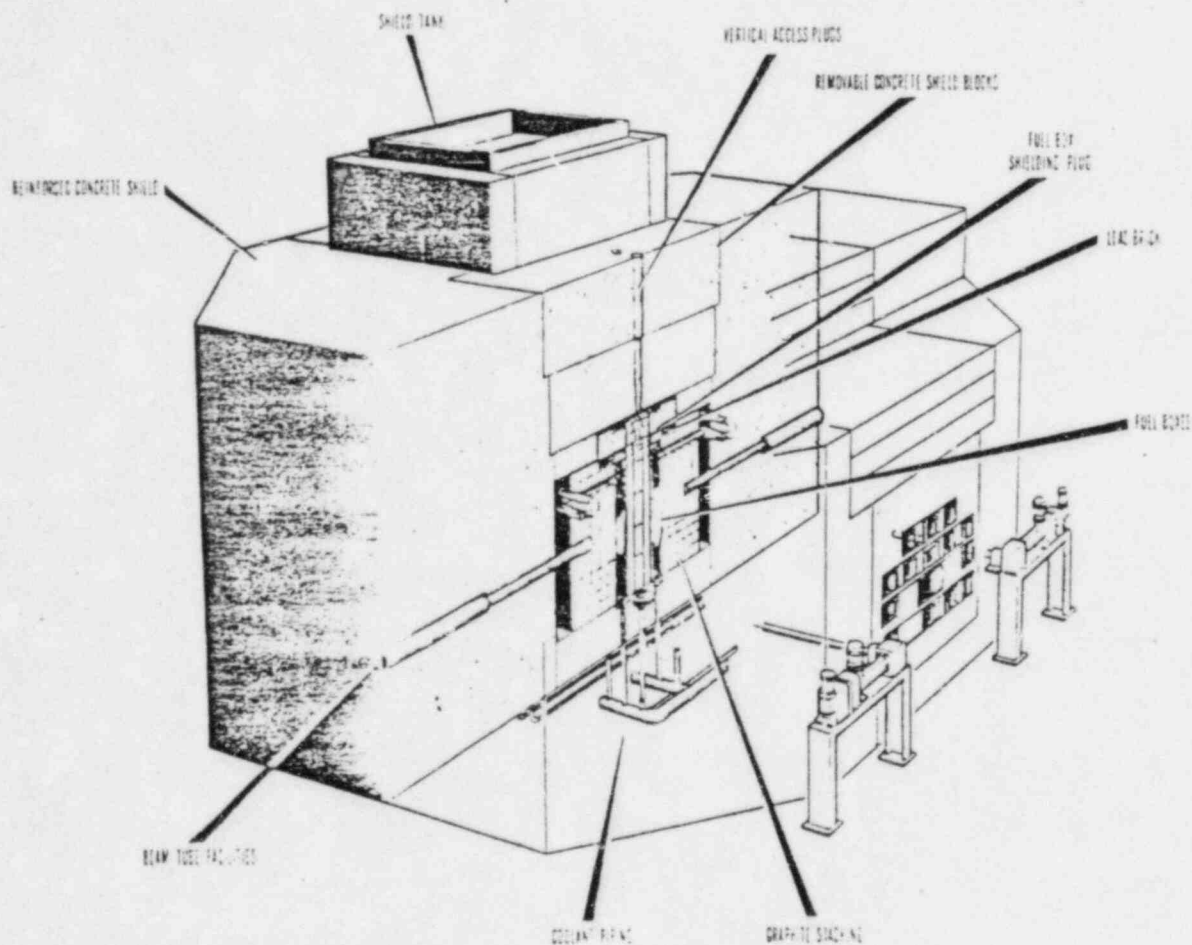


FIGURE III/5-2 REACTOR -
TRANVERSE SECTION THROUGH CORE CENTER