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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of

THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA

(UCLA Research Reactor)

Docket No. 50-142

(Proposed Renewal of
Facility License)

CBG'S REPLY TO APPLICANT'S MOTION FOR RECONSIDERATION OF
BOARD'S MARCH 22 ORDER AND TO FURTHER SUPPLEMENT ITS
"REBUTTAL"

I. Introduction

On April 9^{1/}, Applicant petitioned the Atomic Safety and Licensing Board to permit it to further supplement its "rebuttal" testimony, the timeliness of which has been subject of so much discussion in this proceeding already, and to overturn certain portions of the Board's March 22, 1984, Memorandum and Order ruling out certain portions of its proffered "rebuttal" testimony. CBG hereby replies in opposition to certain portions of Applicant's petition.

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G PDR

1/ By certificate of service, Counsel for Applicant, William H. Cormier, asserts he deposited both the Petition for Reconsideration and the proposed "Supplement" to Applicant's rebuttal testimony in the U.S. mail, postage prepaid, on April 6, 1984. However, as CBG has had reason to complain repeatedly in this proceeding, actual date of service, as indicated by postmark, was three days later. Proper procedures have not been enforced here, even on such an elementary matter as proper service documents. While it is understandable that on occasion, placing mail in a U.S. mailbox may on occasion result in a postmark the next day, because of early pick-up or some other reason, that does not excuse UCLA's repeated three-day delays. While no remedy, CBG will respond based on actual date of service.

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II. BACKGROUND

The Board struck certain portions of UCLA's proffered "rebuttal" testimony on the basis that it made claims about certain unidentified experiments or research, which thus made BG's preparation for hearing impossible on those matters and made the claims in the testimony unsubstantiated. The Board indicated that if UCLA wished to identify the then-unidentified research and experiments, it would consider reversing its rulings.

Similarly, the Board ruled certain matters should be struck from the proffered "rebuttal" testimony, particularly an attempt to litigate, on rebuttal, the cesium-iodide, and related matters as to the chemical form of the iodine available for release, matters directly at the heart of the "source term" analysis and controversy being examined in a major Commission research project, still far from resolution. The Board ruled, regarding UCLA's attempt to raise these issues as to "chemical form of the fission products and their interaction with other materials in the environment" as follows:

We agree with CBG that these answers do inject a totally new element into this consideration. Prior testimony had focussed on the location of fission products and the possibility that they might escape, not their chemical form. To accept this testimony at this stage of the proceeding would greatly expand the scope of this issue and lead to delay. Further, it would involve the Board in an attempt to resolve a difficult scientific question which is currently the subject of Commission inquiry. (See ¶ VII, Proposed Commission Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation, 48 Fed. Reg. 16013, April 13, 1983.) Consequently, CBG's objection is sustained.

UCLA now wishes the Board to overturn that ruling and litigate, in the context of this individual research reactor licensing proceeding, the entire matter of the chemical form of fission products in reactor fuels (not just research reactor fuels, as the Board will quickly note that all of the studies

cited in the answers in question are for LWR and LMFBR fuels) a matter subject already of a many-years study by the Commission as part of its source term research, resolution of which is many years off. The University proposes that this extraordinarily large and complex generic matter be litigated here and now in this particular research reactor case, before the results are in from the Commission's massive research programs. Additionally, Applicant asks the Board to accept new material and even new witnesses (!) for its already very late "rebuttal" testimony. These matters will be discussed below.

III. DISCUSSION

The two most outrageous aspects of Applicant's Petition for Reconsideration have to do with its continued attempt to litigate the source term issue in the context of this proceeding and its refusal to, as the Board directed, provide CBG in advance of hearing with the full Hofman research cited in the testimony, but instead desires to bring in an entirely new witness. We will discuss this matter first.

CBG was, at hearing, able on numerous instances to assist the Board by showing that studies relied upon by witnesses did not indeed support the premise asserted. CBG was only able to do so when it was on notice of the study, able to acquire it and review it prior to hearing.

When UCLA, in its "rebuttal" testimony, referred to "many studies" without identifying any of them, CBG was thus not able to prepare effective cross or other response, and the Board's record could thus contain conclusory matter that would have been demonstrated to be false had the underlying bases been disclosed in advance. For that reason, the Board struck

UCLA's proffered testimony that failed to identify the research involved with specificity, although giving UCLA the opportunity to identify the research with sufficient specificity that the Board might reconsider its ruling.

In the case of the photomicrographs included in the Olander-Morewitz testimony on fuel, the Board ruled that the references to research related thereto would not be admissible. The Board told UCLA that it could submit the full text of the research referred to in the testimony, and that the Board would then consider whether to reverse its ruling.

UCLA fails to include the research. It says no such research has been published. It fails thus to comply with the offer provided by the Board, and fails to provide the parties with advance material that can form the basis for effective cross-examination of the conclusory statements in the testimony. The matters struck should remain struck; UCLA has not provided the research it was supposed to for the Board's review and that of the parties.

However, UCLA now wishes to amend--many months late--its list of witnesses by adding Hofman and retaining his conclusory statements. CBG's injury--not being able to review the research about which the conclusory statements are made in advance to prepare successful and useful counter if called for--is not remedied by such an action; indeed, CBG's injury is compounded many-fold, by a surprise witness put forward far after the deadline.

UCLA continues to hope that it can manage to squeak by with a licence by surprise--by withholding its true case so that CBG is in a position where it cannot respond. It tried this with the Pearlman calculations, with the Olander TRIGA study (the entire center to his testimony, not included in his prefiled), with the Ostrander Monte Carlo calculations, and on and on. It knows that if CBG is not on notice what will be said at hearing, if it can't check the calculations and references that it can't

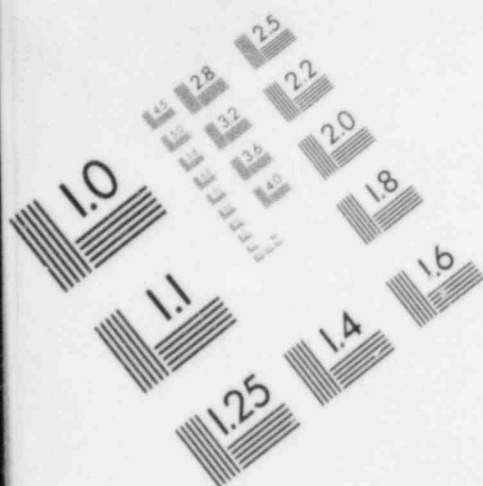
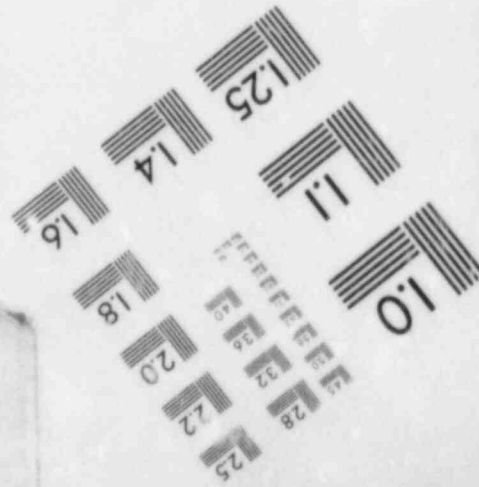
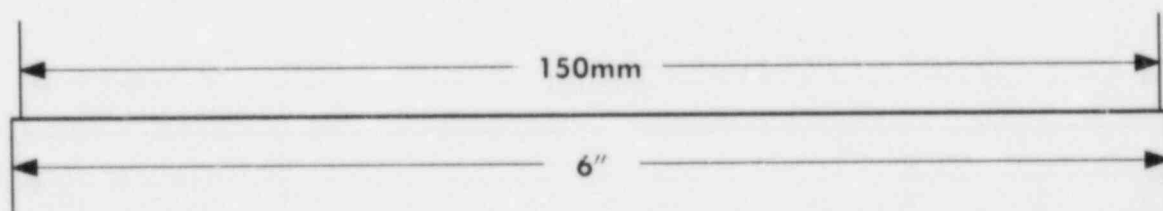
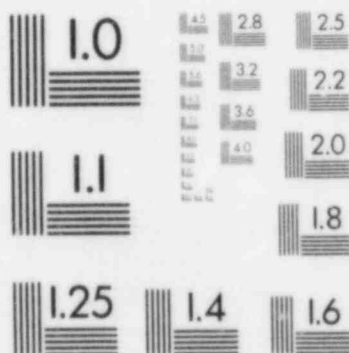
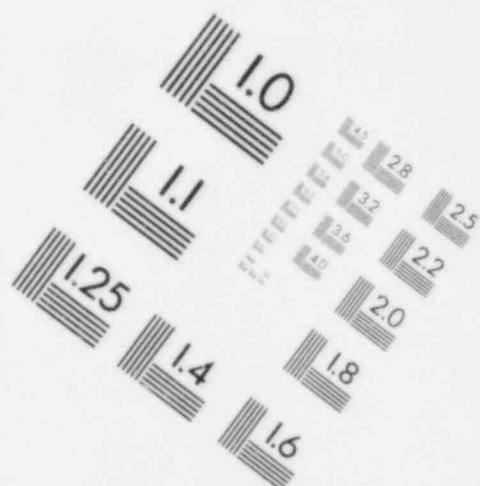


IMAGE EVALUATION
TEST TARGET (MT-3)



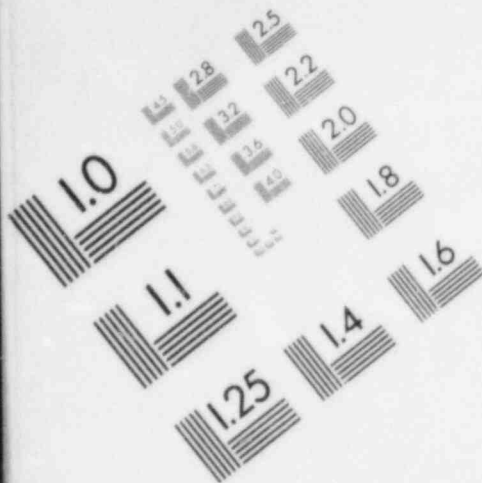
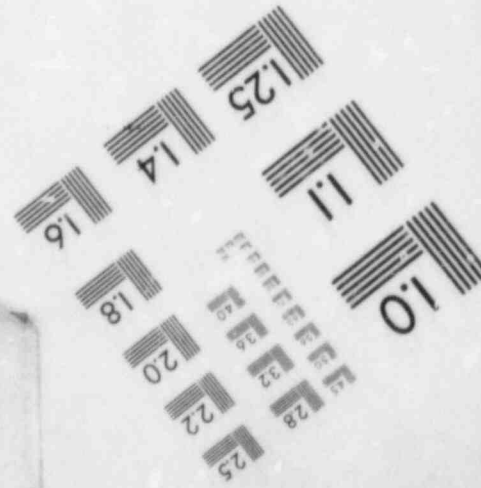
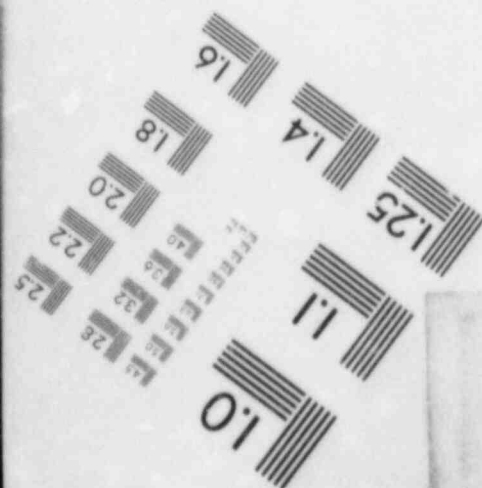
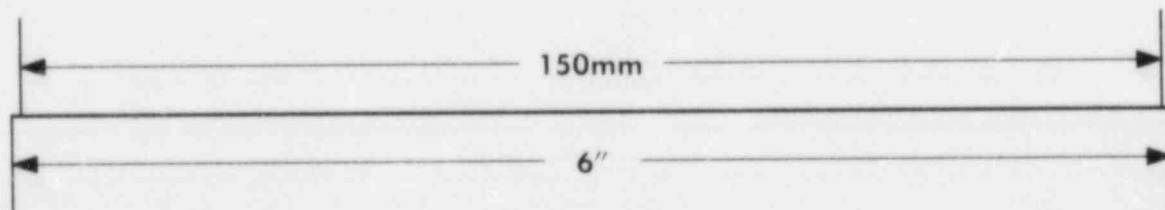
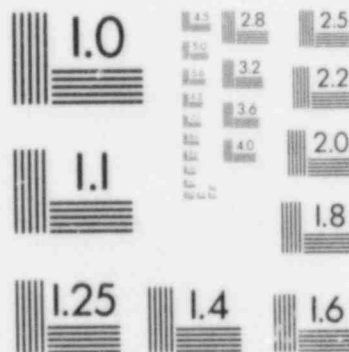
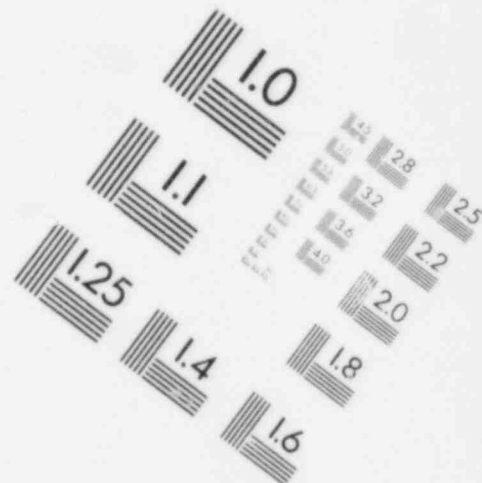


IMAGE EVALUATION TEST TARGET (MT-3)



show the Board what is wrong with the conclusory matter put before it. The Board's record will thus contain even more false, conclusory statements, purely because of shielding of basis and failure to timely put forward one's witnesses and case. CBG vigorously objects.

The injury to which CBG objected initially--reference to research not provided with the prefiled testimony--is bad enough. UCLA says it cannot cure that defect. For that basis, the Board's ruling should stand.

More importantly, the Board should not compound CBG's injury by late-admitting a witness and conclusory statements about work not provided.

If CBG had its choice of injuries, it would prefer the original injury proffered by UCLA--the vague references to research--than the double injury now proposed by UCLA--keeping the vague references to research, and putting forward far beyond the deadline (with no cause demonstrated for failure to obey the deadline) additional witness. The Board is being asked to double CBG's injury, rather than cure it. If the Board does not adhere to its prior ruling as to the admissibility of the vague references in the testimony, at least do not compound the injury.

As to UCLA's persistent attempt to litigate the source term controversy in this proceeding, the Board rightly ruled that this was way out of line. A review of the documents cited in answers 5 and 6, which UCLA wishes to have let in (conceding the inappropriateness of answer 7), demonstrates the inappropriateness of all these answers as rebuttal at this stage:

NUREG-0772, "Technical Basis for Estimating Fission Product Behavior During LMFBF Accidents

Characterization of the Deposits on the Inside Surfaces of LWR Cladding

LMFBF Program Reference Fuel Studies

Performance of Unencapsulated (U,Pu)O₂ Fuel Pins (Series F3A)
Irradiated in EBR-II to 50,000 MWd/Te

UCLA wishes to litigate whether Plutonium Oxide fuel pins in the Experimental Breeder Reactor have iodine in the elemental or some other form. UCLA wishes to litigate whether cesium iodide collects as deposits on the inside surfaces of light-water power reactor fuel cladding. UCLA wishes to litigate whether iodine is present as cesium iodide or some other form in intact power reactor fuels. And more importantly, whether any of that matters--either to power reactors, breeder reactors, or even more distantly, research reactors.

The Commission is spending a tremendous amount of money and time trying to assess the very matters UCLA wishes to --in "rebuttal"--assess here. We would have to litigate the entire source term matter for power reactors--not yet resolved by any means by the Commission's massive research project, subject to many controversies and much data that is years off--and then try to determine what relevance if any the power reactor source term has on research reactors.

UCLA argues that it is attempting to litigate the chemical form of the iodine inside the fuel, as opposed to outside. Well, that is precisely what the Commission is trying to resolve with its source term inquiry, and all the sources cited by UCLA relate to that inquiry, not to research reactors.

More importantly, none of this is rebuttal. The Battelle study concluded that if the fuel were smashed, 2.7% of the iodine would be released to the environment. CBG's witnesses merely agreed with UCLA and Staff's own analysis (the Battelle conclusions

were, after all, sponsored by the Staff and adopted by the Applicant as the basis of its Safety Analysis Report, even including the full report by reference in its Application.) It is not rebuttal to attack one's own sworn testimony that the Intervenor agreed with!

It is true that Dr. Olander, on inquiry from Mr. Cormier, mentioned AlI_3 last summer. However, the reference to AlI_3 , if not CsI , on re-direct of one's own witness does not make a massive enlargement of the issues in the case on rebuttal proper. If UCLA wished to litigate this matter, it should have had it in its direct. If it wished to take issue with the Battelle conclusion that 2.7% release of iodine (or any at all) was reasonable--a conclusion merely concurred in by CBG's witnesses--then UCLA and Staff should not have sponsored the Battelle conclusions, or at best, should have performed their full attack upon its conclusions in their direct. But to enlarge--by many weeks of additional hearing--the scope of the proceeding in the guise of rebuttal, when it is merely rebuttal to one's own application and safety evaluation reports, is totally improper.

The source term controversy is to the 1980's what the Rasmussen Report controversy (WASH-1400) was to the 1970's. The debates about the validity of the studies cited in the "rebuttal"--and their relevance--already are monumental and will get only larger as the research continues. The research cited--focussed on power reactor and breeder reactor fuels--has already been determined by the Commission to require several more years of work before it can be applied in power or breeder reactor cases. Transference of those conclusions to non-power reactor cases is even further off. It would be absurd to try to litigate the matter now, in a non-power licensing case; it would take many weeks; if UCLA wished to deal with the issue of whether iodine can escape from aluminum fuel because of its chemical form, it should never have adopted the Battelle study which asserts it can, or at best should have provided its countering information last summer.

CBG is quite serious that to even begin to litigate this issue of either answer 5 or 6 would elongate this panel's cross-examination from an estimated 2-3 days to 3-4 weeks. The issue is so large, and the contradictory studies to those referenced in the testimony so many.

If UCLA wished to assert that the chemical form of iodine in its fuel is such as to prevent release in case of fuel handling or similar accidents, it should not have adopted Battelle. CBG agreed with UCLA and Staff's conclusion that 2.7% iodine release--without regard to chemical form--is possible. It is not rebuttal to attack one's own conclusions with which your opponent agreed.

The "Supplemental Testimony"

The Board directed UCLA to identify the "many studies" not identified in the conclusory statements in certain portions of the proffered testimony. UCLA's response makes clear why it is so important that such conclusory statements without support not be tolerated.

The "many studies" turn out to be a single study already referred to in direct, or studies CBG itself had proffered previously. While the conclusory impression given is of many studies besides those previously identified by UCLA in its direct or CBG itself, there are none.

Olander's "empirical evidence" is merely the same study he cited this summer in his surprise revelation of his central point, not prefiled--which CBG sees as so indicative of UCLA's whole approach to these serious issues.

The key matter UCLA was supposed to identify--the many "catcher foil" experiments--are not identified. UCLA adds text not references, telling how these unidentified experiments are

done, not identifying the actual experiments so the data can be checked. (The reference to Etherington is to a paragraph which similarly describes how the catcher foil experiments are performed, but nowhere identifies results or provides data.) UCLA has totally failed to provide basis for its assertions about these experiments and has failed to do as the Board directed--identify the source of the data. Instead it attempts to add testimony.

Similarly with the matter of fission product tracks. UCLA adds text when the Board invited it to identify the "empirical evidence" its vaguely referred to in the previous text. When it does identify the studies, they are the three studies CBG had identified!

The invitation to cure the defects of failure to identify empirical evidence should not be permitted to add new text, but merely identify said evidence. The paragraph on the "catcher-foil" experiments should not be permitted in--it provides no such basis for the experiments, merely describing in general terms how catcher foil experiments are done, not which experiments support the conclusory statements about their results. The Etherington passage does not deal with results but merely describes how to conduct the experiment--five sentences about how to measure the rate of fission in uranium, not data indicating, as asserted in the rebuttal, that iodine can't be released. The Board's Order was to indicate the data--not how one could go out and acquire the data.

CBG respectfully asserts that this should not be an excuse for further adding text to rebuttal, but merely providing citations for data sources. Thus the text beginning "The 'catcher foil' experiments..." and ending in the middle of the next paragraph "... and not displacement effects." cannot be tolerated as even more late-filed "rebuttal." CBG has no objection to the identification of the three fission track studies--it had previously identified them itself.

CBG continues to object to "some of the experiments did show that annealing at temperatures..." in the middle of page 9 of the graphite fire "rebuttal." UCLA has failed to identify which of the studies--most or all of which have already been cited by CBG--it asserts support this statement.

IV. Conclusion

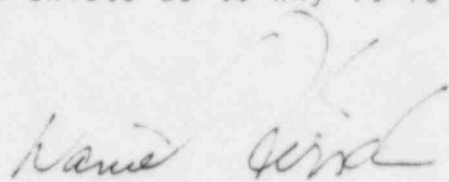
The Board agreed in its Order that CBG and the record would be injured if not put on notice in advance to the full publication of the research cited regarding the photomicrographs. UCLA fails to provide the research requested, but proposes to compound the injury by putting forward a late-filed new witness to support on the stand conclusory statements not detailed in the prefiled testimony. We see the Pearlman, et al, problems all over again.

The Board should stick to its ruling that without the full research prefiled, the statements should be struck. If it is not going to do so, it should not compound the injury by permitting in the late witness.

The source term matter under investigation by the Commission--which is precisely what the chemical form is of fission products in fuels and how that might affect consequences--cannot and should not be litigated in this individual licensing proceeding. The Commission isn't even ready to litigate it in power reactor proceedings, for which the data have been developed. Furthermore, if UCLA wished to put it forward, it should have been on direct. CBG's reference to bubble formation was merely to show mechanisms for larger surface area exposure than assumed by other parties due to formation of stress risers and microcracking--the assumption that if surface was exposed, iodine could be released was not CBG's new assertion, but that of UCLA and Staff's, in which CBG merely concurred. To expand by many weeks hearing because UCLA wishes to untimely rebut its own application is absurd, particularly given the state of the Commission's major assessment of this issue.

The fact that UCLA cross-examined CBG's witnesses about why they agreed with UCLA's own application in no way provides an excuse to vastly elongate the proceeding by late attempting to rebut their own application.

The narrative proposed as supplement to the other testimony should not be permitted in--no reason exists as to why it is late filed.



Daniel Hirsch
President

dated at Santa Cruz CA
this 24th day of April 1984

DECLARATION OF SERVICE

I hereby declare that copies of CBG's Reply to Applicant's Motion for Reconsideration of the Board's March 22 Order in the UCLA reactor proceeding have been served on the following by deposit in the U.S. mail, first class, postage prepaid, addressed as indicated, on this date, April 24, 1984:

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