May 23, 1983

Helen Hoyt, Esq., Chairperson and Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

RE: Dockets Nos. 50 - 170 and 30 - 6931

Dear Judge Hoyt:

Please be advised that the Intervenor Citizens for Nuclear Reactor Safety (CNRS) and the Licensee Armed Forces Radiobiology Research Institute (AFRRI), litigants in the above-referenced proceedings currently before this Licensing Board, have through their respective counsel agreed to discontinue litigating all of the admissible contentions in the Cobalt-60 proceeding (Docket No. 30 - 6931) and, further, to discontinue litigating all admissible contentions in the TRIGA Reactor proceeding (Docket No. 50 - 170) with the exception of the "Emergency Plan Contention."

A conference call was held on Friday, May 20, 1983 by respective counsel for CNRS, AFRRI, and NRC Staff, during which all of the matters set forth in this letter were discussed. Counsel for CNRS and AFRRI are currently engaged in drafting language to be incorporated by this Licensing Board in its Order approving the Settlement. It is understood by the parties that this language, when so ordered by the Board, will have the legal effect of a license condition on both the TRIGA and Cobalt Licenses.

Enclosed herewith is a copy of a letter from AFRRI Counsel to CNRS Counsel, dated May 2, 1983, which embodies AFRRI's response to CNRS's settlement offer. Paragraph 1 on page 2 addresses CNRS's demand to make the work and proceeding of AFRRI's Reactor and Radiation Facility Safety Committee (RRFSC) more accessible to the Bethesda community. Counsel for AFRRI and for CNRS are now drafting more descriptive language on this point for inclusion in the Board's Order approving settlement. Similarly, Counsel are drafting language for incorporation into the Order that will implement AFRRI's concession in paragraph 3, page 4, of the enclosed letter, to notify the Washington Suburban Sanitary Commission if and when spills occur at the AFRRI facility. (NRC Staff Counsel has stated that the Staff does not oppose such obligations of the Licensee and that Staff Counsel will be a signatory to the settlement when finalized

CNRS Counsel and NRC Staff Counsel have discussed CNRS's demand for more frequent NRC inspections of the AFRRI facility. Staff Counsel has agreed to implement this condition within the scope of his authority.

D503

AFRRI Counsel is on a traveling work assignment from which he will return on or about May 31, 1983. It is expected that work on the license language will resume at full speed at that time. The final draft will then be presented to the Licensing Board for incorporation into its Order approving Settlement.

NRC Staff Counsel stated during the conference call that, based on the availability of the Staff's printing and copying resources, the Supplemental Safety Evaluation Report is now expected to be issued in early June. At that time, the Staff's evaluation of AFRRI's Emergency Plan will become available for review by all parties, and the proceedings will be in a posture to move forward to Motions for Summary Disposition on the remaining Emergency Plan contention.

It is hoped that this letter summarizes to your satisfaction the posture of litigation and settlement at this time.

Sincerely,

Elizabeth B. Entwisle

Elizabeth B. Entwisle, Esquire

EBE/pmh
cc: David Rickard, Esq.
Richard Bachmann, Esq.
Elizabeth French

DEFENSE NUCLEAR AGENCY
WASHINGTON, D.C. 20305

GC

MAY 2 1983

Elizabeth B. Entwisle, Esq.
Miller and Entwisle
728 Frick Building
Pittsburgh, PA 15219

Dear Miss Entwisle:

This is in response to CNRS' letter of April 15, 1983, concerning the terms CNRS would find acceptable as a basis for settling the NRC proceedings in Dockets 50-170 and 30-6931. As I believe will be apparent, we have considered each of your proposals individually without regard to their relevance to specific issues or even contentions currently being litigated. Indeed, as you have said before, the relief requested in settlement is not directly relevant to the underlying litigation.

We have given careful consideration to adding yet another outside member to the Reactor and Radiation Facilities Safety Committee (RRFSC) and have concluded that such action is not necessary. As you know by now (based on a review of the Safety Analysis Report and your trip to AFRRI in January of 1983), this committee presently consists of eleven members, four of whom are organizationally independent from AFRRI and all of whom are professionals who take great pride in their work and take safety very seriously. That is, the Director, AFRRI, has no effective means (assuming he had the desire) to direct or control the votes of or actions of any committee member, particularly: Dr. Frank Munno, Professor and Chairman of the Nuclear Engineering Program at the University of Maryland; Mr. J. N. Stone, radiation safety/health physicist of the Naval Research Laboratory; Mr. Thomas G. Hobbs, a health physics expert from the National Bureau of Standards; and Commander C. N. Galley, the Radiation Safety Officer at the Naval Medical Command, National Capital Region (formerly known as the National Naval Medical Center).

We do recognize, however, that the activities of this committee are of interest to CNRS. Hence, we are willing to take steps to make available to CNRS the minutes of the RRFSC meetings. Specifically, within a reasonable period of time following each of its meetings, the minutes of the RRFSC will be made available in the library at AFRRI during normal duty hours. In addition, the committee's recording secretary will make those minutes as complete, clear, and understandable as possible. Regardless of our initial success in the latter area, whenever environmental monitoring reports are considered by the committee, these reports will be appended to the RRFSC minutes. Hence, CNRS will have at hand in as timely a fashion as possible under the circumstances, information upon which to evaluate current safety conditions and considerations at AFRRI.

The second general area in which CNRS desires changes to existing practices at AFRRI concerns environmental (air) monitoring. Since we already have continuous monitoring with equipment located circumferentially around AFRRI (as shown, for example, in the Emergency Plan, figure 1.2 at page 4 and in the Safety Analysis Report, figure 3-14 at page 3-33 together with accompanying text), portions of three of the four requests relevant to air monitoring (items 2a, 2b and 2c of your letter) are already satisfied and thus are generally acceptable. That is, we are and will continue such monitoring continuously. You should also understand that monitoring is <u>not</u> restricted to the building complex at AFRRI. For your convenience, I am attaching (enclosure 1) a copy of the portion of the Emergency Plan mentioned above with environmental monitoring locations indicated in red. You will also note from that map that what is referred to as the "AFRRI site" is indicated by a darkened area just to the right of center. As a result of examining the map, I believe it is clear that AFRRI's monitoring encompasses both "onsite" and "offsite" points. This configuration is sufficiently comprehensive so as to record readings that are representative of the surrounding residential community. In addition, since they are closer to AFRRI, they will yield more conservative (i.e. higher) values.

We cannot agree, however, to two requests associated with air monitoring. As is indicated above, we have monitoring stations in ample numbers and at sufficient and varying distances from AFRRI to obtain adequate information about emissions from AFRRI. We cannot, therefore, agree to extending the monitoring locations out to points on a circle whose

radius is at least one mile measured from the stack located on the "AFRRI complex" (which I understand to be the same as your phrase "AFRRI facility").

We also cannot agree to a change in measuring devices. There are several problems associated with item 2d of your letter. We already use monitoring devices which are capable of detecting and accumulating the extremely low doses involved. The results of our total monitoring program demonstrate that only small amounts of the noble gas Argon 41, with a half-life of 1.83 hours, are involved and this indicates to us that it is completely unnecessary to undertake a program which would replace existing monitoring equipment with other or additional devices. In short, if little or no radiation is available for measurement, it makes no sense to use equipment that may be capable of measuring and then printing out its results on a "real time" basis.

Our environmental monitors (thermoluminescent dosimeters or TLD's) do not measure "dose averages" but cumulative doses. Your request for "real time" monitoring coupled with your concern for something other than cumulative doses suggests that you do not completely understand or appreciate the adequacy of our current system. Because of the extremely low doses involved, we use cumulative dose measurement techniques/devices. In addition to cumulative dose measurements, we perform worst-case dispersion calculations based on our actual emissions. Such calculations do not represent an "average." Rather, based on actual stack gas monitor readings as well as verification checks of reactor operations over time, it is an easy task to determine the total amount of radioeffluents theoretically available for release together with the generation and thus release rate as a function of time. Such release source terms are then used to project (based on assumed worst-case meteorological conditions) the highest doses and dose rates that could result at ground level points in the unrestricted environment. Such conservative calculations have been assessed and formally sanctioned; they confirm the extremely low doses and dose rates involved. These procedures involve state of the art equipment and are in keeping with established, proven and recognized health physics practice. Therefore, we cannot agree to any revision of our existing monitoring procedures or equipment.

The third general area in which CNRS desires changes to existing practices at AFRRI concerns environmental (water) monitoring. The essence of your proposed revisions suggests that you don't completely understand the present system at AFRRI. Hence, it seems appropriate to summarize (briefly) the current system and its characteristics. Based on your new understanding, I believe it will be clear why we cannot agree to the changes you suggest.

To begin with, no liquid radioactive wastes are generated by normal reactor operations. The liquid radioactive wastes that result from other activities at AFRRI are accumulated and held in separate and dedicated liquid radioactive waste storage tanks prior to monitoring and any release into the public sanitary sewer system. The contents of these tanks are mixed, sampled, and the samples are analyzed in a laboratory (using state of the art counting equipment) prior to permitting any releases to the sanitary sewer system. Obviously, the discharge valves serving these tanks are not opened to permit release if activity levels of the liquid mixture in the tanks exceed permissible limits. Physical constraints (e.g. locks and chains) as well as administrative procedures and professional health physics verification provide positive control over this system.

The approach actually used at AFRRI for liquid radioeffluent control is superior to the method you suggest in items 2e and 2f of your letter. It appears that you believe that liquid radioeffluent releases to the sanitary sewer system occur from many points on a continuing flow basis without monitoring. Thus, you propose that some sort of monitoring equipment be placed presumably on the discharge side of each waste line. Such a monitoring equipment set-up could provide continuous readings. However, the major drawback to your approach is that the damage will already have been done (since the monitoring equipment shows what actually has happened) by the time anyone could have discovered it. Fortunately, our existing system permits us to prevent potential harm from occurring: if analysis of the waste tank samples in the tank demonstrates activity levels above permissible limits we simply don't open the discharge valve and thus we maintain positive control.

The fourth general area in which CNRS desires changes relates to reporting the results of environmental (water) monitoring. Conceptually, we agree that reporting (as you suggest in item 2g of your letter) to the Washington Suburban Sanitary Commission (WSSC) is appropriate. We will therefore continue our practice of furnishing annual reports to WSSC. In addition, should a consequential "spill" (unplanned liquid radioactive waste release) occur, we are required to notify the NRC and would also notify WSSC. You should also be aware that WSSC (in addition to the NRC) conducts compliance audits and inspections at such intervals as they deem appropriate.

The added reporting you suggest in item 2h of your letter is unnecessarily redundant. In light of CNRS' easier access to the raw data as a result of our proposal concerning item 1 of your letter, if the results of monitoring are worthy of the attention of the agencies you have identified, please feel free to provide them with copies as you desire. However, we cannot agree to the additional reporting you suggest.

Your fifth area for suggested improvements concerns imposing AFRRI's internal procedures which are more restrictive than those under the license as minimum standards. There is no valid justification for such action. If you understand the reason for our more-stringent-than-required internal procedures, you will understand why we cannot agree to imposing them as license requirements. By adopting and implementing internal procedures, we provide a measure of insurance that we will not violate NRC's standards. In short, we must retain some reasonable amount of management control over our operations and thus cannot agree to the change you suggest. You may also be interested to learn that NRC reviews a Licensee's adherence to its internal procedures.

Since we can see no useful purpose or valid justification for reducing the license period from twenty years to ten, particularly in view of the facts that the facility is not operated continuously and its design, operation, maintenance, condition, and records are inspected frequently by the NRC, we cannot agree to a reduction in the term of the license. You may be interested to learn that all recent research reactor relicensings have been for twenty years or longer.

Item 4 in your letter is unclear as to its meaning. If you mean dose rates in the reactor core, then a 4000 rad/hour limit would negate all pulsing operations and virtually all steady state operations as well. This is obviously unacceptable. If you mean dose rates used in research, that too is unacceptable since such a limitation bears no relationship to matters of public health and safety.

Item 5 is quite similar. The $3.28 ceiling on "total core reactivity" which you propose would actually constitute a substantial reduction to our existing license. The significance of the difference between $3.28 and the $4.00 that we have requested is not in "total core reactivity" but rather in step reactivity insertion limits for pulsing. A pulse is of extremely short duration (on the order of milliseconds) and pulses cannot be repeated often enough to affect (i.e., cause a large build up in) fuel temperature.

Elizabeth B. Entwisle, Esq.

Since we need the modest increase in pulsing capability for research and since this modest increase constitutes a proven and safe condition, we cannot agree to your request.

Your sixth item relates to physical security or, perhaps more accurately, to a continuous human presence at AFRRI. Both the Reactor Emergency Plan and its Security Plan are replete with references to two military personnel being on duty at the Institute during non-duty hours, everyday of the year. As long as AFRRI remains a military organization, this practice will be continued. It is our view, as well as the NRC's, that both of these plans are as much a part of our license as are, for example, the tech specs. We would expect to be issued a notice of violation by the NRC if we changed these plans in such a substantive way without prior NRC approval. Hence, we believe we already meet the requirements of your sixth item.

We cannot agree to undertake the epidemiological study requested in item seven of your letter. AFRRI's contribution to radiation levels above background is extremely small. Any attempt to show a positive correlation and a causal relationship based on such an extremely low contribution would be fruitless and doomed to failure at the outset.

We, too, await formal NRC action on our Emergency Plan but would be happy to begin discussions concerning it even in advance of formal NRC action.

We await your response. The Board's deadline of May 9, 1983, for concluding settlement discussions is fast approaching. Thus, an early indication of your feelings regarding our suggestions for settlement would be most welcome. If for some reason we are unsuccessful in resolving our differences by May 9, we will nevertheless be willing to continue discussions provided the NRC proceedings continue concurrently.

Sincerely,

DAVID C. RICKARD
Deputy General Counsel

1 Enclosure
as stated

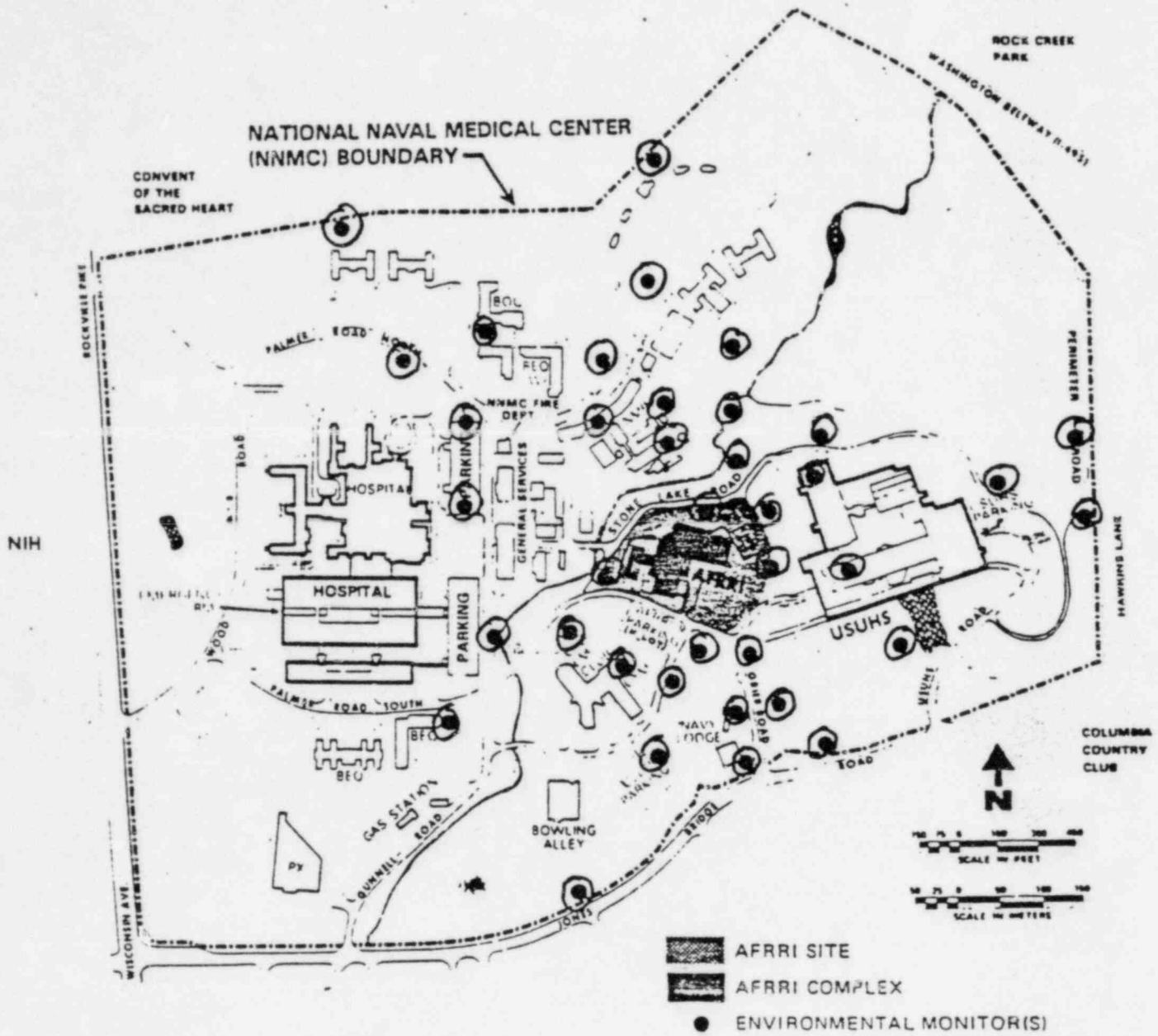

Figure 1.2 AFRRI Site Plan, Showing the AFRRI Complex and Environmental Monitor Locations

ENCLOSURE