



50-170

DEFENSE NUCLEAR AGENCY
ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
8901 WISCONSIN AVENUE
BETHESDA, MARYLAND 20889-5603

11 March 1993

James R. Curtiss
Commissioner
U.S. Nuclear Regulatory Commission
Washington, DC 20555

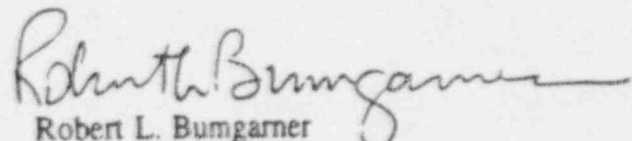
Dear Commissioner Curtiss:

As a follow-up to our conversation on 1 March, I am enclosing DoD points of contact on the DOE reactor "Licensing" or "certification" matter. In the Office of the Secretary of Defense (OSD), Captain David K. Moussette, US Navy is very knowledgeable on these issues for which he has been the primary DoD liaison with DOE. His seniors, namely, Dr. John H. Birely, the Acting Assistant to the Secretary of Defense for Atomic Energy (ATSD(AE)), and his assistant, Dr. William B. Shuler are also conversant on the topic. Attached is a AFRRRI memorandum of 22 January 1993 provided to Captain Moussette.

AFRRRI will keep you posted on the management transition to the Uniformed Services University of the Health Sciences. There are several concerns about the University's ability to provide for unplanned, unprogrammed expenditures for necessary maintenance of the AFRRRI radiation sources. An example of such expenses is the \$920,000 repair to the Cobalt Irradiator tank in FY89 and FY90, which required a \$488,000 plus up from the Defense Nuclear Agency. Given your interest in reactors, I know you are poignantly aware that timely maintenance for unplanned but costly deficiencies is part of any complex, well run engineering operation. To cap off the AFRRRI transition matter for you, I have attached a copy of a memorandum we prepared for an OSD/Joint DNA management review panel and a copy of a recent request regarding funding for an important repair.

When we meet again, I would like to tell you of some of my personal reactor experiences as a nuclear engineering officer in the submarine service. Some of my viewpoints derive from those experiences. Last, I want to assure you of a continued positive, AFRRRI open door policy to assist NRC. If there is any way Captain Charles B. Galley, MSC, US Navy or Mr. Mark Moore can assist you on AFRRRI's behalf, please let us know.

Attachment:
as stated


Robert L. Bumgarner
Captain, MC, US Navy
Director

170004

9305240234 930311
PDR ADOCK 05000170
P PDR

DDO 11

4 March 1993

DNA/AFRRI POINT PAPER ON AFRRI TRANSITION TO USUHS

Detailed Discussion

DNA and USUHS have been preparing aggressively for the orderly transfer of AFRRI from DNA to USUHS effective 1 October 1993. Separate working groups have been established to address the scientific and administrative issues associated with the transfer. During the course of this process, it has become clear that the transfer presents potentially serious problems which were not fully apparent at the time of the initial decision. The following issues are among the most serious.

POTENTIAL LOSS OF RELEVANT CORE RADIOBIOLOGICAL EXPERTISE

The threat of actual, significant radiation exposure to U.S. personnel is greater under the "new world order" than it was in the past. While the threat of a massive nuclear exchange has been greatly reduced, concern about the security of the arsenal of the former Soviet Union, proliferation of nuclear weapons among less responsible (and, therefore, less deterable) states, the possibility of nuclear terrorism, and the increased likelihood of regional conflicts all indicate an increased probability that nuclear weapons will be used. Moreover, many of the nuclear facilities in eastern Europe and the former Soviet Union do not meet adequate safety standards. At one time, such nuclear events in the eastern European facilities would probably not have been announced; certainly the United States would not have been asked to respond. Now, however, it is clear that we would receive early requests for assistance, which would likely be supported in Congress and by the President. The world would expect a U.S. response, as in Somalia and in Yugoslavia. Thus, whether in the context of the use of nuclear weapons or radiological accidents, there is a continuing need for the nation, in particular DoD, to maintain a core of radiobiological expertise in order to conduct radiological research at the levels of concern.

PERTINENCE OF REQUIREMENT DRIVEN RADIOBIOLOGICAL RESEARCH

While some may contend that all unknowns of radiobiologic science have been fully addressed, the facts are to the contrary. Today's research builds on the extant physical, biological and medical sciences. As a mere example, one only has to imagine the possibilities opened up by our growing knowledge of superoxide dismutase or nitric oxide. The potential of this knowledge did not exist a few years ago.

It is pertinent to note that traditionally, research conducted at medical schools has focused upon basic or clinical issues. Such research is based largely on individual initiative and success at securing grants, rather than a coordinated effort with specific objectives in mind. AFRRI, on the other hand, is a coordinated, directed program driven by service requirements, fashioned much like the progenitor of DNA, the Manhattan Project. A comment is appropriate regarding the contention that radiobiological, indeed, basic nuclear research, is no longer relevant because of the example afforded by DOE's apparent cessation of such work. Much of DOE research is no longer a requirement directed program. Thus, a national question confronting the administration is how to gainfully employ such a cache of talent. The lack of coordination of DOE research, the quest for support for other endeavors, has led to the heavy investment in particle physics research and the focus on the human genome, as examples. Although this work is pertinent and worthy of investment, one cannot conclude that radiobiology has little to offer simply because DOE exhibits a waning interest. The present state of DOE radiobiology research is ironic in that radiobiology was a realm which was once AEC's own special forte. With regard to the pursuit of new radiobiological knowledge, the posed analytic question "...when is it time to declare victory?" reflects a fundamental failure to appreciate the true merit of the scientific matter at hand. The question also reveals a poor understanding of academics and the role of government staffed research laboratories, in general. Indeed, such a question raises doubt about the qualifications of critics who challenge the efficacy of requirement driven research.

University science, by free thinking, is academic. Academic university science no doubt pushes every boundary of knowledge, as if by an outward pressing Brownian motion envelope that encroaches on the surrounding unknown. University science, however, unless driven by sponsor requirements, is not focused on the translation of basic work into new products. In this particular sense, science at AFRRI is distinctly different. There is every reason to believe that after reassignment of AFRRI to USUHS there will be intense pressure to conform AFRRI to the University focus. Such a change would degrade the capability of AFRRI to perform the radiobiological research relevant to the threats faced by DoD.

POTENTIAL LOSS OF OPERATIONAL FOCUS AND RESPONSIVENESS

Through its relationship to DNA, AFRRI maintains a strong operational focus and the capability to respond promptly to rapidly developing requirements (e.g., depleted uranium casualties during DESERT STORM). Neither of these characteristics are normally associated with the academic research conducted at medical schools or universities. While it can be argued that DNA could still use the services of AFRRI

through a contract or grant process, that would not guarantee the preservation of either the operational focus or the capability for timely response. The need for a robust, relevant, and immediately responsive radiobiological research capability is a DNA mission requirement, not a USUHS mission requirement. It is unrealistic to expect USUHS to maintain such a capability over the long term. Moreover, after the transfer to USUHS, DNA would only be able to request redirection of AFRRRI efforts to high priority DNA requirements. If AFRRRI were retained by DNA, DNA could direct such action.

USUHS CANNOT PROVIDE ESSENTIAL FINANCIAL SUPPORT TO AFRRRI

The maintenance, use, and ultimate decommissioning of the radioactive sources at AFRRRI require a significant commitment of financial resources. USUHS has candidly conceded that, with its own delicate financial situation requiring adroit fiscal finesse, it will be unable to provide these resources, especially for unprogrammed, unplanned, but essential nuclear maintenance. Unprogrammed radiation source maintenance has been a historical fact, costing as much as \$1 M per annum in an extreme case in FY89 and FY90. DNA will have no basis for including these infrastructure costs in its budget after the transfer, as it has before. The inevitable result will be a degradation in AFRRRI capabilities, with possible, or even likely, curtailing administrative actions by the Nuclear Regulatory Commission.

THE COST SAVINGS PROJECTED AS A RESULT OF THE TRANSFER ARE ILLUSORY

Detailed preparations for the transfer have disclosed that little, if any, savings in personnel or money will result from the transfer of AFRRRI to USUHS. While a handful of billets will potentially be saved in some areas, AFRRRI will continue to require support in other areas which are beyond the current capabilities of USUHS. Even the initial belief that there would be significant savings because of the seemingly similar animal colonies, supposedly duplicative, closer review shows that such belief is without foundation. Except for certain essential but minor support cost functions of the animal facilities, e.g., the clinical chemistry and histology laboratories, little can be economized by means of the AFRRRI transfer. On the whole, we have been unable to identify any net savings.

TO THE EXTENT TO WHICH BENEFITS WOULD RESULT FROM THE TRANSFER, SUCH BENEFITS CAN BE OBTAINED UNDER THE EXISTING ORGANIZATIONAL RELATIONSHIPS

We have identified five clear advantages which would result from a closer relationship between AFRRRI and USUHS. These are: the establishment of new collaborative research efforts; the use of the Henry M. Jackson foundation as a vehicle to acquire

funding support from new research sponsors (which enhances the shift to a DBOF basis); University academic appointments for some AFRI scientific staff; the development of a DoD Radiobiology and Radiation Biophysics graduate school program; and the addition of 6.1 and 6.3A programs to the existing 6.2 program. In the process of planning the transition from DNA to USUHS, steps have been taken to accomplish each of these changes. As a result, it has become obvious that none of these changes are necessarily predicated upon an organizational transfer from DNA to USUHS.

CONCLUSION

The scheduled transfer of AFRI from DNA to USUHS will produce none of the projected benefits, apart from those already noted above, but will produce a number of serious problems. It has become apparent that the transfer is likely to result in the loss of a vital, though not widely known, unique DoD research capability. Accordingly, the decision to transfer AFRI to USUHS should be reversed and the FY 94 budget should be changed to reflect an appropriate reallocation of funds, with the resource sponsor ultimately being the Director of Defense Research and Engineering rather than the Assistant Secretary of Defense for Health Affairs.