MINUTES

145th MEETING

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE
U. S. ATOMIC ENERGY COMMISSION

Oak Ridge National Laboratory
Oak Ridge, Tennessee

January 3-4, 1973

The 145th meeting of the Advisory Committee for Biology and Medicine was held at the Oak Ridge National Laboratory, Oak Ridge, Tennessee on January 3-4, 1973. The following members were present: Drs. R. D. Moseley, Jr. (Chairman), A. J. Haagen-Smit, J. S. Laughlin, T. A. Lincoln, S. C. Mitchell, W. J. Schull, P. R. Stout (Vice-Chairman), J. B. Storer (Scientific Secretary). Headquarters personnel in attendance included Dr. J. L. Liverman, Director, DBER, Mr. John Whitnah, Dr. Charles Osterberg, and Dr. Charles Edington, of the DBER staff. The following biomedical program directors from other AEC laboratories also attended and made presentations to the ACBM: Drs. William Bair, Chester Richmond, and Eugene Cronkite. Dr. Richard Benson and Mr. Joseph Lenhard from the Oak Ridge Operations Office were also in attendance.

Chairman Moseley opened the meeting at 9:00 A.M. and turned to Dr. Liverman to conduct the presentations to be made before the ACBM.

Dr. Liverman made some announcements of general interest. The Committee apparently will go out of existence on midnight January 5, and if it is to continue it must be reappointed. Apparently no decision has yet been made concerning the continuance of the Committee. The specific area in which Dr. Liverman requested the advice of the Committee concerned work for other agencies conducted in AEC laboratories. He pointed out that Oak Ridge was a particularly appropriate place to consider this problem since the Oak Ridge National Laboratory does about one-half the total AEC work for others exclusive of weapons work. Further, Dr. Alvin Weinberg, Director of ORNL, has been a leading spokesman for making the laboratories truly national laboratories.

Dr. Weinberg welcomed the Committee and reviewed briefly some of the history of work for others. He pointed out that in 1955 he suggested that the AEC laboratories should consider moving into new areas of research on problems of national concern. From 1959 to 1962 when he was a member of the President's Scientific Advisory Committee, the future of the national laboratories was considered in detail. At about this time a report was made to the Joint Committee on Atomic Energy recommending that the laboratories should attack national problems. At present ORNL does about $18 million worth of work for others exclusive of any research on weapons. Dr. Weinberg felt strongly that a big push would be forthcoming in biomedical sciences in general which might very well have a major impact on DBER and on the national laboratories. He suggested that the increased emphasis on cancer research might be an example of a program having such major impact.

On questioning, Dr. Weinberg pointed out that while ORNL does $18 million worth of work for others the AEC budget is about $75 million and work for others is still therefore a small fraction of the total effort.

One of the problems with this type of non-AEC support is that the support levels may vary sharply which makes the administration of such work difficult. At the present time, there are 125 separate pieces of work for others which must be kept track of. He feels it takes as much effort to obtain and administer $10,000 worth of support as it does $10 million. Proposals to do research for others are sometimes generated by the staff and sometimes the other agencies approach the laboratory.

Dr. Liverman then asked the Committee to keep in mind three specific questions on which he desired advice. These questions were as follows: 1) What has the impact been of the Work for Others Programs in the biomedical and environmental areas with respect to DBER's programs and what has the effect been on the laboratories conducting such research? 2) Are there particular program areas for which the AEC laboratories are particularly well qualified? 3) Could the Committee provide guidelines and criteria to be applied to the question of modifying research programs, initiating new research programs, and terminating old programs?

Dr. Liverman pointed out to the Advisory Committee that not only did the AEC watch closely the research effort of its laboratories but other agencies as well kept a watchful eye on this research. The Office of Management and Budget, for example, watched carefully for duplication of effort. The General Accounting Office looked at relevance to mission, adequacy of management, etc. Other agencies watched the programs from the point of view of whether there was an encroachment on their particular mission. Private industry is sensitive to the possibility of competition. Beneficiaries of the work anxiously followed its progress in anticipation of practical applications. The private sector of the population, because of its interest in science generally, also follows with interest the accomplishments of the laboratories.

There is adequate enabling legislation to permit the AEC laboratories to perform work for others as well as many precedents. For example, the economy act of 1932 enabled the interagency transfer of funding for research work. During President Truman's administration it was determined that government laboratories and facilities were to be used among agencies. In 1967 the Atomic Energy Act was broadened to specifically allow health-related and environmental research under AEC auspices. More recently, the Act has again been modified to enable research on energy in general rather than just on nuclear energy. The attitude of the AEC has been that the laboratories should be permitted to work for other agencies provided the work is of mutual interest and does not interfere with AEC programs. Dr. Liverman distributed two handouts showing the extent of work for others in the various AEC on-site laboratories. He indicated that working for others may dilute the loyalty of the staff to the AEC and asked that the Committee

consider whether this feeling is justified.

At this point a series of presentations were made by a number of biomedical program directors from Oak Ridge and from other AEC laboratories. The first presentation was made by Dr. Chester Richmond from the Los Alamos Laboratory. Dr. Richmond felt strongly that the work for others had strengthened his research program. He did not feel it was detrimental in any way. He gave several examples of work for others that would seem clearly of interest to the AEC. One problem that he had had with work for others was that the lines of authority were not always clear-cut. Some of the programs in his laboratory came through Headquarters and others came through the local Operations Office. He indicated the relationships with the other agencies had been cordial and in fact the Department of Agriculture had a man stationed on site to be their liaison for the work being done for that department.

Dr. William Bair from Battelle Northwest Laboratory pointed out that BNW has a unique arrangement with the Commission in that they can do work for other agencies and for private industry in AEC facilities. Under terms of the agreement, the AEC is reimbursed for use of such space. Dr. Bair cited a number of examples of work for others. BNW also has some facilities of its own and when research is conducted in this space, AEC rents it. Sixty percent of the support at BNW is from AEC and forty percent of the support is from other sources. Dr. Bair argues strongly that this broader base of support was not only very helpful to his research program but helped the work done for AEC.

Dr. Moseley stated that in the past the Advisory Committee had strongly urged the laboratories to seek increased outside support. More recently, it requested the AEC to explore the possibility of eliminating the cost-sharing requirement for NIH grants. The Committee suggested that this might be done by a change in the legislation or by administrative rulings. Dr. Moseley felt that there was no problem of the loyalty of the staff to the AEC. The universities in this country have coped with this problem for many years. Many of their staff are supported by research grants and contracts. Loyalty is insured by good administration and strong support of the staff.

Dr. Edington expressed the concern that the best staff members within a laboratory might take on work for others and less able staff members might stay on AEC programs. Dr. Liverman countered by pointing out that an effort would be made to force the laboratories to remove any substandard staff if such staff exists. Dr. Mitchell raised the question of why the laboratories wanted grant support rather than contracts. The answer was that contracts tended to be more of the "job shop" type with very limited possibilities for the laboratories to explore exciting leads. Further, the size of contract funds is limited, and the laboratories felt they should be able to compete for grant funding.

At this point there was a broad general discussion of grants, contracts, and attitudes of various agencies toward the laboratories and toward the grant and contract methods of funding. Dr. Adler pointed out that in effect doors are closed to investigators who are limited to the contract route. Scientists in the national laboratories feel they are competitive with their peers in universities and feel that they should be allowed to compete on the same basis as their outside colleagues.

Dr. Eugene Cronkite, from the Brookhaven National Laboratory, described the situation in his Department with respect to grants and contracts. They do have a limited number of grants but the amounts and numbers are sharply curtailed by the cost-sharing requirement. He indicated that Brookhaven would prefer the interagency transfer method of funding whenever this is possible. Dr. Cronkite did not feel that loyalty to the AEC posed any particular problem. He indicated that multiple support from various agencies made it very difficult to take a reduction-in-force when funding levels fell. It should be pointed out, however, that the drop in funding levels is not always with the other agencies but in many cases may originate in the AEC programs.

Dr. John Auxier, Director of the Health Physics Division, ORNL, described the work of his Division for outside agencies, particularly the Department of Defense and the Department of Housing and Urban Development. His Division over the past several years has had a great variety of outside support. It is interesting to note that some of these programs would last only a year or two and then would be replaced by funding from some other agency. While support from any one of these agencies fluctuated a great deal, the total support from other agencies remained relatively constant and stable.

Dr. Ruth Kemper described research being done in ORNL under support from HUD. The research is concerned principally with predicting urban growth patterns. ORNL is one of five sites that will receive the 1970 census data tapes. She described the data base that they are using to provide planning papers to HUD. Her operation is hampered by the limited size of the staff. Apparently under the ground rules, the AEC laboratories can undertake work for others in areas of existing competence. In Dr. Kemper's case the number of people with the specialized competence is limited. This leads to a difficult problem. Should the laboratories be allowed to recruit the necessary people in areas of competence not strongly represented? The opinion was expressed that the over-riding consideration should be whether the problem is of national importance not whether a laboratory happens to have people trained in the particular disciplines needed for its solution.

Dr. G. Ulrickson described the activities of environmental information service which is supported by a number of agencies. Basically they have a computer setup that can provide data for technological assessments, predictive modeling, etc.

Dr. Norman Anderson of the Molecular Anatomy Program at ORNL described his work in the area of instrument development or biotechnology. One of his problems has been lack of a stable level of support either from AEC or from other agencies.

Dr. Stanley Auerbach, Director of the Environmental Sciences Division, discussed his Division's research under National Science Foundation and AEC support. The $4 million in support from the NSF has enabled a much better and broader based research program than would have been possible had the support been solely from AEC.

Dr. Howard Adler, Director of the Biology Division, ORNL, discussed the impact of work for the NIH and FDA on AEC programs in the Biology Division.

Dr. Liverman then asked each of the Program Directors whether the impact of work for others had been beneficial or deleterious. There was unanimous agreement that its effect had been beneficial both to their laboratory and to the DBER programs.

Dr. Edington discussed the method of Headquarters processing of proposals for research supported by other agencies. The initiative for instituting such proposals usually comes from the laboratories although sometimes the agencies approach either the laboratory or the AEC Headquarters. Usually prior to submission of a proposal there is an informal discussion between the laboratory and the agency involved. He indicated that DBER wishes to be informed of such discussions even when they are in the very preliminary stages. Once a formal proposal is prepared, it must go through proper channels. The laboratory director should submit it to the cognizant Operations Office which will in turn submit it to Dr. English, Assistant General Manager for Research in AEC. At that time a copy should also be provided to the Director of DBER. DBER staff reviews such proposals and makes a determination of whether it should be recommended that the proposal go to the particular agency. The criteria used are 1) Is the research of joint interest and 2) will it interfere with ongoing AEC programs? If DBER approves the proposal, it recommends to Dr. English that it be transmitted to the other agency. DBER also wishes to be informed of any renewal of contracts with these other agencies.

At this point the Committee adjourned for the day.

The Committee reconvened at 8:00 A.M. in the Biology Division in executive session. The uncertain future status of the Committee was discussed. The members believe that the Advisory Committee has served a useful purpose over the years but conceded that the Committee has not been as effective as it might have been. The reasons for this seemed to be that the Commission rarely requests advice from the Committee and in many

instances has not acted on the advice given for reasons that are not clear. Many members felt that through the years the Commission's and some laboratory directors' attitude toward biomedical research has been one of tolerance of a necessary evil rather than active support. This attitude, where it has existed, may have contributed to the AEC's present difficulties with its public image. The Advisory Committee, while appointed by the Commission, has been largely advisory to the Division of Biomedical and Environmental Research. The Committee does not believe this to be its proper function. It should be advisory to the Commission on all matters related to health, safety, and biomedical affairs. These affairs cut across several divisions in the AEC. The General Advisory Committee, as presently and previously constituted, does not have the competence to advise in these areas. The Committee may be wrongly constituted or have the wrong membership to fulfill the needs of the Commission. If this is the case, the members would accept the disbanding of the present committee gracefully. The Committee believes strongly, however, that an advisory committee in the biomedical area is needed and either the present committee or some other committee should be reestablished.

The proper role of an advisory committee was next considered. It was agreed that the committee should provide broad policy advice to the Commission. In-depth and detailed reviews of either DBER programs or of laboratories fall outside the proper scope of an advisory committee, although such reviews could be undertaken by subcommittees augmented by additional outside experts. Another important role of an advisory committee, and one the present committee believes it has fulfilled, is to identify and anticipate potentially important problems in the biomedical area. Finally, an advisory committee could serve as a useful sounding board for projected Commission policies and actions.

Recommendations for recipients of the E. O. Lawrence Award were developed. The Committee recommended the following three scientists for receipt of the award in the order named: 1) Sheldon Wolff, 2) Howard Adler, 3) Roger McClellan.

The Committee next considered the three specific questions raised by Dr. Liverman at the previous day's meeting. With respect to the question of work for other agencies, the Committee reaffirmed its previous position that the AEC laboratories should be encouraged to move aggressively toward expanding the extent of work for others. On the basis of the presentations of the previous day and on the basis of its own firsthand knowledge, the Committee concluded that work for other agencies has had a saluatory effect not only on the laboratories involved but on the research supported under DBER's mission. The on-site laboratories in the biomedical research area are relatively underutilized at the present time, even though they represent a valuable national resource of scientific talent, equipment and facilities.

For efficient utilization of these laboratories the base of financial support should be broadened. The Committee believes that a move in the direction to make the laboratories truly national laboratories to be in the best public interest. In the past, within some segments of the Commission and the Congress, there has been a tendency to guard the national laboratories jealously as AEC laboratories. In some cases, the determination of whether work for others was of "mutual interest to the AEC and the other agency" has been too narrowly made. Any research in the national interest should be of mutual interest to the AEC. The Committee does not believe the concern about staff loyalty to the AEC to be justified. The loyalty of scientists is usually to their peer group and to their home organization rather than to a funding agency. Good administration and enlightened personnel policies and support of staff engender loyalty more than the particular source of the funding. It was pointed out that a loss of loyalty to the AEC could occur if the AEC found itself unable to support a program adequately but did not allow the particular scientist involved to develop the required additional support elsewhere. The Committee also reaffirmed its recommendation to the Commission that every attempt be made to enable scientists in the national laboratories to compete for research grants.

Dr. Liverman's second question concerned types of programs for which the on-site laboratories are particularly well qualified. The Committee at this time was unable to answer this question in more than general terms. It is clear that the various on-site laboratories have unique strengths in different areas. Every attempt should be made to capitalize on these research strengths. The on-site laboratories, as opposed to universities, do have the ability to make much longer term commitments to problems. In general, they are also able to bring a broader diversity of disciplines and competence to bear rapidly on a problem. Finally, the on-site laboratories, in general, are staffed with full time scientists subjected to a minimum of other diversions such as teaching.

The third question concerned criteria for increasing, decreasing, terminating or initiating research programs. Again the Committee is unable to make definitive recommendations at this time. It does take the position, however, that a principal criteria should be--is it good science? A second criterion is whether it is related to DBER's mission.

The question came up as to whether the Commission, its contractors, and other licensees are adequately prepared to cope with accidents involving plutonium. The question was prompted by the response to an accident that occurred on the east coast during December. At least some of the Committee members felt that preparations were not adequate and that this was an area for concern.

The Committee also suggested that it would be wise for DBER to put increased emphasis on the potential environmental impact of radioactive waste disposal.

The Minutes of the 143rd meeting were accepted as distributed and the Minutes of the 144th meeting were accepted as amended. The Committee voted to provide the Minutes of the 143rd, 144th and 145th meetings to the Commission.

The meeting adjourned at 12:00 Noon.

Respectfully submitted,

John B. Storer

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