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Office Memorandum • UNITED STATES GOVERNMENT

TO : Howard C. Brown, Jr., Executive Officer  
Division of Biology and Medicine

FROM : Robert L. Butenhoff, Chief, Radiation Instruments  
Branch, Division of Biology and Medicine

SUBJECT: RESUME OF RADIATION INSTRUMENTS BRANCH PARTICIPATION IN GREENHOUSE  
PROJECT 5.1

SYMBOL: BMR:RLB

DATE: February 26, 1951

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The necessity for testing AEC developed instruments at Greenhouse made itself evident during the early part of 1950. Primarily, it was felt that field tests on instruments being developed by AEC for possible civil defense use were required which would include tests on both dosage-rate and dosimeter instruments. Secondly, a field evaluation of the AEC Emergency Monitoring Team Kits was felt necessary in order to determine the adequacy of the instruments and equipment in these kits for emergency monitoring. In connection with this evaluation, information is required on the importance of measuring alpha and beta radiations as compared to the current idea that the measurement of gamma radiation is all that is required. The spectral dependency of instruments is also of interest and it is important to determine the effective energy of the gamma radiation of the residual and scattered radiation as there is some evidence that this may be well below 200 Kev. Thirdly, participating in Greenhouse would provide valuable information on the serviceability and maintenance experience of health physics monitoring instruments. The information obtained would be used to direct the future improvement and development of instruments for use within the AEC installations.

The need for these tests was discussed with John Derry and upon his recommendation, I visited Lt. Commander Victor Delano at Los Alamos who is the Program Director in charge of the field evaluation of radiation detection instruments. As a result of this visit, a proposal was submitted to Delano which recommended the extension of Project 5.1 to include the Radiation Instruments Branch of the AEC as one of the collaborating agencies in that project. This proposal was approved.

As you may know, Project 5.1 was originally established for the purpose of testing Army and Navy field radiological monitoring equipments. The Signal Corps' Engineering Laboratories and the Army Chemical Center will have the responsibilities within the Army and

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JOSE DIAZ 4-21-81  
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WILBUR A. STRAUER 4-21-81  
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the Naval Radiological Defense Laboratory within the Navy, for carrying out the experiments, collecting data, and reporting it through the Project Officer to the Program Director. With the extension of Project 5.1 to include AEC participation, the Radiation Instruments Branch within the Atomic Energy Commission would have similar responsibilities for carrying out the experiments, collecting data and reporting through the Project Officer to the Program Director. Under this arrangement I, representing the AEC, am the person responsible for reviewing, supervising and, where necessary, directly engaging in the testing of AEC instruments and equipment to assure that the AEC phases of Project 5.1 activities are conducted so as to give the information desired.

In addition to performing the duties associated with this responsibility, I have agreed to make whatever time I can available to the other collaborating agencies. I will be willing to render every possible assistance to the Director of Task Group 3.1, Program Director, Lt. Commander Delano and to the Project Officer, Lt. Col. Earle Mitchell. To better acquaint you with my plans regarding travel, the following is my proposed travel agenda:

- March 6 - Leave Washington by airplane.
- March 7 - Arrive in Los Angeles. Will pick up additional colorimetric dosimeters at UCLA and will discuss testing procedures with Dr. Taplin.
- March 8 - Will pick up dosimeters at the A. O. Beckman Corporation in Pasadena, California and may also visit Consolidated Engineering regarding their interest in the production of Dr. C. C. Lauritsen's electrostatic dosimeter. Will leave San Francisco by train or plane.
- March 9 - Will arrive in San Francisco and will proceed to the Naval Radiological Defense Laboratories at Hunters Point. Will pick up a few instruments which were developed under contract to the AEC and will review this development program in order to determine whether their contract should be extended.
- March 10 & 11 - Attend to personal matters in preparation for overseas movement.
- March 12 - Report to Task Group authorities and take care of last minute preparations prior to boarding ship.
- March 13 - Board Ship.
- March 14 - Transport will leave Oakland, California.
- March 27 - Will arrive at Forward Area.

My travel schedule coming back from the Forward Area will depend on whether or not I will participate in the Harwell, England, Conference on Instrumentation, the date of which has not been firmly established. In any case, I will plan to participate in two shots at the Forward Area and should report back to work around the first of May 1951.