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U. S. NAVAL RADIOLOGICAL DEFENSE LABORATORY
SAN FRANCISCO 24, CALIFORNIA

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Dear Col Essman,

As a result of our discussion concerning the Chemical Corps responsibilities in the field of radiological defense I have been doing considerable thinking with respect to how we could better accomplish our basic mission in this field. Since your departure I have been absent from the Laboratory for the past two weeks and have had little opportunity to do anything constructive toward putting my thoughts in order and more important, on paper. Being rather isolated from the heart of the problem my thoughts will of course be biased by my own personal opinions. I offer them to you in the hope that they might be of some value in your study of the problem.

Before proceeding further I would like once again to tell you how very much I enjoyed discussing these thoughts with you. It was indeedgratifying to realize that the Chemical Corps was going to look at the radiological picture with a more discerning eye. I only regret that we did not have more time to further develop the ideas that seemed most pertinent.

The Miller Committee in their report stated that among the major requirements for the Chemical Corps were "realignment of functional emphasis to provide for the availability of the most advanced chemical, biological, and radiological warfare technology and equipment for our armed forces, as well as the training and doctrine required for their use. With reference to the mission of the Corps, the Committee stated, "The Corps is a professional organization within the Department of the Army with these areas of responsibility: biological warfare, chemical warfare and radiological warfare." The Committee Report continues, "Regardless of current concepts of warfare, its mission is to conceive and bring into being effective weapons systems within each of these areas, and to provide the knowledge upon which sound indoctrination can be based. Closely related and integrated with this mission, and equally important, is the development of defensive measures against such weapons."

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WNRC

I believe that in these two concise statements the rather broad and extensive areas in the radiological field are at least indicated. As a result of the discontinuance of an active development program in the radiological warfare munitions system per se it is my personal feeling that we should not consider our mission in this field in terms of "radiological warfare" since this implies to most a rather special connotation. It would be best to just eliminate the addition of the word "warfare" and consider the radiological field in its entirety. I do not mean to imply by this suggestion that we should not consider the more liberal interpretation of "radiological warfare". The potential high level of personnel casualties and deaths over large regions around surface and subsurface nuclear detonations as a result of fallout constitute a very potent radiological warfare situation.

Although the Miller Committee emphasized in the requirement quoted previously that a "realignment of functional emphasis" was indicated I do not believe that in the radiation field this was accomplished to the extent required for the Chemical Corps to fully pursue its responsibilities in this field.

Now as to positive statements with respect to the radiological field and its relationship to the Chemical Corps. Certainly, just as in the case of BW and CW, the R&D, Training, Doctrine, and Intelligence functions are included in the radiological picture. To be effective all of these functions must be closely knit and working together. To achieve this unity and to insure progressive action the mission of the Chemical Corps must be clearly understood and be aggressively pursued from top management levels. I believe we have trained individuals placed within the Department of the Army structure in all of the broad fields mentioned but I do not believe that at the present time a coordinated and effective organization within the Chemical Corps exists to utilize these individuals effectively toward the accomplishment of our mission. My thoughts on how to accomplish this would be first to clearly establish what our program is and then combine into one basic organization the means for carrying it out.

The basic nucleus of such an organization could be the Radiological Division at the Chemical Warfare Laboratories. To be effective, however, Rad Division needs to be organized to include a very strong Operation Analysis Group. Utilization of data available from weapons tests conducted in the past to answer Department of the Army operational problems is an area which is badly underdeveloped. Such a group should be well trained in operations analysis to include specialized formal training in this field. The group should certainly include representatives from the combat arms to add practical answers and suggestions in consonance with present tactical doctrine. The Group should have the capacity and the additional mission of indicating areas where additional research should be directed and should recommend fundamental doctrinal changes and training suggestions. Essentially this Group would be the backbone of the Chemical Corps efforts in the field.

WNRC

With respect to the organization of Rad Division as it stands today--- I believe that with more positive support and the elimination of some of the more non-productive personnel it could generate a great deal of good work in this field. This, of course, would necessitate replacement with qualified high level investigators.

I started my discussion with Rad Division because here is the only consolidated organization within the Chemical Corps structure dealing with the radiological problem and it should be a vital part of any program. Note that with the addition of the Operation Analysis Group you have at least the basic ingredients for incorporating and coordinating the training, intelligence, doctrine, and the reasearch and development functions.

At the top level I would like to see established a "Radiological Capabiliti division, section, or whatever would fit in with the current organizational concepts. It would have the staff responsibility for directing, coordinating, and generally planning the Chemical Corps participation in the radiological field. Included as a part of its responsibilities would be the tasks associated with having the Chemical Corps represent the Department of the Army at NRDL. In addition our representative at Fort Bliss, AFSWP, and other agencies conducting work in the radiological field should be required to work through this staff section. It would be a requirement that this section keep fully informed as to Department of the Army policies, directives, and future planning in this field so that Chemical Corps representatives at all levels would be kept fully informed as to the current thinking. I would think that proper location of this section would be under the D/C Chemical Officer for Scientific Activities. Perhaps I am violating some basic organizational concepts but it appears to me that the most logical location for a high level group which needs to incorporate R & D, Training, Doctrine etc in a rather specialized field necessitates this suggestion.

Now that I have gone from the working level to the top the question remains asto what should lie between. Certainly one very vital requirement lies in the interest and backing of the Chemical Corps. Without this any program will fail. Senior staff officers and commanders must be made aware of our responsibilities and the steps being initiated to carry them out. Indoctrination to the basic problems in the radiological field would be of great help. Qualified individuals at Field Requirements Agency, Chemical Corps Board, Training Command, and the Chemical Corps School are certainly needed to carry out the policies and programs initiated by the "Radiological Capabilities Section" and developed through the Operations Analysis people. Close coordination, however, is vital if all phases of the program are to be kept in step. In the BW and CW field I believe a closer coordination between the various operating agencies would also prove beneficial.

The above pretty well exhausts my present thoughts in regard to organization and implementation. Let me continue with a few indications as to my concept of the mission of the Corps in the radiological field. It seems to me that the mission of the Corps should be to study, develop and recommend techniques, procedure, and doctrine necessary to minimize the effect of nuclear radiation upon our own military operations and to maximize utilization of nuclear radiations to disrupt enemy operations.

WNRC

Our purpose should be the creation of an interim status wherein the Department of the Army has a current maximum state of readiness in BW, CW, and Radiological Capabilities and a well balanced continuous program to provide necessary improvements to this interim capability.

Such a mission covers our radiological defense responsibilities and at the same time includes the possibility of offensive utilization of fallout similar in certain aspects to our contemplated employment of BW and CW.

Some aspects of the program which should be of primary interest to the Army and which the Chemical Corps should be following closely are as follows:

1. Bio-Medical Aspects
   a. Permissable levels of radiation exposure.
   b. Neutron effects upon personnel.
   c. Interaction between radiation exposure and CW and/or BW exposure.

2. Military Operational Concepts
   a. Impact of fallout on tactical situations, depot operations, logistic requirements, fixed military installations etc.
   b. Fallout prediction techniques suitable for offensive utilization of tactical atomic weapons.
   c. Recommended employment of nuclear and BW,CW weapons as a weapons system.
   d. Reporting and evaluating the radiological situation in tactical operations.
   e. The employment of "salted" weapons on tactical and strategic targets.

3. Basic Studies
   a. Radiation detection and measurement.
   b. Nuclear, chemical, and physical properties of weapon debr
   c. Pre-protection of military bases to minimize effects of radiological contamination.
   d. Reclamation methods.
   e. Shielding and terrain studies to determine influence on tactical and logistics operations.

These I am sure are just a few basic problems for which direct Army requirements surely exist. I am certain that many more should be included.

I realize that I had promised you a recommended mission and list of detailed duties for my position out here and I will most certainly do this. However, I felt that you might possibly be interested in these thoughts at this time. We were handicapped by lack of time during your visit to fully discuss these concepts. I hope that the ideas expressed will be of some help to you and your staff in trying to analyze the situation for the Chemical Corps.

WNRC

I hope that we have the opportunity to discuss the problem further the next time I come East. My wife extends her best wishes and wanted me to tell you how much she enjoyed your visit.

Sincerely yours,

William M. Home

William M. Home
Major, CmlC

Please excuse the typing. I wpote this at home and I am afraid that I would not be a startling success as a clerk typist.