

REVIEW OF TRANSFER OF ON-SITE RAD-SAFE SUPPORT  
RESPONSIBILITIES TO SUPPORT DIRECTOR

410530

1. General:

Prior to Teapot all rad-safe operations, both on-site (within the proving ground) and off-site (outside the proving ground to approximately 200 miles), were a responsibility of the Scientific Test Director during active test periods. In general the rad-safe operating responsibilities were delegated by the Test Director to a military officer on loan to the Test Organization. The Rad-Safe Organization was staffed primarily by a military unit assigned on a mission basis with a few LASL personnel participating. During Upshot-Knothole, the off-site group was supplemented with monitors provided by the U. S. Public Health Service under a memorandum of understanding between the PHS and SFD.

During non-test periods the on-site and off-site rad-safe responsibility was transferred to the Field Manager, and the organization was limited to a relatively small group of DOD personnel assigned to the Las Vegas Field Office on a mission basis. Off-site activities prior to Teapot during non-test periods were practically non-existent. Even on-site requirements for operating in contaminated areas were minor, and the rad-safe operations were primarily limited to keeping statistics on status of area contamination and maintenance of equipment and facilities.

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Following Upshot-Knothole, study was initiated to review the rad-safe responsibility and organization, and it was the conclusion

of the Test Division and the Las Vegas Field Office that the responsibility for both on-site and off-site activities should be placed under the Support Director (Las Vegas Field Office Manager) during test periods. The principal reasons for this conclusion were as follows:

- a. Off-site fallout during Upshot-Knothole was relatively heavy as compared to previous operations, and increased public alarm had resulted in numerous claims as to alleged damage to livestock and individuals; the result being that off-site activities, including rad-safe problems, did not end with the completion of the actual testing of devices. The disbanding of the Test Organization passed on to the Field Manager many problems which he was not in position to handle due to lack of background and qualified staff. The personnel who had been responsible for decisions and policies regarding rad-safe actions were dispersed leaving the problems with the Field Manager. A serious division of responsibility resulted. BEST COPY AVAILABLE
- b. Following Upshot-Knothole, on-site rad-safe activity requirements for carrying on construction work in contaminated areas during non-test periods were increasing materially over past interim periods which necessitated the interim organization (Field Manager) to operate rad-safe facilities extensively during non-test periods. It was also becoming obvious that the system of providing monitors for work parties from the Rad-Safe

Organization was not satisfactory, as it divided responsibility for the operation between the monitor and the individual in charge of the work whether it was for recovery of scientific data or support and construction activities. It was therefore concluded that following Testet the Support Contractor would take over on-site rad-safe operations under the direct supervision of the Field Manager. It was also concluded that a smoother operation would result if the Support Organization (LVFO and HTS Contractors) were to continue in control through the test period rather than to change responsibility at the beginning and end of each test operation.

- c. In the interest of relieving the Test Director of all responsibilities that were not directly applicable to the obtaining of the basic diagnostic and effects data, it was considered desirable to relieve him of the responsibility for both on-site and off-site rad-safe operations.

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- d. By memorandum dated July 14, 1953, the Manager, SFO, made a proposal to Dr. Graves to the effect that responsibility for both off-site and on-site rad-safe be transferred from the Test Director to the Support Director. Dr. Graves accepted the proposal with regard to the off-site aspects but objected strenuously to the release of the on-site responsibility.

"The off-site monitoring operation has, as you know, been performed by the Test Director as a

service to the Test Manager and is of no direct interest to the Test Director's major effort. If you are convinced that the Field Manager, Las Vegas Field Office, has, or will have, the capability to perform this function to your satisfaction and would prefer that the responsibility be vested in him rather than the Test Director, I will be glad to relinquish the problem in accordance with your desires.

"My reaction to the second portion of the memorandum is quite different. The problems of the Field Manager having to do with radiological safety on-site are an order of magnitude less than those of the Test Director. I suspect that it is realized that this different order of magnitude mentioned above will give the Field Manager an extremely complicated problem to solve because of a relatively minor requirement. It may not, however, be quite so apparent that relinquishing this responsibility by the Test Director would tremendously complicate his problem as well. The intimate correlation of the monitors job with the technical job that is necessary in order to assure the Test Director and the Test Manager that a successful and safe operation will result, cannot, in my opinion, be assured if these two portions of the work are separated organizationally."

## 2. Off-site:

Planning for Teapot Operation proceeded on the basis that the off-site rad-safe responsibility only would be transferred to the Support Director (Field Manager). A new agreement was entered into with the U. S. PHS for that organization to provide personnel and assist the Test Manager's organization, to a major extent, in the off-site rad-safe operations and the protection of the general public. Two PHS persons have been stationed at FIB on "detached" duty status to the Las Vegas Field Office to assist the Field Manager in the planning for and direction of the off-site activities, and during operational periods additional PHS personnel are furnished. Since Teapot, a DOE veterinarian has also been assigned on a permanent basis to the organization. The off-site operation during Teapot was very gratifying to all concerned, and the post-operation activities have continued much more smoothly than they did following Upshot-Knothole. It is considered that off-site activities during future tests can be handled substantially with the same methods and procedures as were used in Teapot.

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## 3. On-site:

### a. General

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As stated above, the on-site operations during test periods have been the responsibility of the Scientific Test Director, with actual operations being under the direction of a military officer. The on-site organization was almost exclusively military personnel from an Army Chemical Corps Company. During

Teapot the complement of the on-site Rad-Safe Organization numbered approximately 155 persons (military) at one time. However, a much greater number of men were involved on a rotational basis.

During Castle and Teapot, participating programs were encouraged to provide their own monitors to accompany scientific recovery and work parties. In general, these monitors with integral members of the parties had received special training in monitoring techniques. (A school to develop such monitors was conducted at NTS before Castle and Teapot.) These monitors act as advisors to the leader of the party. The leader retains responsibility for the safety of the party members. The Rad-Safe Organization maintained a pool of trained monitors for loan to groups not able to provide qualified monitors from their own ranks. Again these loaned monitors act as advisors to the party leader, with the party leader retaining responsibility. This concept of the party leader having full responsibility for his operations eliminates any possible division of responsibility between the party leader and monitors which existed in early operations.

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Under this concept of each organization being responsible for providing its own monitors and the party leader retaining responsibility, the on-site activities are reduced to a supporting function, which, in general, consists of area survey

and mapping, supply and issuance of protective clothing and radios equipment, issuance and processing of film badges, and decontamination of equipment and stations.

b. Proposal: BEST COPY AVAILABLE

Due to changed conditions and over-all concepts of operations, it is now considered appropriate to reconsider the matter of transfer of on-site rad-safe functions to the Support Director.

The reasons justifying such reconsideration are as follows:

- (1) DMA, by memorandum dated September 22, 1955, has requested that serious consideration be given to revising the method of conducting tests at NTS so as to permit conducting tests on a continuing basis rather than the series type of tests that have been conducted in the past. Preliminary reaction of interested groups indicates clearly the desirability of organizing for this type of operation; and, although it may not be possible to do away with the occasional large series, it appears that there will be ample justification for conducting small series or individual tests as the situation warrants.

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- (2) Prior to Teapot, the operations on the proving ground were such that there was a clean break between "non-test" or "stand-by" periods and test periods. During test periods, there was practically no activity being

carried on that was not directly related to the testing underway at that time. Since Testnet, there has begun a radical change in the situation in that the proving ground is being used for other important purposes than testing of nuclear devices. These activities require rad-safe support, both during test and non-test periods. The switching of rad-safe responsibility between the Test Director and the Site Manager is becoming more and more awkward in respect to maintaining continuity of responsibility to these extra curricular activities. This change of control complicates the problem of maintaining accurate cost distribution to the various activities. The trend toward nuclear tests on a more continuous type basis will greatly complicate the confusion in that test periods will occur at closer intervals than the one and one-half to two-year periods of the past, and they will be of irregular lengths of time, very probably, from a few days to a period of months; they will not be for the whole area of the proving ground but might be for only one of the many test areas. During a small test series, or a test of a single device, the other unrelated rad-safe activities may well be several magnitudes of activity greater as compared to those directly related to the single nuclear test in progress

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at the time. It is entirely possible that separate test activities under control of both UCRL and LBL may overlap timewise in different areas at the same time, possibly with independent test director organizations. Under the above existing and probable conditions of operation, it appears obvious that the switching of responsibility for, and control of, the rad-safe work would result in complete confusion and possibly would work only if each participating organization had its own complete facilities and organization. The result would be increased cost and very inefficient use of personnel.

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4. Proposed Basic Plan:

A basic Rad-Safe Plan covering the proposed concept of operations is attached. In general, the on-site supporting functions would be performed by the NTS Support Contractor under the immediate direction of the Las Vegas Branch Chief (or as appropriate, the AFC Support Director). The Test Division, SFOO (Test Manager), would establish, in conformance with Commission-established policy, general rules concerning permissible exposure and rad-safe controls. Each organization participating in any type of activity at NTS would retain their responsibility for the safety of their own employees and other personnel under their direct supervision. The staff of the Branch Chief would supervise the support operation and would function in an advisory capacity to all participating organizations with respect to attaining compliance with

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established standards and general rules. Supplements to the general plan would be written in collaboration with the respective test site user to cover specific problems and requirements of a particular test or operation.

### 5. Discussions:

#### a. Methods of Staffing:

In considering the manner in which the Support Director could discharge the on-site red-safe support functions, consideration was given to three apparent methods of staffing and operation.

- (1) Have DOD provide the service on a mission basis
- (2) Have U. S. FMS provide the service on a mission basis

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- (3) Have the NT Support Contractor provide the service

These three methods are discussed briefly as follows:

- (1) In the past DOD has provided the bulk of the Red-Safe Organization by borrowing personnel from various military units with appreciable rotation of personnel during any one test series. The DOD has had a direct interest in all test series to date, as there have been extensive effects tests and troop training programs involved. No reimbursement by AEC has been required due to the joint participation and the fact that the personnel was loaned for relatively short periods of time. Whether or not this same interpretation could be

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placed on a continuing service in which the DOD would not have the same degree of interest in many of the extra curricular activities as it has in past test series is doubtful. There will, of course, be a fluctuating support requirement which definitely will not be as low and possibly not as high as in the past. It is believed that the DOD would not continue to operate on the "borrowing" principle to staff a continuing organization; and, if not, fluctuations in workload would be difficult to cover, the probable result being that the DOD organization would be staffed for the peaks with surplus organization during much of the time.

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The past operations have very probably provided valuable training for DOD personnel in the early stages of rad-safe development. Whether or not participation in future HSE support activities is as relatively important from this aspect as it has been in the past considering the extensive DOD rad-safe schools and training activities is doubtful. In any case, it is not considered sound to use an important test support activity as a training school. If training is necessary, it should stand on its own merits

as such and should not depend on operational support. BEST COPY AVAILABLE

The concept of rad-safe philosophy of DOD and AEC is basically different. From the public relations and legal aspects, AEC must plan and operate to accomplish its objective within the accepted limits of activity and exposure for civilians and the general public.

Exceptions can be tolerated only in most unusual situations and then only after careful advance consideration and approval by the AEC. The DOD attitude and concept is not nearly as strict, and education of DOD personnel to the AEC concept is difficult and incompatible with their own concept. The continued use of DOD personnel in the on-site rad-safe operation means at least three different organizations involved in any test activity:

(1) the user, (2) the Support Contractor, and (3) the DOD. It is difficult, if not impossible, to integrate military and contractors' personnel, and it has been the expressed policy of WFTD that this was not to be done. The WFTD has been happy to provide a service on a mission basis but not individuals to integrate into an AEC organization.

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Any continuing activity by DOD at WTS would undoubtedly require extensive additional DOD support functions

at the site, including administration, transportation, recreation, medical, etc.

It is believed that disadvantages of using BOD personnel in this capacity outweigh the advantages, if any.

- (2) With regard to U. S. PHE personnel, it is believed that there will be sufficient off-site activities to absorb the full capabilities of the organization, although it is also doubtful if the U. S. PHE would be interested in this aspect of our operations. Certain of the objections to BOD personnel staffing also hold to a lesser degree.

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- (3) The use of the Support Contractor (Raynolds Electrical & Engineering Company) appears to be the best method of providing on-site rad-safe support activities for the following reasons:

- (a) The Support Contractor can develop among his regular personnel rad-safe monitors and others trained in the various phases of the operation, who can be pulled in on short notice to support peaks in this activity. Personnel from their normal construction and operation-type work can be readily recruited

along with the normal fluctuation in requirements of this type activity.

- (b) It would reduce to a minimum extra requirements for support of the red-safe activity which would be required if the operation were to be staffed with some other agency.
- (c) Generally, only 40% to 50% of the Support Contractor's personnel during a test period live at NT&S. The remainder commute to Las Vegas which means that camp support in the form of housing, etc., would be less than for any other agency. BEST COPY AVAILABLE
- (d) There would be no travel or per diem charges in the use of the Support Contractor.
- (e) There would be no confusion as to responsibility for operation of red-safe facilities.
- (f) There would be a minimum of mobilization and demobilization costs.
- (g) It is believed that cross-use of equipment and even personnel to Pacific operations could be accomplished to a maximum extent with a minimum of paper work.

b. Possible Objections:

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From past reviews and discussions, it appears some arguments may be advanced by participating agencies against the proposed

transfer of the on-site rad-safe function from the Test Director to the Support Director. Foreseeable arguments are: (1) Test Director loses direct control; (2) Support Director and his organization are not qualified to do the job; and (3) That it is impossible for the employer (LASL, UCAL, Sandia Corporation, etc.) to transfer responsibility for safety of his personnel to the Support Director.

These possible arguments have been carefully considered and may be answered as follows:

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- (1) The Test Director will retain the same sort of control for "personnel" monitors as in Teapot. This is the most critical item of concern. This control will be through the party leader and the monitor-advisor, who, in most cases, would be a member of the Test Director's organization. With reference to the supporting functions of which the Test Director would be relieved, he would be in the same relative position as for other supporting services which are essential to the successful execution of the experimental projects and probably would be in no worse position than previously when he had delegated operating responsibilities to a military officer and utilized a BOD group on a mission basis. As in the past, rad-safe operations would be controlled by a detailed operations plan, coordinated and agreed to by

the Rad-Safe Organization and other operating groups in advance. If the Test Director finds the rad-safe support operations unsatisfactory or incompatible with scientific operational requirements, he can appeal to the Test Manager who has ultimate responsibility for both safety of personnel assigned to the Test Organization and adequate rad-safe operations.

- (2) The Support Director has demonstrated ability to execute the off-site rad-safe responsibilities satisfactorily. It is true that it will be necessary to organize, staff and train a very large segment of the proposed on-site Rad-Safe Organization; however, this would be an expansion of the existing interim period organization which is presently under the direction of the AEC Site Manager. On the other hand, it would be equally necessary to organize and staff a new on-site Rad-Safe group even though responsibility continued with the Test Director. There does not appear to be any greater hazard in utilizing personnel selected and trained by the AEC (or its Support Contractor) than in accepting personnel furnished and trained by the DOD, in fact, it appears the Test Director would be in a better position to insist on better service by an AEC-furnished Rad-Safe Organization than improvement in services by a group loaned on a mission basis by the DOD. Again, it is to

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be noted that any responsibilities of the Test Director for protection of personnel and successful execution of the technical aspects of the test are also the responsibilities of the Test Manager who most certainly will assure that adequate service is provided to the Test Director. To this end, Test Division, SPOC, has recently arranged for the services of a qualified U. S. PHS employee to provide staff supervision of all rad-safe operations as a staff representative of the Director of Test Division in planning phases and of the Test Manager during the operational periods.

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- (3) With respect to inability of participating agencies to transfer responsibility for its personnel to the Support Director's Rad-Safe group, it is not intended that any participating agency or contractor give up its inherent responsibility for the safety and health of its own personnel. It is just as impossible for the Test Director to accept and relieve the Reynolds Company of its responsibility. The rad-safe support functions, regardless of who administers and directs them, must be of such caliber as to be acceptable to all participating groups, insofar as they may affect the safety of the personnel of these groups. The policy would be to encourage all participating organizations to review and comment on the published procedures and operation orders covering the rad-safe services and

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include in their participating organization a qualified red-safe or industrial health representative to follow the activities and protect the interests of their parent organization. If the monitors advising operating personnel are personnel of the same agency or serve in an advisory capacity, it seems that immediate safety of the agency's personnel rests with the agency regardless of who administers the red-safe operations.

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