

REPOSITORY DOE History Division

COLLECTION #1387 Conrad-Cgk

BOX No. #2

Field Command Files

FOLDER #3

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Notes from Semi-annual Histories of Field Command, DASA, 1958 thru 1962

Generally these notes are of little interest except for the pertinent sections, particularly the histories of the weapons effects and tests division and to a lesser extent if at all, the research and development and operations division.

Note that in 1958, Colonel Hutchinson of the Army was head of the Weapons Effects and Tests Division. He took over on the 10th of May 58 from Ted Parsons (Colonel Hershel E. Parsons) and serving under these men, among others, was Roger Ray (Special Assistant to the Director of the Test Division). Also in WET at this time was John Kodis who served then in JTF-8 thru Dominic.

Ray was actually the Special Assistant for ABMA (Army Ballistics Missile Agency) and was assigned in particular to cover the Orange and Teak events (UHA and VHA) scheduled for firing on Redstone missiles from Bikini in late April and early May. This history says "Three weeks prior to first readiness date, a decision was made in the office of the Chief, Armed Forces Special Weapons Project, to move the zero sites for the two events from Bikini to Johnston Island due to the possibility of chorioretinal burns from the shots to the natives of the Marshall Islands." Bikini roll-up for these shots was completed in early May and Ray reported to J.I. to watch over preparations for the new sites on 29 May 58.

Note that the VHA shot was actually the balloon test whereas the missile shot was VHA Prime. This event, Yucca, was on a balloon launched from the USS Boxer (CVS-21).

The numbers of personnel in WET in this time period are of interest for comparison purposes. The group was authorized 98, was augmented with 34 additional for Hardtack and was planned to be augmented with 210 more for Trumpet, planned for 1959. Furthermore in support of Hardtack overseas, WET assisted in support of Task Unit 7.1.3 which had about 1200 personnel made up of military, federal, and contractor. The organization charts here for WET and Task Unit 3 show that a number of the staff functions of each organization were held by the same people although the head of the WET was not the same as the head of the Task Unit, who was Colonel K. Coleman, Director of the Test Division under the Head of WET.

The following notes cover the history thru the last half of calendar year 58. The WET group during this period began their planning for Hardtack II while still participating in Hardtack I which wasn't complete until 25 Aug. 58. At this time the group returned to Sandia Base and "began immediate preparation for deployment for essential personnel to the NTS. By 15 Sept. the majority of the offices of the group were established at the NTS and were engaged in the operational phase of Hardtack II until 31 Oct."

From what I can gather here the Head of WET, known as the Deputy Chief of Staff, Weapons Effects Tests, served in this time period as a military assistant to the Deputy for Scientific Matters of JTF-7, who would have been Bill Ogle.

Of particular note in this time period is that the "Technical Director, WET, in addition to his regular job, served as Acting Commander of Task Group 7.1 at

EPG from 1 July thru 1 Sept. "This is the first time in the history of nuclear weapons testing that a military person had been placed in a position of immediate command or direction of all scientific activities, including those of the AEC laboratories." The person in this job was Colonel Ernest A. Pinson of the Air Force.

Note that Colonel Coleman, Head of Task Unit 7.1.3 was permanently transferred on 20 Dec. 58, and was not around to assist the Task Force during the moratorium.

Of some interest are some specific communications recorded between the WET Technical Director and the Technical Director of AFSWP in Washington on 16 Dec. 58. The latter individual was Frank Shelton and it was suggested to him by the Field Command man "that high altitude shots over J.I. may be fired at any altitude without fear of eye-burns in the Hawaiian Island or elsewhere at similar distances. This suggestion derives from the probable fact that when devices are fired at altitudes above 100 kilometers, the deposition of x-ray energy in the very thin atmosphere may not produce a fireball sufficiently hot to burn the retina of the eye. In this situation, the heated core material can be "seen" and is very hot but at distances of over 300 hundred miles, the image size of the hot core material on the retina will be small enough so as not to produce a burn within the blink reflex time."

Note that 7.1.3 offices on J.I. supporting Teak and Orange were closed on 23 Aug. 58.

Of interest is that Field Command reported excellent or good to excellent results on both Teak and Orange events as far as technical coverage.

The NTS portion was supported by approximately 350 Field Command personnel at one time or another during the latter portion.

The following notes cover the first half of calendar year 59.

Colonel Leo A. Kiley became Technical Director and Assistant Deputy Chief of Staff under WET as of 1 April 59.

"The primary mission of the Weapons Effects Tests Group during this reporting period was to maintain a continuing capability for fielding a weapons effects tests organization should the existing nuclear test moratorium be cancelled and the U.S. resume nuclear testing. In connection with this mission, very close liaison has been maintained by an interchange of visits between staff personnel of WET and Headquarters DASA in order to effect a close coordination of effort and to better understand the mutual problems involved should nuclear testing be resumed." It is noted that the moratorium has emphasized the need to put on paper WET's methods of Field Operations and thus they have been preparing standard operating procedures and directives which cover both NTS as well as overseas test activities, as well as their functions at Sandia. WET participated in meetings on "Pacific Test Planning," including JTF-7, the labs, etc. on "How to resume testing under conditions which would make firing urgent and which would not permit use of the existing Pacific Proving Ground."

Note that Kiley came to Field Command from being Chief of the Biophysics Division of AFSWP. In this role Kiley served on the NTS Planning Board and, on 4 June 59, presented the DOD effects program for Operation Trumpet. Within the

group, planning is proceeding for certain projects to be carried out on Trumpet should it be permitted in the future.

The following notes cover the latter half of calendar year 59. As of 1 Nov. 59, John Kodis became Acting Director of the Test Division, a job that would have made him head of Task Unit 3 in the Task Force structure, I believe.

Total strength of this group was at 116 in this time period. Furthermore, they were studying possible reductions if the moratorium continues.

The following cover the first half of calendar year 1960. In this time period Hutchinson left and Kiley became head of WET on 14 Feb. 1960. I believe Hutchinson at that time became head of JTF-7. Kodis became Director of Test Division on 28 June 1960.

General activities included "maintaining a continuing capability for fielding a weapons effects test organization should the test suspension be cancelled and the U.S. resume full-scale nuclear testing. . . . Planning progressed satisfactorily for the standby readiness of Marshmallow, close out of Trumpet, preparation for multi-cubicle tests and preliminary evaluation of Vela Uniform."

Within the test division, manpower authorized was reduced 35% and program offices cut from 9 to 6. "A staff study of 'implication of the test suspension on military effects' was prepared and sent to the Atomic Weapons Training Group. As a

result of this staff study it was concluded by summary that there are a number of militarily significant gaps in our knowledge of weapons effects which will result in ultra-conservative offensive-defensive planning; less flexible military wartime tactics and strategy; an over-designed structures, equipment, weapons, etc. Although theoretical evaluation, laboratory study, and non-nuclear tests will eventually reduce existing gaps in understanding, full-scale nuclear tests are essential to provide our nation with needed data on an efficient, effective, and economically adequate time basis. Specifically, we have need to know for sound military planning." Operation Trumpet was cancelled by DASA due to the suspension of funding to do research in other areas and the Marshmallow program was made the responsibility of Field Command on 1 April, 1960 and given the designation program 800. It is to be brought to a 12 month readiness and kept there and is anticipated that this can be done in Oct. 1960.

Personnel authorization dropped from 116 total on the 1st of Jan. to 86 on 30th of June, with actual assigned personnel having dropped from 113 to 97. There is a request pending approval for 12 additional authorized spaces to support Vela Uniform.

The following covers the time period for the latter half of 1960. Major Gen. Harold C. Donnelly of the Air Force ^{became head} of Field Command on 30 June 60, replacing Heath.

Note that Col. Delmar L. Crowson of the Air Force replaced Col. Charles Carson on 18 July 60 as Deputy Chief of Staff, Research and Development.

In WET, the authorized strength increased from 86 to 101 by the end of Dec. 1960 with the assignments climbing from 98 to 104 actual personnel. This is an example where Vela Uniform did have an impact on assisting in keeping some test on board during the moratorium. A Vela Uniform Program and Coordination Office was established in Sept. and, for program 800 (Marshmallow) 12 month readiness is now expected in May 61 and a number of technical plans have been received and things are proceeding adequately it is felt. Within Vela Uniform, "The technical program for Orchid has been developed to a 10 week readiness status." Note that clearly a large portion of the groups activities are with preparing final reports on the various technical projects and overall results of various nuclear events from the past with still several dozen technical reports being written covering all the way back through Operation Redwing in some cases and are now active. There are so many little activities reported in progress supporting Vela Uniform that I get the feeling it is kind of a matter of "it ain't much, but it is all they have to do." Funding for Field Command for this program for FY 61 is 4.3 million dollars of which about 2.1 has been committed half way through the year. Note that the head of the Vela Uniform office within WET is Lt. Col. J. R. Barton of the Air Force.

The following notes cover the first half of Calendar year 61.

Within WET, a fair amount of activity continued in the Vela Uniform program and program 800 was brought to a 12 month readiness status. The strength of this group remained about the same.

The Test Division feels that Project 800 could be able to respond on a 9 month basis on a "crash basis".

As of the end of FY 61, only 3.4 of the 4.3 million dollars for Vela Uniform had been committed.

The following cover the latter half of 1961, when testing was resumed. The WET increased in authorized strength from 104 to 190 as of 31 Dec. 61, with only 160 people actually being on board by this time.

The Test Division summary of what had taken place after test resumption stated "The technical program and support construction for Orchid was retained at a 10 week readiness status, until 6 Sept. 61, when the Nougat series was begun. As of 22 Dec. 61, 8 nuclear shots were fired at the NTS under the Nougat program. All Vela Uniform projects participated as planned." Field Command was briefed by Headquarters DASA personnel on 27 Dec. on the Fishbowl program.

Certain construction for Vela Uniform support of various Nougat tests was carried out during the fall. As for Hard Hat, construction progressed satisfactorily and "all tunnel liners were installed prior to 31 Dec. 61 with instrumentation remaining to be completed." As for Marshmallow, "Mothballing of Program 800 continued during July, Aug., and early Sept. It was estimated that most projects could be ready within 12 months or less with some possibility of earlier readiness on a crash basis. Upon resumption of nuclear testing, direction was given on 15 Sept. to

proceed with preparation of the Marshmallow event for firing at the earliest possible time, however, the testing schedule precluded Marshmallow firing where the event had formerly been planned. Additionally the necessity for freedom from seismic disturbance during test preparation, a new site was agreed upon to avoid interference with other events. By Dec., projects had been re-examined, design criteria were firming, some contractors had begun assembly of instrumentation and project hardware, fabrication of pipe was proceeding on schedule, the access tunnel had been completed, and work on the pipe tunnel and line of sight tunnel had begun."

The new funding levels for the various testing programs are as follows: Vela Uniform has 4.9 million authorized, of which 3.25 are committed; Hard Hat has been funded at 1.5 million; Marshmallow was reactivated at 9.6 million; Danny Boy - 1.45; Small Boy - 6.9; and Fishbowl - 46.956.

The following cover the first half of calendar year 62. In this time frame, Crowson left the R & D branch of Field Command on 1 June 62.

A number of changes took place within WET due to the test programs going on during this time. A continental test organization was formed to carry out the DOD responsibilities at the NTS and Col. William M. Boggs who had been assistant to Kiley headed this organization and acted as Military Deputy to the Test Manager, an AEC function. Also, an overseas test organization was established on 1 Feb. 62 to support JTF-8 and it became Task Unit 8.1.3 with Kiley as the Commander. Also, Col. MacPherson Morgan was Program Manager for the Marshmallow

Program.

Note that, whereas the authorized strength of WET was only 193 as of 30 June 62, actual personnel level was at 402 which included a number of personnel on temporary duty for testing.

In a summary of their activities, WET says that "They experienced the heaviest workload in its history. For the first time in the history of nuclear weapons test, joint AEC-DOD major test series were conducted simultaneously within the continental U.S. and overseas. Also, for the first time, while experiments were being conducted at the NTS and in the Pacific, other experiments were being planned for both areas. Adding to the pressure of this workload was the requirement to plan and execute all tests by 30 June 62. This cut-off date was extended in June 62 because of weather, test schedules, and operational problems which were not the responsibility of FCWT. Success in meeting all time schedules by the the FCWT is attributed to the guidance, assistance, and support provided by Commander, Field Command DASA; the experience, knowledge and high morale of the key personnel assigned; and the mutual cooperation among the armed services, the many government agencies, and civilian contractors involved. Requirements normally completed in 10 or 12 months were completed in 2 or 3 months by personnel working in excess of 8 hours a day, 7 days a week." The continental test organization was at the NTS by Feb. whereas the overseas organization (TU 8.1.3) began moving key personnel to the Pacific in March. At the NTS, the DOD Continental Test Organization participated in 35 tests, and obtained data for the Vela Uniform program on 32 of these underground events. Those numbers reflect only the tests from 1 Jan. thru 30 June 62. Moreover, the CTO supported Hard Hat, Danny Boy, and Marshmallow and prepared for the atmospheric tests at the NTS planned for July.

As for the overseas tests, specifically TU 8.1.3 was responsible for the "two missile launched high altitude events to be accomplished before 30 June 62. Historically, a year to a year and a half had been required to plan and prepare for overseas tests. FCWT was required to be in place ready for tests in 4 months (1 May 62). To meet this date, maximum effort had to be made. Personnel with overseas test experience or special technical or scientific qualifications were obtained from FC DASA and the 4 services to augment those with FCWT. . . . By 15 April 62, TU 8.1.3 with Headquarters at J.I. was operational. In this period of less than 4 months much had been accomplished. . . . In Jan. 62 a team was sent to the Pacific to select site locations. In some cases this required agreement with foreign government for use of their territories. Sites were selected throughout the north and south Pacific and from the west coast to Okinawa. By 2 May 62, when Tigerfish, the certification shot of the Thor missile was made, TU 8.1.3 had personnel and equipment in place and ready at the following sites: J.I., Christmas, Oahu, Maui, Kauai, Hawaii, French Frigate Shoals, Midway, Wake, Okinawa, Kwajalein, Palmyra, Canton, Fiji, Samoa, Tongatapu, Rarotonga, Alaska (Adak and Fairbanks), and Palo Alto, Calif." To supervise and manage all this 8.1.3 set up several elements at J.I., Hickam, Christmas, Fiji, and Sandia. "At the same time that sites were being selected, numerous meetings were held by FCWT to define experiments, assign responsibilities and select contractors. Data was to be obtained from surface installations, aircraft, ships, rockets, balloons, pods, and satellites. Arrangements and agreements had to be made to use the satellites, to modify aircraft and ships, to procure rockets, pods, and balloons and to obtain scientific equipment. New techniques and procedures for obtaining data at high altitude by the use of the above equipment were developed. To manage the elaborate and complex scientific experiments, these were placed into 3 major programs under the Task Unit 8.1.3 Test Director; Program A (electromagnetic), Program B (pods), and Program C (photography and aircraft) under Program Managers. Precise,

scientific construction for instruments and rockets had to be completed. Final operational plans to incorporate Task Unit 8.1.3 programs into the overall JTF plans were necessary. . . . By 2 May 62 most of the scientific experiments were in place and participated in the certification launch on the Thor missile."

Of primary concern to the DOD was the effects of high altitude nuclear detonations of various yields and altitudes on communications and radar. Some data had been obtained on previous high altitude detonations but this data was not sufficient. The two DOD experiments to obtain additional data on the effects at different altitudes and yields scheduled for this period were Bluegill and Starfish, which were identified as the Fishbowl portion of Operation Dominic." The failures of those events and the standby readiness of 8.1.3 is then discussed.

Additionally, 8.1.3 assisted the Navy in the Swordfish event by providing scientific advisors and editing data reports and obtained data on the 23 airdrop events from Christmas.

Note that in addition to the Task elements at the various geographical locations under Col. Kiley, Test Division was headed by Kodis, now a full Colonel.

The following cover the latter half of calendar year 62. In this time frame, the WET authorized manning stayed the same (193) but the actual manning dropped from about 400 at the peak of Dominic to 228, which included some personnel on temporary duty, at the end of 1962.

In addition to the actual test activities, planning at Sandia went on to support the proposed Roller Coaster and Ferris Wheel operations scheduled for late

spring 63 at Tonopah and NTS respectively.

As for funding, DOD funds for NTS operations were 32.6 million total by the end of 62 and had amounted to 76.9 million total for the Pacific by the end of 62.

Due to the atmospheric tests planned during July 62, during this extremely busy period, 1600 military and civilian personnel were under the Continental Test Organization at the height of this operation. Specifics on this operation include the fact that at least 18 and as many as 73 different technical projects supported each of the 4 atmospheric events and Little Feller I was observed by the Attorney General, Robert Kennedy, Gen. Maxwell Taylor, and several other VIP's. As in the previous period, the underground tests at the NTS were supported by the DOD mainly to obtain data for Vela Uniform.

As for 8.1.3, more than 1500 military and civilian personnel were under their control during this period. The Task element at Fiji was moved to Samoa during August to improve communications with the many South Pacific Islands. For support engineering and construction at the various locations (67) used by the DOD in the Pacific during Dominic, a cost of 5.5 million was built up. The Dominic events involved 49 different DOD technical and scientific projects.

Note that as WET looked at the end of Dec. 62, with a slightly new organization, Col. Kodis now headed up the office of the Test Director.