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NVOO Mail and Records

REPOSITORY DOE History Division

COLLECTION #1387, Conrad-Ogle

BOX No. #2

FOLDER #3

Additional Overview of NVOO Files.

Box 233

Here, in a folder entitled "1962 Pacific Tests," are some details of the roll-up of the various Pacific Islands used in Dominic and generally covering the time frame from Oct. thru Dec. of 62. Mentioned among others is the arrangements made with American Samoa and the Governor, Rex Lee, and the Attorney General there, Owen S. Aspinall.

The Sandia Corporation correspondence shows that just after the completion of Dominic, in Dec. of 62, Sandia was only not leaving the Kauai facilities which they had used but was requesting and planning further construction for activities beginning in March of 1963 in the way of rocket firings.

Here is the agreement signed by Salet and the Deputy Chief of Staff for Administration and Logistics for Headquarters PACAF on 17 Jan. 62 which established a permit for JTF-8 to assume operational control and responsibility for Johnston Island including all PACAF resources there during the 1962 JTF-8 tests in the Pacific. PACAF agreed to hold their own activities to an essential minimum during the period of the agreement. Note that Joe Saunders, ALO Deputy for Pacific Operations, also signed this agreement.

Here, in a folder entitled "Maui," is a 24 Jan. 62 letter from Spain of H&N which indicates that the present plans for the Silver Sword Inn were that it be demolished and the Parks Service and GSA were in the process of getting bids. The Dept. of Interior has been informed that JTF-8 wishes to use this lodge and so the details are being worked out. After a couple weeks of haggling over the

authority to and the cost of leasing this building, Betts talked to the Nat'l Parks Service and made arrangements for a permit for the AEC to use the Silver Sword Inn on two conditions; That this agreement not be renewable and that the AEC be out by 1 Sept.; and that the facilities be used only for housing and feeding and not for instrumentation or technical or laboratory work.

Note that other facilities on the top of Mount Haleakala were arranged for AEC use in the latter of March 62. Note that the authorization to use the Silver Sword Inn was extended into Dec. of 62 in Aug. due to the change in Dominic.

A 21 Dec. 62 letter from the FAA to Shaw of AEC Pacific Operations discusses the desire to continue using the "Hi-Site" on top of Haleakala even though Dominic has ended and states "It is further understood that the US Air Force is to be permitted the use existing facilities for ^{its} activities." This latter point is raised since the FAA is concerned about EM interference from ^{the} equipment and asks for comments. In early Jan. the information was provided that said there would be no such interference.

Negotiations began in early Feb. 62 to procure the use of Palmira as a weather rad-safe island for Dominic.

The rest of the folders in this box contain numerous details working out agreements for and conditions at the various Pacific Islands and the purpose of these islands for the Dominic operation. Note that the Governor of American Samoa on Tutuila was known as the The Honorable H. Rex Lee.

Box 234

Here, in a folder entitled "Baker Island and Howland," is a document compiled by JTG 8.3 in Oct. 63 and entitled "Information on Baker, Howland, and Canton Islands." It contains a wealth of interesting information about these 3 islands as well as some nice photographs of them.

On 26 Aug. 63, Reeves issued a planning directive, No. PO-6-8-63 on the close-out of Christmas Island. Noting that certain facilities had been maintained in a stand-by basis since the end of Dominic which officially concluded on 1 Mar. 63, it is further stated that the AEC has decided on 19 Aug. to give up Christmas Island as a base for testing and that this pull-out will be complete by mid-Nov. The estimate of the effort is to close-out Christmas Island by the end of Sept. at a cost of about \$280,000. Here is a H&N document, dated Jan. 64, entitled "Close-out of Christmas Island," No. HN-20-1. It contains the details of all the activities that ^{lead} ~~lead~~ up to the total close out including what was left at the island and what was moved where.

Here is an interesting map of Christmas Island dated in 1958 from the British, which shows the location of a number of sites, some for cameras, located on the beach around the southeastern end of the island.

Here, in a folder entitled "Johnston Island," is a pack of interesting black and white photos which show the construction of the Thor pad, some blast hardened buildings and other facilities.

A message from Commander of 8.6 to Starbird in Washington on 24 Mar. 62 warns that the support facilities, including the sewage plant, for personnel at J.I. are already being stressed to their fullest and that all efforts should be

made to keep any unnecessary additional projects off the island.

In a folder entitled "Kauai," the first message is dated 26 Dec. 61 and requests DASA assist the AEC in acquiring real estate on Kauai adjacent to Bonham with space for about 22 rocket launchers for Nike Apaches for the Sandia program. Sandia will have complete technical and operational control of this real estate and these facilities. The use agreement was signed between PACAF and the AEC in late Mar. 62.

Once again, these 2 boxes contain a wealth of details and photographs of the various Pacific Islands.

Box 289

Here are the minutes from the NTS Planning Board Meetings beginning with the 13 Sept. 61 meeting, on which I have taken notes elsewhere. Here is a TWX covering the 27-28 Sept. meeting from Reeves to the NTS contractors which notes certain guidance to be used by the contractors in preparing costs estimates. The Dolomite event is to be shifted to the mid-term program. The I, J, and K tunnels in Area 12 are to be prepared for ^{various} yields

and readiness dates of Dec. 15 for K, Jan. 15, 62 for J, and Mar. 62 for I.

Here is a 21 Sept. 61 memo from Reeves to Ogle, Nielson, and various AEC personnel on "Cost Estimates - Weapons Program, NTS." The guidance and specific details to be planned for the overall weapons testing program, divided into the Nougat program and the mid-range program are of some interest and there are a number of shot locations, yields, readiness dates, for each program which probably

should be kept in full and therefore I will make a copy of this confidential document for our classified files.

Box 546

Here is a folder entitled "Pacific-O & M, 1/61 thru 12/31/62, Vol. I." It contains the various staff memorandum from JTF-8 as well as information prior to the activation of JTF-8 on planning. The first document quotes from an AEC staff paper No. 334/43 which reported on a 25 Oct. 61 planning meeting at DASA. Capt. Craig of DMA was the only non-DASA attendee and he reported that JTF-8 had activated on 24 Oct. but no personnel were in yet and planning was to have 69 people on board in 30 days, 183 in 90 days and 228 in 120 days. Also \$1,000,000 had been obtained as start-up funds with an estimate of \$40,000,000 for the first year. Another quote concerns personnel: General Starbird is expected to be Commander of JTF-8. General Lampert is the alternate. The Commander will initially be under Chief, DASA. Eventually the chain of command will be Sec. of Defense - JCS - JTF-8. This JTF-8 planning group under Col. Mann is to meet weekly until the Task Force is functioning. In order for DASA to provide a Task Force plan of operations to the JCS by the end of Nov. they have requested for the AEC to provide a specific test program to DASA by 10 Nov.

Here is a 4 Dec. 61 memo from Miller to Reeves documented a 30 Nov. meeting at ALO of key AEC Dominic personnel, including Ogle, and since this secret document with many details of the organization and set-up for the overseas open sea plan are contained herein, I will copy it in its entirety for our files.

Note that there is a copy of Joint Staff memo No. 5, 7 Dec. 61, which may or may not be in our other files.

Here is an 8 Jan. 62 committee report from John Pollet of H&N on the 3 Jan. meeting of the "Operation Staghound - Support Coordination Committee," in Los Angeles. The opening words from this meeting state that for this operation (to be Dominic) "it is necessary to establish a group to review the requirements of the individual agencies and establish a coordinated plan free of conflicts and duplications. In the past, the J-6 group of the LASL has had this responsibility for Pacific operations. However, since no separate task group will be formed for the scientific agencies, and since the engineer-contractor will be deeply involved in accomplishing the necessary design and construction, it was determined by the AEC and the users that H&N incorporated, would be in the best position to accomplish this work." Thus this support coordination committee was set up with Spain as Chairman and Pollet as Vice-Chairman and with a committee member from each laboratory. The initial responsibilities of the committee generally in the area of reviewing overall requirements for conflicts and interference and coordinating activities are listed and some of the major efforts now under way for Dominic are presented in narrative form. Johnston Island is to have two Thor shots (Starfish and Blue Gill); the open sea airdrops are to be 15 to 25 to target barges in the open sea southwest of the Hawaiian Islands; also there are to be 4 to 6 shots on anchored Liberty ships for moderate diagnostics with the ship modifications to be done at Pearl Harbor; a neutron distribution and vulnerability tests will be conducted on an island with heavy instrumentation, to be either Jarvis or Baker Island at this time; there are to be 5 or more ships primarily carrying DOD instrumentation for 2 J.I. missile shots; instrumentation for the airdropped and open sea shots is presently being planned aboard the Hornet and 3 C-2 ships (Miller, Pendleton, and Kimbrow), the latter of which I am not sure were ever used; the Hornet will be modified in Long Beach by the Navy and the C-2's in San Francisco by the MSTS; only LRL and Sandia are noted as having rocket launched instrumentation based out of Kauai at this time; the LASL and possible DOD use of Haleakala for instrumentation

is noted; on Oahu, Hickam, Barber's Point, and Ford are all noted for Task Force support; several other Pacific Islands and their general purpose for which ever laboratory of the DOD are detailed; as for Christmas Island, it is stated that if negotiations are completed in the immediate future, the open sea series would move to this location.

Some of the key dates listed are to have all of the ships in Honolulu by Mar. 20 to support an air drop operation beginning 2 Apr. The first Thor shot is scheduled for 15 May.

Two key studies to be prepared by H&N as of this date are: method of moving scientific instrumentation, particularly trailers, from the open sea array to Christmas if required, with particular attention given to identifying a date after which such a change could not be accomplished; secondly, methods for supporting either a Jarvis or Baker Island test with attention given to access.

Here is an interesting series of letters in late Dec. and early Jan. of 62 which have to do with the use of H&N for the preparations and carrying out of the atmospheric operations in the Pacific. A Texas contractor known as H. B. Zachry Co. wrote a letter on 26 Dec. 61 to Seaborg noting that his company who were presently under contract to the Corp of Engineers doing work at Kwajalein on DOD missile launch and radar installations, felt themselves to be particularly qualified to do some of the work in the Pacific on the various islands for the upcoming tests. After making their capabilities known to General Betts in late Oct., there were referred to Hertford, and ALO referred them to H&N. Zachry noted in his letter to Seaborg that they had heard nothing from H&N since that time and that now they were still interested in bidding for some of this work and wanted to know how to get themselves involved. Betts was given the task of handling this letter and forwarded to Hertford who sent it to Reeves who answered Betts on the 10th of Jan. He defended the test offices actions in hiring H&N

as the AE contractor and noted that he had prior to giving them the go ahead discussed this and gotten approval from ALO, DMA, and JTF-8. A number of other companies doing similar work in the Pacific had gotten in touch with the AEC in various ways and were at least as qualified if not more than Zachry and all fell into the same category. Noting a number of detailed justifications for selecting H&N, among these are their experience in past Pacific operations, the capability to handle several types of work - engineer management, design, and prime construction, the variety of requirements coming from numerous organizations and how H&N has handled this in the past, the crash time scale and the fact that H&N has dealt with similar although not quite as restricted time scales successfully in the past. Also Reeves gives some specific justification for H&N as well as ways in which they have already performed on Dominic as follows: H&N has, by careful redistribution and reassignment of personnel, following the termination of the Eniwetok-Bikini operations, been able to keep on their payrolls substantial numbers of key personnel with many years of experience in the type of operation, both technically and organizationally, peculiar to our weapons tests activities. In addition, they have taken precautions to maintain contact with many more individuals whom it was necessary to terminate, with the intention that they could be rehired with a minimum of lost motion, including the bringing up-to-date of Q clearances. This policy was with the full concurrence of DMA. Up to the present time H&N has been able to staff key positions in all areas of activity with approximately 65% personnel who have had extensive experience in our past Pacific operations. . . . An example of how H&N's ingenuity and experience has paid off in one specific instance is in that of obtaining construction equipment. The cost of necessary construction equipment for the presently authorized work was estimated at \$250,000. Thru their contacts with the DOD agencies, surplus equipment channels, and other channels they have obtained all of this equipment with a total cost to the AEC of \$20,800. Authority was given to H&N to ~~purchase~~^{procure}

Dec. 18, 1961, and all necessary equipment is either at Johnston Island or waiting dockside at Honolulu for barge shipment to Johnston." Reeves goes on to note that selecting a different contractor for the overall role that H&N will play at this time would have delayed the contract selection by 30 to 60 days minimum and, after the selection had been made, the operation would have been delayed an additional 60 days minimum "as a result of confusing between divided engineering, procurement and construction responsibilities."

Reeves does note that there are certain possibilities for sub-contracting which might be available to such companies as Zachry such as a project of approximately \$150,000 - \$200,000 to reactivate and modify facilities at Ford Island.

The last items of interest in this folder are in late 62 on meetings as to what the future of Pacific facilities is following the end of Dominic. Among other things, the Air Force is planning to use the Thor facilities as early as Aug. 63, with occupancy beginning in about May of 63 and the Army Missile Command is even interested in possible launches of Thors toward Kwajalein from Johnston.

H&N is to up-grade the Gray Book, with particular details being acquired to plan for Christmas Island facilities. A progress report from J. Kyriacopoulos, the AEC Project Engineer at Christmas Island to Rollie Shaw in Honolulu in 8 Dec. 62 indicates that a Lt. Col. Dart is apparently the JTF-8 representative at Christmas Island (CTG-8.7) and Mr. A. Carter is the H&N representative there. The average population of US during this period is: H&N-137, AEC-1, military-16, and General Electric-4. There is an indication that things are being cleared up and prepared to turn back to the British since there was an inspection tour made by Major General T. H. F. Foulkes, Engineer in Chief of the British forces. He inspected the main camp and was satisfied with the condition of the camp facilities and the rehabilitation that has been done. Note also that for some reason, Admiral Mustin was in the area in this time period. Finally, there is a 10 Dec. memo from Saunders to Shaw which indicates that Ogle and DMA and others indicate that a fall 63 series is very probable. For the present, the AEC is to "maintain our capability for a rapid build-up in the event a fall 63 test series is authorized," and it is expected that DMA will authorize certain construction at Christmas in Jan. 63 in order to meet deadlines if the tests are authorized.

Here is the JTF-8 "Christmas Island Readiness Schedule (CI-RS) for Operation Dominic 1962" dated 9 Mar. 62. This supersedes the 19 Feb. version and reflects changes based on President Kennedy's announcements on 2 Mar. LASL received copies of this secret document but, I will take some notes on it and copy the Christmas Island site map since it has some simplified site information. There are to be accommodations available for 29,011 people in the main camp by 1 Apr. and this schedule shows the sewage and messing facilities already operational. The scientific sites are shown in detail with A Site, the largest, to have 11 LRL trailers, 3 EG&G trailers, 10 Sandia trailers, and 8 LASL trailers. D site is

have a Livermore detection station nearby as well as some EG&G equipment.

MM site is shown to have a fair amount of Sandia equipment (7 trailers) and some EG&G equipment. Y site is to have 1 LASL trailer. All 4 of these sites are to be ready for "operational occupancy" by 20 Mar.

As for the fuel situation, it is shown that there are to be 2 steel pipelines from the shore to the tank farms which are to be operational by the 28th of Mar.

On 7 Mar. 63, Carruthors sent out a Livermore announcement that J. Shearer would now be charged with technical direction and basic planning for air drops whereas F. C. Gilbert would act in a similar capacity for Livermore in high altitude plans. Both men are now designated as Deputy Test Group Directors for Livermore on future Pacific Testing Programs.

NVOO Progress Reports in Apr. of 63 indicate that DMA has approved reduction of the contractor to about 50 total at Christmas Island by the end of June and that certain activities such as preparing aggregate for expansion of the runway facilities are curtailed.

Box 135

These notes will be from various volumes of folders of correspondence on Dominic, most of them entitled "Dominic," but the first is entitled "Ever Ready, Bluestraw." It covers the period Sept. 61 thru Nov. 61.

Here is record of a phone call from E. Bowen of H&N to Sherman Sullivan in Los Angeles on 13 Sept. 61 wherein H&N proposed to make a study of what it would take to reactivate Elmer and Sullivan told him that while he felt such a study would be highly desirable, political considerations might preclude doing this. Sullivan spoke with Rex of ALO and got agreement that the presence of H&N personnel

doing a physical survey might trigger unwanted speculation and Rex would discuss this with Reeves. Finally authorized was a small sum of money for a preliminary study to be done in Los Angeles on this subject and to be accomplished "discreetly." Sullivan was head of the Los Angeles Branch office of the AEC.

In a meeting on 21 Sept., documented by a message from Reeves to Sullivan and H&N on 22 Sept., H&N was authorized to perform time studies and make cost estimates for supporting an atmospheric program at Eniwetok and Bikini for the 2 laboratories and the DOD as well as a program of 5 missile shots for the DOD from J.I.

Here is a 25 Sept. memo from Sudgen to Reeves on this same meeting which may have been 20 Sept., and at which H&N was given guidance on preparation of this study for opening the EPG. LASL presented a short term program

and "has ordered bomb cases and will prepare these shots for air drop over the Eniwetok lagoon." LASL desires fireball diagnostics, radio chemistry, and other photo diagnostics on these tests and feel they could have the devices ready in 2 months. H&N feels that they might be ready to support in 60 days and this would entail "reopening Parry Island and laying a target area in the northwest lagoon." Livermore's quickest program would be to have 2 barge shots,

There are 5 cargo barges currently on hand at EPG which could be utilized as shot barges and Livermore estimates they could be ready to fire in 90 days but H&N felt it would require at least 5 months to prepare for such shots. Both labs discussed a more relaxed approach feeling that LASL could easily do the 2 air drops in 6 months and Livermore the barge shots in 8 months. Next discussed was a longer range more extensive atmospheric program wherein both labs would desire to do 14-16 tests and the DOD about 5 shots at Eniwetok and 5 missile shots from J.I. Sandia discussed

their tethered balloon systems which could be made ready on a relative short time frame but a more reasonable approach would allow it to be done properly in 6-8 months. "H&N brief^{ed} conference on the condition of Eniwetok and Bikini in so far as they have been able to ascertain from visual inspection. It appears that Elmer buildings are in good shape. Electrical and mechanical installations may have to be replaced. Overhead electrical ? distribution appears good. However, feeders will probably have to be replaced. The state of underground utilities is unknown and will have to be checked. The big problem will be obtaining a stock of equipment and material to support a test program. H&N has a roster containing 10,000 former employees and feels that manpower will not be too difficult a problem. Bikini would require extensive rehabilitation since, other than Nan 500 power plant, all other equipment, material, etc. have been removed to support Nike-Zeus." H&N will immediately begin working on the present drawings, preparing lists of materials and equipment required and going through their personnel files seeking the appropriate manpower. They will prepare 2 schedules, one for the crash 2 and 2 program and the other on resuming a standard program such as Hardtack Phase I as rapidly as possible. Cost estimates for FY 61 and 62 will be prepared and H&N will be ready to discuss this all in more detail on the 26th.

A 25 Sept. TWX from Hertford to Betts documented these particular ideas for atmospheric testing as well as pointing out the possibility of a "quick and dirty" operation which could utilize a Task Force commanded by an Air Force Commander "of suitable rank who could staff his organization at the Kirtland location and logistical problems would be related only to military staging areas. Liaison only with OFO would be necessary." Herein, Hertford recommended Major General McCorkle for this particular role.

Two days later, Betts replied by message to Hertford noting that there is

"insufficient direction to undertake such positive steps as designation of a Task Force Commander or a DOD support coordinator, even though I recognize the need for thinking and planning to meet such possible requirements." He indicated his desire that ALO continue such in-house planning.

Here is a 10 Oct. 61 message from Carruthors to EG&G giving the tentative air drop list with ready dates for possible Livermore tests. This list, which has been provided to DMA, shows the first device to be the 41 ready by 15 Nov., followed by the 56 and 38 by 15 Dec., and the 55 in Feb. of 62.

A 10 Oct. message from Reeves to Batzel reiterates the earlier estimate based on procuring hardware, that barge shots at EPG will require 5 months to prepare after authorization.

Here is a Field Command memo on 16 Oct. documenting these DOD plans or proposals for atmospheric testing as of this time for various purposes. They note the details that were briefed by the Sec. of Defense to the President on 9 Oct., including recommending a comprehensive atmospheric test program which would include tests from a few weeks up to two years for the more complex ones. It also notes some highlights from the authorization on 12 Oct. from the Sec. of Defense to the JCS to prepare for the planning of the "quick and dirty" air drops and operational tests of Atlas, Polaris and Asrock as well as planning for high altitude effects tests overseas and surface burst effects tests at NTS. Also authorized was the reactivation of a Joint Task organization within "existing service manpower authorization and funds available." There is an interesting table contained herein showing various aboveground tests plans with tentative schedules with the first being balloon tests at the NTS beginning with in Oct. of 61. In addition to these accelerated Nougat tests, the next above-

ground tests would be Atlas D and Asrock system tests in Oct.-Nov. and the first two quick and dirty air drops in 5-12 Nov. As for high altitude tests, the first one shown is estimated at 15 July 62 at 71 miles altitude, followed by a Blue Gill type and Starfish type test on a 9-18 month time scale.

Here is the first indication of a meeting of the "Christmas Tree Working Group," chaired by Bob Miller on 12 Oct. 61. I believe that I may have the notes on this elsewhere but for purposes of the record, in addition to Miller, the attendees were Nordyke and Denton of Livermore, Blossom of LASL, and Huff of ALO.

A memo from Miller to Lockett, Chief of the Administrative Branch of the Office of Field Operations of ALO on 23 Oct. begins, "This will advise you that we are in final stages of planning for the executive of a series of air drops to be made in the Pacific (Hilo and Johnston Island areas). The program and plans division (which Miller directs) is presently working directly with AFSWC to finalize these plans." Miller goes on to raise the point that possibly their organization may have to be integrated into and support a Joint Task Force and wishes to know how they stand on this and what planning and preparation might be done in anticipation of such a role. Clearly, Miller was behind the operations directive for Ever Ready which made it seem more of an imminent reality than almost anything else and I can see this man in his new role and in his eagerness perhaps making Ever Ready seem a little more ready than it seemed to outsiders. Even as I say this I am looking at a lengthy and detailed USAF test plan for this "quick and dirty" operation that was prepared by AFSWC and forwarded by McCorkle to Hertford on 23 Oct. which had already been presented to the Air Staff and for which the Air Force was proceeding to be ready for air drops from 15 Nov. on.

The minimum aircraft array is listed as:

a RC-121 command and control center, a B 52 drop aircraft, a C-130 photographic platform, 4 B-57 B samplers and 1 B-57 C sampler control aircraft. It is desired to have 1 130 instrumented and have the second as a photographic aircraft also airborne.

Here is a 25 Oct. memo indicating that Wal Gibbons is arranging to ship to Kirtland 3000 lbs. of gear along with 4 Livermore technicians apparently on the 30 and 31 of Oct. although the week is not clear. This gear and these people would be to take care of the Livermore installation in the C-130 assigned to them.

On 26 Oct., Jim Reeves communicated some logistic requirements for the AEC and their contractors to McCorkle including the estimated personnel for the laboratories and contractors in the Pacific for Ever Ready. These included a total of 63 people at Hickam, 3 on Hilo and 95 on Johnston Island for the total Phase I/II program.

Here is reference to a 2 Nov. meeting between SAC and AFSWC and EG&G and OFO among others. The subject was specifically another phase of Ever Ready which included the Air Force Atlas systems tests and the plans were for a detonation after a launch from Vandenberg at 8400 ft. altitude, 262 miles on a heading of

61 degrees from Taongi. There is some thought given to a 15 Nov. date for this test and there are clearly problems with providing any sort of technical diagnostics (samplers and/or bhangmeters) unless authorization is given immediately and some interference worked out.

A memo from Jim Sugden to Reeves on 6 Nov. notes that he and Ryan of H&N visited J.I. on 2 Nov. to "investigate the feasibility of supporting ground-stationed diagnostic instrumentation for Phase II" of Ever Ready. The island now has a population of 125, building up to support a SAMOS project to begin about 1 Jan. and requiring 175 people to support. Also, they were informed that the base had recently supported 400-500 personnel engaged in some DOD programs. Sugden was specifically investigating the sampler aircraft problem and feels that with the addition of distillation units for fresh water for decontamination, parking of the aircraft and accomodation of the samplers at Johnston Island instead of Barber's Point could be carried out. There is the problem of how to return samples by 135's since they cannot use J.I.

Note for possible future reference that there is a draft document, 19 pages long, containing a concise chronology of the correspondence pertinent to Ever Ready (later called Bluestraw) from the beginning of Oct. thru Nov. contained in this folder, dated 6 Nov. 61.

Here is a 15 Nov. report of a meeting on a estimates of time, manpower, and costs for proposed Pacific operations held at H&N in Los Angeles on 14 Nov. and this report is written by John Pollet. Attending the meeting in addition to a number of H&N personnel were Sugden, Sullivan, and Gibbons of Livermore. The 3 concepts considered were the "quick and dirty" operation, the several J.I. shots and an entirely Christmas Island operation stretching from March

thru May and including about 41 air drops. The latter concept it is noted would require extending and widening the Christmas Island air strip to accomodate the B-52's, which of course was not done. One of the items at the meeting noted, in the absence of any LASL attendee, that "as a result of LASL commitments to support the Rover program, it will not be possible for them to man, concurrently, weapon test operations at the NTS and in the Pacific area. During the months now scheduled for tests at Christmas Island, holes for underground detonation will be stockpiled for future LASL use. LRL, however, with its Nevada organization will be able to conduct operations simultaneously at both sites. Consequently, they have been directed to further develop their tunnel capabilities." The 41 event Christmas operation would include 15 balloon shots and 26 airdrops. As for personnel and capabilities to support personnel at Christmas, H&N estimates there are accomodations for 3725, including 3000 enlisted men type accomodations, whereas there is an estimate of about 1500 personnel needed there, exclusive of the H&N requirements. A good summary statement of this meeting is that it was quite preliminary and there were a number of inaccuracies in what might be done and various support capabilities and requirements.

Here is an interesting document from Bob Petrie of Livermore dated 16 Nov. 61 to Jim Reeves and the title is "Engineering, Construction, and Construction Support Required for the Lawrence Radiation Laboratory ~~at~~ Christmas Island Participation." This is a somewhat detailed estimate of the initial and more extensive scientific construction to support both a quick type operation at Christmas Island as well as a long term or extended operation there, merely for Livermore's requirements. It includes support for barge shots, balloon launched tests as well as air drops.

Note also in this time frame, about 20 Nov., that Sandia and EG&G submitted rather detailed estimates of support in the way of costs and equipment for a Christmas Island type series.

Note also that Bill Ogle sent Betts a letter on 17 Nov. entitled "LASL Diagnostic Program Tabulation for Possible Pacific Atmospheric Test Program" which referenced No. 142102Z from Reeves to Betts with info to all other concerned agencies which covered a 13 Nov. meeting of the "principals" in Albuquerque. Betts addressed this meeting with the possibilities for Pacific testing and the TWX tried to lay these out in detail and asked the various info addressees, such as LASL to comment to Betts as Ogle did in this brief letter on 17 Nov.

Here is a letter I don't think I have seen elsewhere from Goeckermann to Ogle on 29 Nov. 61. In light of recent conversations, Livermore has prepared a list of items that they wish Ogle to gather information on during his upcoming trip to Christmas. The numerous detailed questions are included under the headings: topographic features, hydrological features, existing structures and facilities, engineering details, support capabilities, weather data, industrial and radiological safety, administrative features, signal and communication cable and facilities, device handling and assembly and transportation (etc.), and adaptability of site to our proposed layout.

Here is a 6 Dec. trip report from Frank Drake of H&N documenting a meeting at Vandenberg on 30 Nov. with AEC, Sandia, and Douglas to "discuss the ground facilities required for the use of Thor missiles during the test series" at Johnston Island. Douglas provided an inspection of launch pad No. 6 (CS Saye) which they said would be dismantled in its entirety and moved to Johnston to "expedite the project under consideration." A number of engineering details

which would be peculiar to Johnston from the Vandenberg consideration were discussed and detailed to H&N who would be doing the construction work. The various peripheral facilities such as a propulsion shop, hydraulic shop, and AC Spark Plug shop, were noted and Douglas said they would provide the equipment to be installed in these shops but the facilities in various states of cleanliness would be required at J.I. Saye estimated it would take 13 weeks after completion of pad construction for Douglas to have the launch complex ready for operations. Douglas estimated that they would require approximately 120 people at Johnston until the missile is ready for launch after which this would decrease to about 40.

Here is a lot of minutes written by D. Sherwood of ALO on 15 Dec. covering a 13 Dec. meeting at ALO on the high altitude test program. Most of the attendees were from Sandia or LASL with a few from Livermore and DMA and ALO represented. It was at this meeting that the various companions rocket requirements were discussed and Mid-way was decided not to be required whereas it would be desirable to launch 2 Journeyman from Point Arguello. The thinking at this time is that these missiles would be launched approximately 7 minutes before the Thor in order to attain the proper apogee for a line ^{sight} ~~site~~ to the 400 kilometer shot. Support at both Johnston Island and Kauai for companion rockets was also discussed.

Here is a 20 Dec. letter from Keith Byrne, Acting Director of the Air Force Operations within AFSWC at this time to ALO which informed them that AFSWC has requested 24 B-57 type samplers of Headquarters Air Force and been informed that this requirement cannot be satisfied. I think this letter is documented elsewhere and the Air Force has replied that 15 B-57's, including 4 D's, would be made available.

Here is documentation of a communications meeting held in Las Vegas on

20 Dec. 61 and attended by representatives of the 3 labs, Douglas, AFSWC, EG&G, H&N, AEC, and Air Force Organizations with both requirements and support capabilities.

Here is a message from AFSWC to LASL and Livermore on 27 Dec. (specifically to Wakefield, Wouters, Shearer, and Goeckerman) on 2 additional aircraft calibrations drops off the West Coast proposed for Jan. 62. These are in addition to 2 already planned drops and will include the B-52 dropping an instrumented expendable shape provided by Sandia. Observation from the C-130's will include DME, Sandia telemetry, and "some sort of photo flash or spotting charge which will be useful in determining the height of burst and in aligning diagnostic instrumentation." Major Martin of AFSWC is the contact for this if the labs desire to participate.

A 5 Jan. 62 letter from Lt. Col. McAdam of AFSWC to Dick Wakefield concerns the safe positioning of the C-130's. In response to questions from Wakefield, AFSWC is planning that the LASL aircraft will be at an altitude of 5000 ft. for a test at that burst altitude. A table follows which contains the horizontal range stand-off distance as a function of yield for that altitude in order for the C-130 to withstand .2 PSI in a tail-on configuration.

Here is a Planning Directive for Operation Dominic from Reeves on 15 Jan. which is particular addressed to the AEC support Task Group, 8.5, which Reeves commands. After listing the specific responsibilities of that Task Group, the person made responsible is the Deputy Commander, Joe Saunders.

Here is an interesting document dated 15 Jan. 62 and sent by the University of California at San Diego to Bill Ogle proposing a project entitled "Waterwave Forecasting and Hindcasting" to be carried out by Bill Van Doren of Scripps Institution of Oceanography. The project is proposed to begin 1 Feb. and extend thru 1962 and the amount would be about \$190,000. Note that one of those to sign this project proposal when it is finalized would be Herbert York, now Head of UCSD. The proposal would include installation, maintenance, and operation of waterwave instrumentation as well as data analysis and wave forecast and hindcast "as are necessary for the safe conduct of this operation on a day-to-day basis."

Here is a submittal of "construction criteria for DOD DASA Fishbowl Projects" from Task Unit 8.1.3 to OFO on 21 Feb. 62. Actually there are 2 separate letters detailing the support required for each technical project. The projects are:

- 1.1 - high altitude air blast measurements, BRL; 2.1 - external neutron flux, NDL;
- 2.2 - gamma radiation, NDL; 6.1A - rocket borne propagation thru fireball, WSASSA;
- 6.2 - rocket borne gamma ray scanner, BRL; 6.3 B & D - D region physical chemistry, BRL;
- 6.4-E-F region physical chemistry, CRL; 6.7 - magnetic containment, AFSWC;
- 8A.3 - structural response high altitude fireball, ASD; 8B- x-ray spectrum, total x-ray energy, and total momentum, all by AFSWC;
- 9.1 A & B - atmospheric parameter profile, CRL; and 9.4 B - pod and recovery unit procurement, AFSWC.

Note that requirements for various types of AEC support continued well into Mar. of 62, not only from Field Command but from Sandia, LASL, etc.

Here is an 11 April copy of the Field Command status report on Fishbowl for the period ending 31 Mar. 62. A meeting to work on the countdown was held in Los Angeles on 30 Mar. to integrate the Douglas, Cubic, Sandia, and General

Dynamics procedures into an overall procedure and go/no-go criteria to be presented to CJTF-8. The JTF-8 ad hoc safety committee met in Culver City on 15 Mar. to discuss mainly the safety aspects of the Thor and the re-entry vehicles, at which PMR personnel stated "They can predict the theoretical impact point of the warhead within an 8,350 radius circle providing at least 10 seconds of tract after burnout is obtained." ? could carry either 3 pods or 3 RV's but not a mixture and, following a meeting at Sandia on 29 Mar., they are now attempting to devise a way to carry 2 RV's and 1 pod on Starfish but have little confidence in attaining this capability. "The final decision as to what will be carried will be made about 1 June." The 3 pods for the certification launch will be shipped from General Dynamics to arrive at J.I. by 18 April. AVCO, the RV contractor, expects to have 3 ready RV's in Boston on 20 May, following this late requirement. The RV's will have their own attitude control system (rockets) but will not be tracked. Note that recovery of the pods and the RV's from the ocean is the responsibility of the Navy Task Group. When brought back to J.I. they will be placed in a radiation exclusion area established on the southwest end of J.I.

As for aircraft modification, "modification of the 2 KC 135 aircraft for projects 8A.1 and 8A.2 is on schedule. Optical windows will be installed on 15 April, and full scale fuselage pressure tests will begin on 16 April."

As for experiments in the communications field, observations in the VLF region will be minimum and will include significant gaps, whereas the HF region will be well covered and VHF region will not be investigated. New projects include 7.2 - radio frequency radiometry, MIT Lincoln Laboratory; 7.3 - radar propagation, White Sands Army Signal Support Agency; and 7.5 - thermal measurements, ASD.

On 7 June 62, Task Unit 8.5.3 at the University of Washington submitted a "Mid-Operation Report and Request for Further Support" to the Commander of 8.5.

This Task Group (biological monitoring group) is documenting "the levels of the radio activity in the native foods of the personnel on Christmas Island and on other islands in the central Pacific area before, during, and after Operation Dominic." This report on progress to date and future plans from Ralph Palumbo will be copied for our files.

Here is a most important document dated April 62 and entitled "Preliminary Instrumentation Chart" No. SC-256 and prepared by the support coordination committee (I believe the Spain committee). It contains a total listing of the program projects for Dominic and brief descriptions and locations of all instrumentation in these various projects and stations. It is 60 pages long and contains many details not found elsewhere all integrated in 1 place. It has a blue cover and is contained in this box just following the Dominic folder thru July 62.

Here is Sept. 1963 H&N status report on the Christmas Island activities which shows that they were originally given authority for roll-up on 11 July 62 and completed that phase on 17 Aug. 62 after which caretaker status began on 1 Jan. 63. They were directed to start the final roll-up on 19 Aug. 63 and planned to complete it by 27 Sept. 63. Note also that they began the rehabilitation and restoration of J.I. facilities on 26 Nov. 62 and started the caretaker status for JTF-8 on 1 Feb. 63. The SSD program began on 12 March 63.

Note that apparently the Task Unit 8.5.3 was commanded by Dr. Loren Donaldson of the University of Washington in Seattle.

On 26 Nov. 62, following a request from Saunders for 8.5.2 inputs to the 8.5 final report on Dominic, Bill Van Doren told Saunders that he had submitted

for his group a summary report of their activities and results in July. This was entitled "A Summary of Dominic Wave Measurements and Instrumentation," No. SIO-AEC 07 SRD. Van Doren that their group's function was principally as an advisor to the hazards evaluation branch and that hopefully this report might suffice as their input since he did not see how they could come up with an amended final report by the deadline of Dec. 10. 14th, E. Bowen of H&N submitted the draft final report for H&N involvement in Dominic to Saunders. This 37 page summary was to be annex A of the final report.

Saunders requested an amended final report from Scripps, (Van Doren) by 4 Jan. 63 on 12 Dec.

Here is an 11 Jan. 63 transmittal letter to CJTF-8 from Saunders attaching 2 copies of the Task Unit 8.5.1 final draft of Operation Dominic activities. Note that this was a draft with some inaccuracies since it was completed before the end of the operation and JTF-8 wants to review it for format at this time.

A letter from Mustin to Saunders on 18 Feb. 63 refers to Annex A of the JTG 8.5 final report. That Annex is returned with some critical comments and importantly, the final total report should be forwarded to JTF-8 not later than 1 Mar. 63. Note that by this time Saunders was officially commander of 8.5.

Here is the transmittal letter, dated 27 Feb. 63, of the final report of JTG 8.5 participation in Operation Dominic, forwarding 15 copies to JTF-8. Revision pages to this final report were distributed on May 23, 63. One of the instructions is for existing copies to have the marking "Volume IV" removed from the front of the report. This is because of instructions from Mustin on 1 May 63 which said "Identification as Volume IV is no longer meaningful with

respect to overall Task Force report composition, hence may cause confusion as now appearing." He refers this point to a message he sent out on changes to instructions for the final reports on 28 Jan. 63.

Note that there were still some problems with the Scripps portion of the final report in late June due to problems with reproduction of classified materials, but apparently these were worked out since finally, on 8 Aug. 63, Saunders forwarded the total approved 8.5 final report to various agencies including Ogle and Betts. Note particularly that this is not the same as the "Report of the Manager AEC/NV00 on Operation Dominic" which was finally distributed in Jan. of 65.

That completes the notes taken on these Dominic files and is by no means an indication on the bulk of the files. Most everything I had seen before and is documented in other notes.

Box 558

This box contains the 17 Dec. 61 trip report by Bill Ogle on his visit to Christmas Island earlier that month. It is document No. JO-541 and is contained in the first folder in the box.

This box also contains information on Pacific and NTS building and land programs thru the period of interest as well as some security and classification notes from Dominic.

Box 30

Here is a folder entitled "Las Vegas Activity Reports" and covering the period from June of 61 until these activities came under NVOO. In the monthly activity report to ALO from Fred Hohner covering activities thru July 31, reports of visits of press and TV representatives from NBC, CBS, Los Angeles Times, and New York Times, are documented from 26 June thru 7 July. Generally these men (a total of about a dozen) had tours and orientation of Frenchman Flat, Yucca Lake areas, and area 12. That explains some of the newspaper articles just after this time.

Note that there is absolutely no indication of any pertinent construction activities in all of these monthly activity reports and that the first indication of test resumption or increased activity for that purpose is in the report covering thru 30 Sept., where there is an indication that a number of AEC Headquarters personnel toured the Test Site on 28 Sept., including Luedecke and Betts. This was mainly because the NTS Planning Board meeting was held here.

Holifield, then Chairman of the JCAE, and Ramey, still executive Director of that Committee visited the NTS on 30 Sept. thru 2 Oct. for orientation and tours.

Seaborg visited the NTS on 23 Oct.

Even after Nougat began, this particular report did not indicate any of the activities and construction having to do with the test program, and maybe that had to do LVAO's responsibilities.

Box 530

The only thing of interest within this box is a large and very important bound volume entitled "History of Joint Task Group 8.6 (Operation Dominic, Johnston Island, 1962.) Although never spelled out it is clear that this document was written after the first attempt at Blue Gill and before the first attempt at Starfish, somewhere around the 10th of June 62. The historian who apparently put it together was also one of the chaplains, Capt. James R. Hayes of the Army. It is a most important document containing all sorts of specific details on the build up of all aspects of J.I. including the specific people involved, organizations, etc. Equally important is the fact that there are probably at least 100 good black and white photographs documenting all this contained in the document and so I will extract this document from the box for the time being to refer to in writing our history.

Boxex 407-1, 408-1, and 409-1

These boxes contain so called staff papers with AEC numbers on them and there are several of them of tremendous interest to us such as paper No. 226/141 which contains "Proposals Related to Possibility of Nuclear Moratorium," and is dated 20 May 58. It is imperative some attention be given to these staff papers whether it is from their files here or the ones in Washington.