

UNCLASSIFIED

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INTER-OFFICE MEMORANDUM

TO:
FROM:
SUBJECT: Status Report for 2-Division, March 1947.

Classification Changed to: Unclassified
DATE by authority of: NA 95/1199
Dwngrad/Declass Notice (NA # & Date)
by: Myra O'Carroll 11/22/95
Signature of person making change and date
Verified by: Robert A. Ullrich 11-27-95
Signature of person verifying change and date

B. Silver Plate - Navy

1. Work has been temporarily delayed pending receipt of wiring materials difficult to obtain.

C. General

1. B-29 #295 is now equipped to carry two half-scale MK IV F.M. units.
2. B-29 #234 has been equipped to obtain data necessary for the design of the Radiograph Timer bomb fuse. Work was somewhat delayed by insensitivity of some of the component instruments.
3. Tests were completed on new AMC pneumatic bomb release.
4. Three new B-29's requested and allocated months ago have still not arrived. Unless we get them soon our program will be jeopardized.

IV. Special Assembly Areas

A. CVB

1. A liaison trip was made to Norfolk, Va.

B. Rogers' Plan

1. Preliminary specs. were prepared jointly by 2-Division and Black & Veatch, Consulting Engineers.
2. It is believed that final specs. will be ready for approval by mid-April.

V. Architectural Design

A. Engineering Mock-Up Laboratory

1. Design features are now fixed. Working drawings can now be made under direction of Area Manager.

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FROM:

SUBJECT: Status report for Z-Division, March 1947.

4. All M-II X-Units (Roller switch type) on the Raytheon contract have been tested and delivered to Z-9. Iris switch units will probably be completed in April.
5. Liaison trips by Z-Division and Z-5 personnel brought out considerably more thought and recommendations on the fusing problem.
6. In general, progress is considered satisfactory for March. Test equipment will continue to be the most important work for some time.

Group Z-6: Mechanical Test Laboratory.

1. The situation on L.B. sample cans has apparently improved and delivery is expected within a few days - if the loss of the project's materials priorities does not hamper these samples and future can production.
2. The pendulum bay in our building has been heightened to permit the running of longitudinal moments of inertia on full scale units.
3. The new pit manual is approaching completion.
4. Tests on the pneumatic bomb release have been completed and are covered in a separate report.

Group Z-7: Assembly and Production (Shops)

1. The first Mk IV F.M. was disassembled and checked against specifications before being mocked-up with auxiliary equipment to permit moment of inertia determinations.
2. Work continued on obsolete bomb components to bring them up-to-date.
3. Material and equipment for the Plating and Wood Working Shops is 90% on hand.

Group Z-8: Informers (Telemetering)

1. Modification Program is near completion. Three drops were held at Salton Sea in the past two weeks with good results.

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TO:

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SUBJECT:

Status Report for Z-Division, March 1947.

4. Assembly Manual texts are being prepared.
5. The procurement program is 95% underway. Every effort is being made to maintain close liaison with the Washington Navy procurement channels.

DIVISION ADMINISTRATION

1. There are now 205 people in Z-Division, including 53 Civil Service employees who are being transferred as rapidly as possible to the University of California payroll.
2. Two representatives of the AEC Security System have established an office at this Base to serve Z-Division.
3. Plans for the establishment of a branch office of the AEC at this Base are now being formulated by the Area Manager at Los Alamos.
4. General arrangement and floor plans for the new Z-Division Headquarters Building will be ready for submission to the Area Manager by 1 May 1947.

R. W. Henderson
R. W. Henderson
Acting Leader, Z-Division

RWH/van

Distribution:

cc 1, 2, and 3 of 5A, Bradbury ←
cc 4 of 5A, Mr. R. C. Smith
cc 5 of 5A, Z-Division file

INTER-OFFICE MEMORANDUM

TO: R. W. Henderson

FROM: R. A. Rice

SUBJECT: Monthly Progress Report for March, 1947 - Group Z-2

Symbol: LAB-Z-2

DATE 4 April 1947

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B. Rogers' Plan

Mr. J. R. DeRigne from Black and Veatch, Consulting Engineers, spent two weeks working with us (A. Baumgarten, Capt. Hagler, and Rice) in producing a complete set of preliminary specifications for the Plan. When he left Mr. DeRigne took back with him the series of notes and drawings produced during this period. Using duplicate notes and drawings as a basis, Group Z-2 will write up the set of preliminary specifications including drawings that are needed to make the work official and will have these completed approximately 15 April. At this time a final design meeting will be called to be attended if possible by the following: Z-Division representatives, Col. Rogers' representatives, R. S. Warner, Jr., and Special Weapons Group representatives.

After this meeting the "Preliminary Specs" will be re-arranged as the "Functional Specifications" and will thenceforth act as the basis for constructional design.

VII Architectural DesignA. Engineering mock-ups laboratory

The final design of this building is now being handled by the area engineer office. As soon as this design is completed it will be checked by Z-2 before construction begins.

B. New Z-Division Building

Some progress has been made in determining the over-all size and general arrangement of this building as well as in specifying a complete list of facilities and work space. Mr. Harris spent most of his time during March on other problems, but it is expected that he can devote a large portion of his time during the coming month to this job.

VIII Office and Shop AdministrationA. Engineering Drawing Files

A considerable amount of progress has been made by Messrs. Jameson, Dailey, Jercinovic, and Stribling on bringing the drawing files and drawing files index of the materials received from the Hill into workable shape. It is felt that there still remain several months of work to be accomplished before the situation is well in hand.

OFFICE OF LAB-Z-7
Sandia Base

This document consists of 10 pages
No. 1 of 2 Copies, Series A

April 1947

TO: LAB. DIV. OFFICE

FROM: LAB-Z-7

SUBJECT: LAB-Z-7 Progress Report for the month of March 1947.

The following is a condensed report of the work accomplished by Lab.Z-7 during the month of March 1947.

1. MACHINE SHOP.

A. Five jobs started in February were completed in March. A total of 238 man hours were expended. Of note were 200 coax cable connectors assemblies consisting of 1000 parts.

Stock has been ordered to complete an additional 30,000 assemblies. To date shipment of 1 item of stock has been completed. Of the other items shipping notices have been received and stock is enroute.

B. Fifty-eight jobs started and completed in March totaling 379 items. A total of 516 man hours were expended.

2. SHEET METAL.

A. Twenty-four discriminators chassis completed.

B. Informer boxes- 24 of the outer boxes are completed -26 are completed except for riveting. Inner boxes are formed and require riveting.

3. MOCK UP SECTION

A. The first Mk.IV has been disassembled and sphere inert filled and specifications checked.

B. First production unit has arrived and is uncrated.

4. WELDING SHOP

A. Twelve sets of 1561 ellipsoids have been modified.

B. Twelve 1000 lb. have been modified and inert filled.

5. PATTERNS & CABINET SHOP

A. Material and equipment for the pattern & wood shop has been ordered and is being received.

6. PLATING SHOP

A. Material and equipment for the plating shop has been ordered and approx. 90% has been received.

Report of Z-7 during 3/47
by James Rowe

INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT:

Group Z-10 : Procurement and Supply

1. The volume of purchase requests processed by the Z-10 Group increased considerably for the month of April as compared to previous months.
2. The complete physical inventory of the Z-10 stock has been completed and the stock records are being reconciled.
3. The additional personnel received by the Group during the month is making possible the improvement of the Group's filing system and property accounts.

Group Z-11 : Little Boy

1. Drafting and Illustration are being carried out satisfactorily.
2. Mechanical assemblies are proceeding satisfactorily. A check sheet system has been developed and is in use.
3. A special assembly was made for nuclear experiments by M-Division.
4. Procurement of parts within the control of the group is proceeding at a slower pace than desirable because of material shortages and lack of priorities.
5. The Navy procurement program is complicated by the usual peacetime chain of authority difficulties but basic problems are fairly well under control.

Division Administration

1. There are now 221 people in Z-Division. In addition, job requests are now outstanding for 158 of whom 60 have been processed except for security clearance which is pending.
2. Plans for the new Z-Division Headquarters Building and the new Mock-up assemblies building are now in the hands of the Area Manager for approval.
3. Plans are being prepared for a new building for the Mechanical Test Laboratory expansion and also for a consolidated Shop building.
4. The Area Manager has officially appointed a representative to be stationed at Z-Division but as yet little has been done to start operations.

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INTER-OFFICE MEMORANDUM

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DATE 7 May 1947

TO: R. W. Henderson
FROM: R. A. Bice
SUBJECT: Progress Report for the Month of April, 1947
Symbol: IAB-Z-2

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VI Special Assembly Areas Problem

A. CVB

1. Problems involving detail changes of original specifications came in during the month for solution. That of the greatest importance involved the exact design of the fat man crates as applied to the handling scheme to be used aboard the CVB.

B. Rogers' Plan

1. Booklets of specifications, "Specifications for Rogers' Plan" by R. A. Bice and A. Baumgarten, 18 April 1947, were submitted to Lt. Colonel Rogers and other interested parties. The final design work of the project can be completed using this as a basis.

C. AV-4

1. A trip was made by the writer to Terminal Island Naval Yard, San Pedro, California from 6 to 9 April 1947. Specifications for making the same type of conversion to the AV-4 USS Curtis as was made to the AV-5 Albemarle were completed in cooperation with Navy personnel.

VII Architectural Design

A. Engineering Mock-ups Laboratory

This item will be deleted in future reports since it is out of the design stage.

B. New Z-Division Building

1. Mr. Harris and Mr. Deaton spent most of their time during the month on drawing up a detail proposal of the new Z-Division building. Preliminary plans were sent to the Hill for cost estimates. However, there is still a tremendous amount of work to be done before contractor design can be started.

VIII Office and Shop Administration

A. Engineering Drawing Files

Mr. Dailey spent the first two weeks of April on the drawing files but was then transferred to the job of making the sphere wiring mock-up

Henderson UNCLASSIFIED

Z Div status 1 May to 18 June 1947 ¹²⁹

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INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT:

Group 5 : Fixing and Firing Development

1. Emphasis during this report period has remained on construction and testing of special test equipment components, mock-ups of which are being delivered to Training via Z-3. The Baro Switch Tester, Pump Tester, and Pressure Transmitter Tester have been delivered during this report period. Manual material for the X-Unit Tester, R & J Box Tester and Tester-Calibrator is in the final review stage and will be complete within the next few days.
2. As of this date, considerable work has been done on production drawings for FTB-3 and preliminary designs have been approved for both electrical and mechanical firing assembly test units (to be known as ATE, Assembly Tester Electrical, and ATEF, Assembly Tester Electrical Final. For safety reasons, these two new test equipment components are being designed to replace the original less satisfactory Unit Tester.
3. The new M-3 X-Units are being delivered by manufacturer and two have been successfully tested in field operations. On this date the third M-3 X-Unit (Serial No. 006) is being expended in field test operations. This work necessitates most of the time available on the part of field-experienced Z-5 personnel.
4. During this report period, 6 new employees have joined Group Z-5. Fifteen job offers are outstanding on this date. However, 5 terminations are pending, with one transfer and one educational leave of absence being effected immediately. Additional office and technical personnel are needed as soon as possible in order to meet the increasing work load.

Group Z-6 : Mechanical Test Laboratory

1. A proposed layout and design of a new mechanical laboratory building has been completed. This additional building will house added facilities and equipment.
2. Specifications have been written for the above mentioned equipment, and procurement is underway on most items.
3. The V627 thermistor withstood a shake test of eleven g at frequencies ranging from ten to sixty cycles per second at a temperature of -100°F. Calibration curves of voltage drop versus temperature were sufficiently linear. One hundred of these units are promised for June 23 for the Informer Program.
4. Seven of the first production informer pressure pickups of the type designed by the group are promised for June 20.

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INTER-OFFICE MEMORANDUM

DATE 18 June 1947

TO: R. W. Henderson

FROM: R. A. Bice

SUBJECT: Progress Report for the Month of May, 1947

symbol: LAB-Z-2

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1. The specifications were distributed among all interested Los Alamos Division Leaders for comments. A comprehensive set of comments was written by Marshall Holloway concerning details of structure C. Those suggestions pertinent to the design will be written up as a supplement to the specifications.
2. At the request of Dr. Bradbury a covering memorandum was written for the specifications which outlined AEC's responsibility in this design.

C. AV-4

1. Liaison has been carried on with Comdr. H. B. Reece at Terminal Island concerning detail questions on the AV-4 conversion. R. W. Henderson took a trip to the Los Angeles area at which time he contacted Terminal Island personnel to check up on the progress.

VII Architectural DesignA. New Z-Division Building

1. Work has continued on all details of the new building. Mr. Harris, in company with Messrs. R. W. Henderson and B. Shaffer, conferred with Col. Gee on the method of handling the construction of this building. It was decided that preliminary functional plans showing the use to which all space is to be put should be submitted to Washington for approval as soon as possible. After this construction approval is received the building details including utilities, etc. will be worked out in cooperation with some designated architects. While steps toward approval are proceeding, Group Z-2 will obtain all the data necessary for final design.

VIII Office and Shop AdministrationA. Engineering Drawing Files

The Los Alamos drawings in the drawing files have been catalogued and inventoried. The inventory is in the process of being typed up and will be sent to the central drawing files' agency on the Hill as soon as possible. In the meantime linen transparencies

STATUS REPORT FOR Z-DIVISION - ABSTRACT. 18 June - 18 July 1947.

GROUP Z-5: Fusing and Firing Development

1. During this report period, high priority effort has remained on pilot models of special test equipment to be delivered to Training via Z-3. The Tester-Calibrator has been turned over to Z-3, including associated manual, and final editorial work is in progress on manuals for the new Clock Box Tester, CBT-4, X-Unit Tester, XUT, Mk-III Mod. O, and R & J Box Tester. The Cable Tester Manual material is ready for editorial work, pending completion of necessary circuit drawings.
2. It is expected that production drawings for FTB-3 will be available for outside procurement by the 1st of August.
3. For safety reasons, the Unit Tester has been replaced by two (2) assembly test units to be known as ATE, Assembly Tester Electrical, and ATM, Assembly Tester Mechanical. Preliminary designs are complete as a result of a meeting, attended by all concerned, and mock-up work will begin on or before August 25, 1947.
4. Mk-III X-Units are being delivered by the manufacturer and as of this date, a total of nine (9) have been successfully tested in field operations.
5. Since the last report, Group Z-5 has lost a total of seven (7) employees as a result of terminations, an educational leave of absence, and an inter-group transfer; during this period, only four (4) new employees have joined the Group, resulting in a net decrease of three (3) in group personnel. Twenty-one (21) job offers are outstanding as of this date. At least two (2) additional terminations are anticipated before January 1, 1948. As a result of the increased work load and the decrease in personnel, additional office and technical employees are needed as soon as possible.

Group Z-6: Mechanical Test Laboratory

1. Modifications were requested of the manufacturer on three pressure transmitters which did not pass Air Corps and Signal Corps specifications. These modifications are to be included in the remainder of the transmitters on order.
2. Modifications were incorporated on detonators for MK-II, after which these and the unmodified type were subjected to frequencies above 48 cycles and accelerations above 7 g. However, the spring tension was not strong enough to withstand these vibrations.
3. Work is in progress to determine the most rugged manufactured thermostat for the purpose of controlling temperatures in the FM.

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2. Additional personnel from other Z-Division groups has been made available to the Industrial Engineering Section of Group Z-5 in order to expedite production drawings. All personnel efforts which can possibly be used in Group Z-5 have been directed toward test equipment work. As of this date, production drawings and/or mock-up work is under way on all outstanding test equipment items. It is expected that the next report period will result in the completion of the X-Unit Tester, R & J Box Tester and Tester-Calibrator, to the end that production drawings will be available for procurement. Production work is being started by Group Z-5 and Group Z-7 on the following test equipment items: Pressure Transmitter Tester, Baro Switch Tester, and Pump Tester. Valves for the Pump Tester and wire meeting our specifications are outstanding production items for these units; the mechanical work will be carried as far as possible during the interim period.
3. The first pilot model of the Mk-IV X-Unit has been received from the manufacturer and has been given a complete mechanical and electrical inspection; simultaneity tests will be run this week.
4. During this report period, Z-5 has received a total of four (4) employees and no terminations have been effected. Two (2) terminations are pending for educational reasons and will be effected approximately September 15. Twenty-six (26) job offers are outstanding as of this date.

Group Z-6 : Mechanical Test Laboratory

1. Five modified pressure transmitters have been received. They will be tested against Air Corps and Signal Corps specifications.
2. Twenty-six V-627 thermistors are now being calibrated.
3. The various types of hydraulic oils tested to date have all failed to remain in a liquid state at -100°F. We intend to test additional oils.
4. The York chamber automatic diving rate control installation is nearing completion.
5. A schedule has been determined to weigh electrical components of 10 units of the F.M. 10 mechanical components have been weighed.
6. The production sample of an Eclipse-Pioneer inverter failed to meet thirteen specifications.
7. A few minor design changes are necessary on the L-2-B storage can before the final order can be placed.
8. After a few minor changes in design on the half scale informer package it will be ready for industry.
9. The volume of air in 1561 was computed and the formal report sent to Z-2.

Henderson to Bradbury
20 Aug 47

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2. Progress is being made on the overall long range planning of the Z-Division Tech Area through conferences with the Manager of the Santa Fe Directed Operation, his assistants, and the local AFSWP administration. Arrangements have been made for an "industrial engineering" survey of the entire operation preparatory to planning of buildings.

3. The entire housing problem for Z-Division personnel was discussed in a meeting with the Manager of the Santa Fe Directed Operation, the Z-Division Leader, and local administration of AFSWP at which four different proposals were considered and an agreement reached on the most feasible one which covered a housing project due west across the road from the Army housing. Following this agreement, the Manager will take action to continue work on the development at high priority.

4. A study is being made to result in a coordinated plan for the complete renovation of the Salton Sea Bombing Range, now used by Z-Division, with an aim toward providing adequate technical facilities, living quarters and recreational facilities. It should be noted that an overall plan for the establishment of a bombing range has been under consideration for some length of time and other locations have been considered and weighed with respect to their effectiveness as far as operations from Kirtland Field are concerned. Discussions with people who have made similar surveys in the last few years have indicated that the Salton Sea range still appears to be the best possible location. We believe that its main drawbacks, namely extreme heat and poor living conditions, can be eliminated by proper planning, and our efforts are being directed along this line.

5. Many Z-Division personnel are now living in the new housing area, but moves from the Kirtland Field housing area are being postponed as long as possible as it seems clear that once those houses are vacated, they will be lost to Z-Division.

6. It is understood that a new representative of the Manager of the Santa Fe Directed operation will soon take up his duties with Z-Division, relieving Major Kyzer who was temporarily assigned to this function. The establishment of this office on a sound basis should go far toward assisting Z-Division in its activities.

7. Plans are progressing at top priority for the construction of two ~~EE~~ Assembly Buildings to be used for the assembly of Road units, inasmuch as AFSWP has indicated its plan to withdraw from this activity as soon as Z-Division can acquire the proper facilities and personnel. When this transfer of responsibilities is completed, Z-Division will be in complete control of the Road assembly work which will be done with its own personnel and will result in our transferring to the Custodian assembled charges completely packaged for storage. This change in responsibility was dictated by an increase in the responsibilities of the military personnel now assisting us in the work, which will preclude their continuing this function in the future.

8. Z-Division has established a personnel department equipped with personnel of authority to handle a major portion of the work-load formerly within the jurisdiction of Los Alamos. This should enable Z-Division to operate on a much more efficient basis.

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Henderson to Bradbury
20 Aug 47

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INTER-OFFICE MEMORANDUM

TO: K. E. Bradbury
FROM: R. W. Henderson
SUBJECT: 4-Division Status Report - Abstract. page -4-

DATE 22 September 1947

Group 4-6 : Mechanical Test Laboratory

1. Preparations to conduct tests to determine the thermal lags in the FX are nearing completion. Assembly on the unit is scheduled to start September 24th. A week later initial tests will begin.
2. Performance tests were successfully conducted on seventy-two F & G release units under simulated temperature and load conditions.
3. The weighing of the components of the 1561 FX was completed and a report submitted to 4-Division office.
4. A mockup of the 1561 FX fuzeing and firing for training purposes was completed; however, additional miscellaneous work is necessary.
5. Various types of dehydrators and their affect on the pressure lags in the 15 unit during a pressure drop will be determined by our test section. The drop will be simulated by means of our automatic diving rate control.

Group 4-7 : Production

1. In the Hock-up section work has continued on the Wishbone Trailer and it is approximately 50% complete. However we are still awaiting the arrival of parts.
2. 2/3-3A half scale has been modified and an airplane landing light installed in the nose.
3. The new 1561 unit crate has been completed and some tests have been made. The box is made of welded steel frame panels, covered with plywood and the panels are bolted together for easy assembly of the box.
4. Work is continuing on the FX IV unit box and is now about 90% complete.
5. Construction of a new light weight sphere tongs have been started and is about 10% complete.
6. Following through on the project to prevent units from spinning in flight, work has been started to install flaps on the trailing edge of a half scale and the flap action will be controlled by gyro.

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INTER-OFFICE MEMORANDUM

TO: R. W. Henderson
FROM: R. A. Bice
SUBJECT: Progress Report - 18 Aug to 18 Sept 1947
Symbol: LAB-Z-2

DATE 18 Sept 1947

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As soon as this structural modification design is completed, plans will be forwarded to AEC for their design of a lightweight sandwich type outer cover.

VIII Architectural Design

A. New Z-Division Building

A contract has been let with an outside engineering firm to make the final complete architectural design of the new Z-Division Building to our specifications.

B. Z-Division Tech Area

The same firm mentioned above has been given the contract to make an industrial survey of Z-Division requirements for the new Tech Area. This will include warehouses, shops and inter-relationships between all buildings.

C. Salton Sea Test Base

Preliminary designs have been made of a number of small technical buildings that are required to house drop test instruments.

D. Interim Space Requirements for Z-Division

An order has been given by the Commanding General at Sandia Base that no more temporary type construction will be approved. This raises a major problem concerning the interim housing of Z-Division functions before the new permanent buildings become available. Building 920, a former theater, has been made available to Z-Division for conversion into usable expansion space. This may serve as a temporary though unsatisfactory solution of the Division expansion problems.

VIII Office and Shop Administration

A. AEC Inventory of Z-2 Property

The AEC inventory has been completed on all Group Z-2 property. A card index cross file for our own use is partially completed.

Form 25

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INTER-OFFICE MEMORANDUM

DATE 17 October 1947 52

TO: R. W. Henderson

FROM: J. L. Rowe 471SUBJECT: Summary of Group Z-7 Progress Report for the period
19 September to 18 October 1947.

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1. In the Mock-Up and Assembly Section some work was done on the "wishbone" trailer. The reason for delay on this job is due to priorities given other jobs and lack of parts.
2. The new sphere tongs were completed during this period. The tongs weighed approximately 65 pounds and were load tested to 15,000 pounds without failure.
3. The fins of a 1/2 scale 3b-2c are being modified. This modification consists of tabs installed along the trailing edge of the fins and operated by sol enoids, gyro-controlled.
4. The tab controls are expected to stabilize the bomb during flight.
5. Work was started on a full-scale MK-IV to make the tail section free turning. This is the first of the full scale models to be modified in this manner; however, three 1/2 scales have previously been modified.
6. The addition to the lean-to was completed and the office moved. The plating and heat treat shops are taking shape; however, the transformer needed to supply electrical power to the new addition has not been received. We expect to use the plating shop by running temporary lines from the existing power supply and in addition, we are now able to operate the new sheet metal shop.
7. 1,960 man hours of miscellaneous machine work.
8. Four applicants are still awaiting security clearance.

Sheet Metal:

9. Two of the new type informer packages were completed and delivered to Z-8. As soon as the new plating shop is in operation, the informer packages will be cadmium plated prior to delivery.

Welding Section

10. The new MK-IV Unit shipping crate is near completion and will be tested in the very near future. This is similar in construction to the new 1561 shipping crate; i.e., steel frame, plywood covered, demountable panels.

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INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT: Status Report for Z-Division - Abstract. Period 19 October to 19 November 1947.

4. The principle development project is Abee, and has received most emphasis. Special equipment is under construction for airborne tests, and some of the procurement items for this project have been received.
5. Functional specifications have been drawn up on the Robot Trainer for weapons.
6. Four (4) new employees have reported for duty during this period. Seventeen (17) job offers are outstanding. Seven (7) Z-5 employees are tentatively assigned to J-Division and two (2) have been transferred to Group Z-9 for production and surveillance testing.

Group 4-6: Mechanical Test Lab

1. Analysis of pressure lag measurements in the LB, during simulated drops from 40,000 ft. altitude, revealed that Kollman altimeters, because of their mechanical inertia, do not show pressure changes. Further testing, using a strain gauge on the dehydrators, are now in progress.
2. It was determined that a blower with a capacity of 1,378 cu. ft. per minute was sufficient for the removal of explosive and toxic vapors exhausted in a plane during the stripping operation.
3. The low temperature tests of a Nagasaki-type bomb were completed and an analysis of the results are being made.
4. Only two of sixty-nine pressure transmitters manufactured by Giannini & Co. passed required vibration tests. The trouble in the other transmitters was determined and corrected by Z-6 personnel, the manufacturer was informed of the method of correction, and five representative units were returned for study and modification by Giannini.
5. Vibration tests on a remodeled Pioneer Inverter, #XL, were satisfactory.
6. Two of twenty-nine F. & G. release units tested for performance at -30°F. were rejected.
7. Numerous other development tests were conducted for various Z-Division groups.

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INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT: Status Report for 4-Division - Abstract. Period 19 October to 19 November 1947.

8. The installation of Wright Field pit equipment was supervised at Kirtland Field loading pit. Additional valves are on order to further ascertain ease of operation of the hydraulic hoist.
9. The re-design of the LB can is approximately 85% complete.
10. Routine testing of Road cans and determination of moments of inertia of SF units was continued during the past month.
11. Various items for the Askania program were fabricated by our development shop.
12. The construction of twenty-five frames for security covers is now in process.

Group 2-7: Production

1. The mock-up, assembly and machine shop sections completed work on the full scale Mk-IV to make the tail section free turning during flight.
2. The mock-up section also completed the fabricated shroud for a full scale Mk-IV unit. Both the above units were dropped as tests.
3. All work required by this group has been completed on the tab controls for a 1/2-scale unit and we are now awaiting the solenoid controls.
4. The Mk-IV unit shipping crate was completed and tested and some modifications are now being made.
5. The sheet metal section has moved into its new location and is now using spot welding in place of riveting on the new informer packages. Shake table tests have shown the welding method to be entirely satisfactory and construction time is cut 15 hr. per box.
6. The plating section is operating from temporary power lines as the new transformer has not been installed.
7. Work is progressing on electroforming transmission wave guides and considerable plating work is being done for other groups.
8. Work has again started on modifying 1561 units for the Road Project.

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INTER-OFFICE MEMORANDUM

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TO:

FROM:

SUBJECT:

involves an arrangement which has been made with the contracting architects who are now designing the Sandia Tech Area. This is an informal arrangement which allows Z-Division personnel of the proper technical background to act in a liaison capacity and preliminary architectural design capacity to expedite the design of the Z-Division permanent buildings.

2. Associated Architects has established a branch office on this Base to handle the architectural and industrial design of the Z-Division Tech Area and its corresponding buildings. There are, however, only three persons employed in this office at the present time, including the head of that office, Mr. Ruble. This is considered by this office to be a totally inadequate force for the job that has to be done. It is requested that this situation be brought to the attention of the top persons of that organization to be sure that everything possible is being done to increase the Sandia staff.

3. The early completion of the HE assembly building to replace the AFSWP facilities now being used by Z-Division continues to be of high importance. General Groves has signified his intention of pulling AFSWP out of the HE assembly business by March 1948. From a Z-Division personnel viewpoint this is well within reason. In fact, Z-Division could take over these duties entirely as of this date if the space were available. However, AFSWP will not give Z-Division the unqualified use of the present building since they will not agree to split the command in the present ordnance area.

4. The AEC pre-fab housing project has been started at Sandia. It is understood that 45 units will be completed by the end of December.

The statement has been made by the AEC Field Office that some of the permanent houses will be available within approximately six months.

5. It is understood that the bachelor mens' dormitory project is going along on a parallel basis with the permanent housing.

6. The Z-Division plan for Salton Sea which recommended that it be made a permanent base has been approved by the proper authorities and considerable amount of preliminary area and building design has been made preparatory to a discussion which will be held next week between the AEC, Z-Division and the contracting architect. This discussion should result in a final planning basis for these facilities.

7. As stated in the last report, "Operation Sandstone" is cutting deeply into the Z-Division activities. Thus far it has taken from the Division 17 key men whose functions will have to be replaced by putting additional duties on other personnel. It is also making even more acute the present shortage of space.

Bice to Henderson
Z Div. Status Report 19 Oct to 19 Nov 47

UNCLASSIFIED

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page -12-

INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT: Status Report for Z-Division - Abstract. Period 19 October to 19 November 1947.

Approximately 30% of the usable floor space of Group Z-6 (Mechanical Test Lab) has been taken over for various "Sandstone" mock-up operations. The personnel in the Z-Division office have been increased so that the facilities which formerly were occupied by four people are now occupied by 7. The only conference room in the entire tech area has been taken over for additional office space. These facts may be taken as adding even more emphasis to the need for fast action on the new Z-Division Tech Area plans.

R. A. Bice
Alternate Leader
Z-Division

RAb/vsm

Distr: 1,2,3/5A Bradbury

4/5A Smith

5/5A Bice (Z-Div. file)

UNCLASSIFIED

INTER-OFFICE MEMORANDUM

TO: R. W. Henderson

FROM: R. A. Bice

SUBJECT: PROGRESS REPORT FROM 18 OCT TO 18 NOV 47

REFERENCE: LAB-Z-2-(23)

DATE 18 NOV 1947

VII ARCHITECTURAL DESIGNA. Z Division Building

The new Z Division Building, plans of which have been in the hands of Kruger for sometime, is not progressing as fast as is desired. It has taken a second priority to the E. E. Assembly Building and Engineering Mock-up Building. It is felt that this can be rectified with proper discussion.

B. Salton Sea Test Base

The plans for building a permanent AEC Test Base at Salton Sea have been approved and designs for several technical buildings such as Instrument Lab, Remote Control Receiver Station, and some Camera Stations have been submitted to Mr. Fowler for study and acceptance.

C. Interior Space Requirements for Z Division1. Building Modifications

It is understood that the Army will move out of the present Tech Area beginning approximately the 15th of December. At this time proposed modification of Building T-920, Bldg. T-934, and others that will be opened up can be started.

2. Metals Warehouse

It is understood that the metals warehouse which is to be built here is now being pre-fabricated at Los Alamos.

VIII OFFICE AND SHOP ADMINISTRATIONA. Property

The ledger has been set up for keeping control of all fabricated material. It shows the complete history of materials received and expended.

B. Job Orders

This Group has set up a method of work orders for keeping track of job orders that are placed with Group Z-7. It is intended that this give a complete record of manhours, material used, and length of time to complete a job.

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INTER-OFFICE MEMORANDUM

DATE January 20, 1948

TO: N. E. Bradbury, Director
FROM: P. J. Larsen, Associate Director
SUBJECT: Z-Division Status Report - Abstract. Page 7

4. Facilities and assistance have been made available to J-12 in order to expedite Operation Sandstone. Test equipment requested of Group Z-5 by J-Division is nearing completion.
5. Considerable time is required of Z-5 personnel for field test operations beginning January 19th. A field team has been established for this work.
6. Development drawings and specifications are 40% complete on the Weapons Trainer, and preliminary drawings have been transmitted to a representative of AFSWP, via Z-Division. A pilot model (now 80% complete) will permit final development drawings and specifications at the earliest possible date.
7. Three (3) new employees reported for duty during this period. No terminations were effected; however, an intergroup transfer resulted in the loss of one employee. Twelve (12) job offers are outstanding as of this date.

Group Z-6: Mechanical Laboratory

1. The appointed Z-Division committee prepared data for the 1948 bomb drop schedule and Z-6 issued a tentative drop schedule to the various Z-Division Groups.
2. Z-6 laboratory plans have been modified to include complete metallurgy and standards laboratory facilities. Considering these modifications, the working floor space for the new building would cover 42,000 sq. ft. It seems advisable to place orders now for the equipment for this building.
3. Shipment of the 1,000 lb. shake table has been delayed until February 1, 1948.
4. A conference was held with Bruce Johnson of Lehigh University to discuss possible types of high frequency shake tables for the Z-6 laboratory. Mr. Johnson is to submit sketches and calculations for a resonant table, and is also undertaking the design of a mechanical table.
5. Delivery of the Hiatt combined cold and humidity chamber is postponed to March 1, 1948.

Larsen to Bradbury
20 Jan 48

UNCLASSIFIED

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INTER-OFFICE MEMORANDUM

TO: N. E. Bradbury, Director

FROM: P. J. Larsen, Associate Director

SUBJECT: Z-Division Status Report - Abstract. Page 8

DATE January 20, 1948

6. Representatives of leading manufacturing companies have been consulted on the subject of an X-ray equipment layout for Z-6 laboratory. Each company is to submit model equipment proposals and specifications.
7. Two bays in the west end of Z-6 laboratory have been cleared for use by J-Division.
8. Of the commercially available hydraulic fluids tested for bomb loading pit use, only a Dow-Corning silicone was satisfactory at -100°F . The best available mineral oil is Mobil's Aero Hydro HRA Fluid.
9. Modifications were made on eight Amos units to simulate the weight and CG location of Archie. These units are to be expended in ballistic and vibration test drops.
10. Measurements were made of the relative motion between various points on the release hook of an F & G release and two, type U-1, pneumatic releases in order to determine the best location for the addition of a tone control switch to each of these units.
11. The re-design of a portable work table for Road was completed.
12. Drawings were made of the component layouts for ballistic informer, and latest changes were incorporated on ballistic informer circuit diagrams.
13. Two, type 3, antennae for Group Z-8 telemetering system were developed.
14. A special shock mount for the informer RF unit and a FM check template were completed.

Group Z-7: Production

1. In the Mock-Up Section, work continued on the Wishbone Trailer. A preliminary test was made by loading the trailer with a shipping crate containing an inert Unit and towing the trailer about the Area.
2. Work on the tab controls for a half scale Unit is temporarily halted pending receipt of certain parts for the hydraulic dampener.

UNCLASSIFIED

[REDACTED]
INTER-OFFICE MEMORANDUM

DATE January 20, 1948

TO: N. E. Bradbury, Director
FROM: P. J. Larsen, Associate Director
SUBJECT: Z-Division Status Report - Abstract. Page 15

2. Permanent Buildings

Satisfactory progress is being made on the design of the permanent tech area buildings, according to the schedule outlined. The mock-up building and the HE Assembly buildings will be ready for bid or direct contract by approximately 15 February 1948.

7. Salton Sea Test Base

The Los Angeles architects, Curtis, Kistner and Wright, have been in close contact with the Los Angeles AEC office and the Z-Division groups concerned with permanent construction at that base. Plans were presented for discussion approximately 15 January 1948. Considerably more money was required for construction than was originally allotted in the budget. A number of construction items which would be reduced in scope were discussed. These were then presented by Mr. Jensen and Col. Stewart to Mr. C. L. Tyler for comment.

P. J. Larsen
Paul J. Larsen
Associate Director

PJL/bjw

- Distribution:
1,2,3/5A - Bradbury ←
4/5A - Smith W/enc. (See Receipt 7437)
5/5A - Larsen (File)

UNCLASSIFIED

[REDACTED]

UNCLASSIFIED

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INTER-OFFICE MEMORANDUM

DATE 20 January 1948

TO: P.J. Larsen

FROM: R.A. Bice, Z-2

SUBJECT: PROGRESS REPORT, 18 Dec 1947 to 18 Jan 1948

REFERENCE: LAB-Z-2-(69)

A redesign of these two buildings has been submitted by the Associated Architects & Engineers for consideration. They have been given the go-ahead to prepare further detailed plans.

B. Salton Sea Test Base

Kistner, Curtis and Wright of Los Angeles are expected to have representatives here for discussion of final architectural design on the entire base 19 January.

C. Interim Space Requirements for Z Division

A firm working basis has been arranged with the Army stating at what rate and at what time the buildings now occupied by them in the Tech Area will be vacated.

Basic drawings have been sent to Los Alamos on the exterior design of the 19 Butler Huts required for storage at Sandia.

D. H.E. Assembly Bldg.

It is expected that negotiations can be started with a contractor for the construction of the H.E. Assembly building approximately the middle of February.

E. Engineering Mock-up Bldg.

The mock-up building can be let out for construction bid approximately 15 February 1948.

VIII. Office and Shop Administration

A. Property

Nothing to report.

B. Job Orders

Four (4) job orders are processed for outside procurement of fabricated items.

C. Drawing Files

Nothing to report

UNCLASSIFIED

[REDACTED]
INTER-OFFICE MEMORANDUM
UNCLASSIFIED DATE

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TO:

FROM:

SUBJECT: Z-11 PROGRESS REPORT FOR PERIOD DECEMBER 19 THRU JANUARY 18, 1948
(Memo from H. W. Kuss, Group Leader, Z-11 to Paul J. Larsen, Associate Director, dated January 19, 1948.)

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III. MISCELLANEOUS ACTIVITIES

A. The Group cooperated with Z-2 in checking out the C-97 for use in LB final assembly operations. It was found that the forward hoist is not usable for handling the nose nut from the gadget - the center hoist is usable with the full weight of the gadget and can on the floor. This would require some means of distributing the weight over a large floor area to reduce unit loading on the floor. A report of this test is being prepared by Z-11.

B. Report of the static drop tests on LB equipped with various types of dehydrators was received from Z-6.

C. A sectioned initiator for study by Z-11 was received from QMR-6.

D. Progress reports for Projects Marsh and Lakeside for the period December 1 thru December 31, 1947, were received from Navy Bureau of Ordnance.

1. Project Marsh

a. The firing program to determine service charge for propellant lot VC-1426-42 and proof charge for Case proofs was completed on November 18, 1947.

b. The firing program to determine proof charge for proof of barrels and breech mechanisms was completed on December 30, 1947.

c. Enough forgings have been received from Midvale on NOrd-10015 to enable Marsh to start machining on all but one item. This item, sleeve liner forgings for use in case proofs, was to be shipped from Midvale by January 15, 1948. Aside from the first four case proofs scheduled to use WC liners already on hand, further case proofs cannot be scheduled until receipt at Marsh and finish machining of the above forgings.

UNCLASSIFIED

[REDACTED]

UNCLASSIFIED

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INTER-OFFICE MEMORANDUM

DATE

TO:

FROM:

SUBJECT: Z-11 PROGRESS REPORT FOR PERIOD DECEMBER 19 THRU JANUARY 18, 1948
(memo from H. W. Russ, Group Leader, Z-11 to Paul J. Larsen, Associate Director, dated January 19, 1948.)

Page - 6 -

d. Machining of components appears to be proceeding satisfactorily. Components (Case assembly, barrel and breech mechanism) for one each A Type and C Type gadget have been completed - others are in varying stages of completion.

e. Cost to date of operating Project Marsh has been \$43,832.80. Estimated cost for completion of the current program is an additional \$270,000.00.

2. Project Lakeside

a. 98% of the material required is on order, 85% has been received.

b. The first unit is scheduled to be produced 30 days after receipt of remaining material and clearances for necessary personnel.

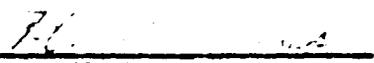
c. Cost of project to date is \$50,000.00

E. The third LB Road Report was submitted.

IV. PERSONNEL

A. Mr. Henry Tendall accepted our job offer and will report for work on February 2, 1948.

B. Final clearance for Mr. C. C. Harrington has not been received. Mr. Harrington continues to work outside the Tech Area.


H. W. Russ,
Group Leader,
Z-11.

HWR/fh

UNCLASSIFIED

Distribution:
1&2 of 3a, Paul J. Larsen;
3 of 3a, H. W. Russ (file). 

INTER-OFFICE MEMORANDUM

TO: N. E. Bradbury, Director DATE 18 February 1948

FROM: F. J. Larsen, Associate Director

SUBJECT: Z-Division Status Report - Abstract. Page 17

Division Administration

A - 1. It has become increasingly apparent that the laboratory at Sandia is expanding beyond its present space facilities and the need of additional laboratory space and housing is one of our major problems. It is believed that the space situation will be alleviated in the near future by the acquisition of certain buildings from AFSWP and the erection of Butler buildings to be allocated to Personnel, Property, Road and Shops. Plans for the modification of three buildings are in the hands of the contractor and this work should be under way during the next ten days. These buildings will house the Surveillance Department, Document Room, Central Print Files and Reproduction Section. This carpenter shop has been moved from the Road Group and incorporated with the main shop.

2. The housing situation continues to be a major problem and seriously hampers the recruitment of needed personnel. At the present time the following units are allocated to the University of California at Sandia.

32 Permanent houses
21 Hanford units
11 Ft. Leonard Wood units
40 Dallas units

3. The contract for construction of permanent housing has been let and ground will be broken during the month of March.

B Budget:

1. Budget records have been established for all purchases from AEC funds for the account of the University of California at Sandia. It is planned that a monthly status report be submitted to the Office of the Associate Director, Sandia, and that, with approval of that office, budget information be released to the departments concerned.

C Procurement:

Procurement procedures have been approved and the Sandia procurement organization is initiating requisitions for all purchases from AEC funds. These procedures have proved to be expeditious and have improved the operating efficiency of the laboratory.

PROGRESS REPORT

March 19, 1948 to April 19, 1948

OFFICE OF THE ASSOCIATE DIRECTOR
(SL DIR)

(A). An entire re-organization was accomplished of the Sandia Laboratory during the report period. The name of the organization was changed from Z-Division of Los Alamos to Sandia Laboratory, Branch of Los Alamos. Nine departments were created to replace the thirteen Z-Division Groups. Attached hereto is an organization chart showing the new departmental set-up. An organization in which projects and responsibilities are more well defined was the primary aim of this re-organization.

(B). One of the most urgent problems facing the Laboratory has been the availability of space for expansion as the number of Laboratory personnel has grown. Last December a well integrated program for obtaining interim building space, as well as long term permanent buildings was started. It is now beginning to bear fruit, although a considerable amount of time and energy is being spent on expediting the construction and alteration of structures for interim use. The design and construction of permanent buildings is being pushed as rapidly as possible. The two HE Assembly Buildings will probably be the first permanent buildings available. These are scheduled for completion approximately 1 July.

(C). Emergency requisitions were placed with Sandia Laboratories to supply the AFSWP at Sandia Base with more than a thousand individual kit and spare parts items for an emergency readiness program which they have undertaken. Laboratory purchasers were sent to various parts of the country to expedite the procurement of the necessary items. This program has progressed satisfactorily.

(D). Two procurement organizations have been in existence in Los Angeles, one run by the University of California, the other run by the Atomic Energy Commission. The first has procured standard stock items; the second, special engineering items. A study was made of the effect that a proposed combination of these responsibilities would have on the Sandia Laboratory program. This was submitted to interested parties for comment and discussion. A proper solution must be found which will not injure the Sandia procurement programs being conducted through these offices.

(E). A number of large orders were placed contracting for the supply of replacement items for the Road. These involved both the 1561 FM and the MK IV FM. Among the items ordered for 1561 FM were MK III X-Units, test equipment and Archies. The MK III X-Unit is scheduled for approval during June 1948 and placement into Road starting September 1948.

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PROGRESS REPORT

March 19, 1948 to April 19, 1948

ADMINISTRATION DEPARTMENT

(SLX)

(A). During the month the Sandia Laboratory was re-organized on a departmental basis and the various functions of the Laboratory were assigned under the control of nine department managers who are under the immediate direction of the Associate Director. The departments and their respective managers are as listed below:

| | |
|------------------------------------|-----------------|
| Engineering Department | R. A. Bice |
| Applied Physics Department | H. S. G. Cooper |
| Field Test Department | G. A. Fowler |
| Road Department | F. H. Longyear |
| Surveillance Department | L. J. Paddison |
| Development Fabrication Department | Unassigned |
| Administration Department | C. W. Campbell |
| Documents Department | S. S. Harris |
| Procurement & Supply Department | D. B. Miller |

(B). The present personnel strength of the Sandia Laboratory is 468 and we have 24 persons on loan to J Division Operations. It is planned that the Laboratory will be expanded to a total strength of approximately 650 to 700 persons at which time we should reach our maximum operation efficiency. Every effort is being made to recruit competent personnel and we have been unusually successful in that we have obtained the services of a few top men in the engineering field.

(C). The departmental organization has necessitated re-allocation of personnel and existing buildings and in some cases considerable modification of available Laboratory space. Modifications are now being made to three buildings and these will be ready for occupancy on April 26, 1948. These buildings will provide adequate space for the Engineering, Surveillance and Road Departments for the time being. However it is anticipated that the Road Department will require additional space in the near future and such requirements are being considered in present planning. The Document Department has been established in Building T-920 which was recently modified and it is believed that this is adequate for his requirements for some time to come.

The metal storage rack has been completed and will be placed in use during the coming week. Record progress is also being made on the construction of the Butler buildings. Foundations have been laid for three of these buildings and the footings have been established for several more. Bids have been let for the construction of the mock-up buildings, the H E buildings and the outside administration building. Plans for the Laboratory building are nearing completion and will be in final form during the month of June.

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