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OAK RIDGE NATIONAL LABORATORY
QUARTERLY PROGRESS REPORT
OF
SERVICES AND ADMINISTRATION
FOR PERIOD ENDING JUNE 30, 1954



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OAK RIDGE NATIONAL LABORATORY
QUARTERLY PROGRESS REPORT
OF
SERVICES AND AMINISTRATION
for Period Ending June 30 1954

Compiled by W E Thompson
Laboratory Director – C E Larson
Laboratory Services Superintendent – M E Ramsey
Engineering and Mechanical Division – D W Cardwell
General Office Division – E A Bagley
Health Division – T A Lincoln
Information and Reports Division – D D Cowen
Industrial Relations Division – K A Fowler
Laboratory Director s Staff – H Stringfield
Laboratory Protection Division – L P Riordan
Y 12 Plant Services Coordinator – L H Barker

DATE ISSUED

AUG 10 1954

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47	M T Kelley	92	G C Williams
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49	F A Kocur	94	E J Witkowski
50	Laboratory Shift Supervisor (E M King)	95 96	Laboratory Records Department
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53	C E Larson		



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OAK RIDGE NATIONAL LABORATORY QUARTERLY PROGRESS REPORT OF SERVICES AND ADMINISTRATION

SUMMARY

1 LABORATORY ADMINISTRATIVE AND PROGRAM SERVICES

Approval has been received from the AEC to reduce the plant expense allocations for plant and equipment from the previous fixed rate of 70% of the labor cost to a fixed rate of 50%. The expense allocation for work for others is being reduced from a fixed rate of 100% of the labor cost to the going rate charged to ORNL operating accounts. These changes become effective July 1, 1954, and are not expected to increase the overhead rate in plant operation because of compensating factors.

Emphasis on utilizing the Equipment Pool has been increased in order to assure maximum benefit from equipment already on hand. A plan that will increase the stock of the Equipment Pool to a total acquisition value of \$250,000 is being put into effect.

The Laboratory's anticipated craft manpower requirements and to a certain extent its technical personnel requirements have been reduced as a result of the AEC decision that 25 processing operations will not be carried out in the ORNL Chemical Pilot Plant as was originally believed. The release of personnel that had been assigned to 25 processing in FY 1955 and FY 1956 will enable planned increases in other programs to be effected through transfers of personnel already on the payroll.

The Laboratory's FY 1956 budget submission has been reorganized to reflect the new areas of research and the new activity numbers designated by the AEC. The detailed program and budget proposals for FY 1956 have been submitted. ORNL research and development costs for FY 1954 were \$29,111,000, which is 101.4% of the budgeted amount. A cut of \$74,000 in General Plant Projects funds for FY 1955 leaves the Laboratory in a rather serious position, particularly in view of planned program expansions. Equipment funds for FY 1955 will continue to require careful control to assure that the most effective use of available funds will be made.

The AEC proposal that all its installations collect and report cost by a uniform method has been the subject of continuing discussions, and no final decision has been made.

The Y 12 warehouse used by the ORNL Stores Department has been vacated. The annual stores inventory was completed at the end of the quarter.

Successful use of the IBM system of collecting and reporting all work order costs, both labor and material, has made it possible to close out 153 special expense accounts.

A photographic method of preparing and reproducing research data from the Tower Shielding Facility will release one and one-half draftsmen for full-time work on other projects.

A proposal for completing the automatic fire protection system at ORNL is being prepared. Engineering studies show that the cost of the additional equipment needed can be amortized in 14 years by savings now being realized from reductions in Fire Department personnel.

The program requested by the AEC to improve the security of filing cabinets has been completed. A program to stamp the outside envelope of all classified mail has been adopted so that the recipient will be reminded that he must account for the contents of the envelope.

Negotiations with the Atomic Trades and Labor Council on a wage reopener led to a basic difference which was carried to the Atomic Energy Labor Management Relations Panel for arbitration. The Panel's recommendation of an increase of \$0.06 per hour was accepted by the Company but rejected by the Union.

A grievance involving the subcontracting of a certain amount of laundry work which had previously been performed at the Laboratory was heard by an arbitrator. His decision has not yet been received.

Housing for research participants and other summer employees was provided with relative ease this year.

SERVICES AND ADMINISTRATION PROGRESS REPORT

2 PERSONNEL SERVICES

The periodic physical examination program was further modified so that improved service and protection for employees would be provided

At the end of the quarter ORNL employees had worked 1 929 549 man hours without a disabling injury

The new plan for writing tickets for any airline by the ORNL Traffic Department has proved to be very successful

A group insurance dividend paid to employees on April 15 1954 represented a return of approximately 30% of the amount employees had paid into the plan

As a part of the Staff Conference Program two meetings on administrative topics were held Orientation of new employees and training of craft apprentices contributed to the Laboratory's program of improving the capabilities and potential of its employees

3 ORGANIZATION AND POLICY CHANGES

K 25 engineering personnel are being increasingly utilized on the ORNL reactor program Engineers transferred from K 25 were named as Director of the Aircraft Reactor Engineering Division and as Project Engineer of the Homogeneous Reactor Project

The Assistant Manager of the General Office Division was transferred to the Y 12 Plant and the Property Department Supervisor was made Assistant Office Manager while continuing his responsibility for the Property Department

Miscellaneous Official Bulletins and Standard Practice Procedures were issued or revised so that employees would be informed of current policies

4 CONSTRUCTION AND MAINTENANCE PROJECTS

During this quarter the sampling gallery addition to the Pilot Plant Building 3019 the tank farm

waste line pump and monitoring tank the Metal Recovery Building 3505 alterations and the Tower Shielding Facility construction projects were completed

Major projects now in progress include the Thorex Pilot Plant the fabrication of in pile loops the ARE construction and the installation of the auxiliary memory unit for the ORACLE New projects still in design stages include the extension for the rolling mill the HRT the High Activity Level Analytical Facility the Clothing Decontamination and Monitoring Facility the Multi-Kilocurie Loading Cell and the Research Reactor

The X 10 painting program is about 35% complete Building 3022 is being altered so that space will be provided for groups of the Engineering and Mechanical Division Seventy nine temporary buildings have been removed from the ORNL X 10 area over the past four years Sixteen other temporary buildings are now scheduled for removal

Projects for which approval has recently been received from the AEC include the extension to the metallographic cell in Building 3019 a corrosion examination facility in Building 4501 a Source and Fissionable Materials Machine Shop and a Source and Fissionable Materials Storage Vault

Over 90 work orders were worked on for ORNL by Y 12 Plant forces including nine important special or capital projects the Special Materials Facility in Building 9928 the Fluoride Production Facility in Building 9201 3 the preparation of an area for bearing and seal work in Building 9201 3 air conditioning a part of Building 9201 3 air conditioning a part of Building 9207 the library expansion and substores relocation in Building 9207 the motor generator set installation in Building 9204 3 additional offices in Building 9204 1 and the Ore Leach Facility in Building 9202

1 LABORATORY ADMINISTRATIVE AND PROGRAM SERVICES

REDUCTIONS IN OVERHEAD RATES

Approval has been obtained from the AEC for the Laboratory to reduce the plant expense allocation for plant and equipment work from 70% of the labor cost to 50% effective July 1 1954 for FY 1955. The necessary financial provisions have been made in the Operating Program budget to cover the cost of the additional overhead resulting from the reduction in the plant and equipment overhead. Absorbing the additional overhead in the operating programs without increasing the overhead rate is expected to be possible because of an increase in the technical labor base over which the overhead is spread. Effective July 1 1954 the plant expense allocation to work for others will be reduced from 100% of the labor cost to the going rate currently experienced for research and operations. Miscellaneous work involving repairs to vendors equipment damaged in transit etc will be costed at the rate of 50% of the labor cost for overhead. This minor exception has been made so that there will be consistency among the four Carbide operated AEC installations doing business with the same vendors.

It is possible to reflect this more realistic overhead charge on work performed for other parties because of operating cost economies and the technical personnel increase that provides a broader labor base over which overhead will be spread.

USED EQUIPMENT POOL

In order to utilize more efficiently the existing equipment within the Laboratory each division has been requested to assist in building up the equipment pool by contributing 1% of its equipment to the pool. All divisions are encouraged to cooperate in this venture which will provide a better stocked source of equipment. Since the requested contributions will be small it is anticipated that divisions will want to turn in more equipment to avail themselves of the opportunity for storage. Any equipment turned in for storage only over and above the 1% contribution may be restricted for reissue at the discretion of the division.

A schedule for turning in the equipment will be worked out with each division in order to permit a uniform work load and equipment flow into the pool. All divisions should contribute their equipment by

September 15 1954. The equipment pool will at that time provide a wide variety of equipment (acquisition value \$250 000) for selection and use.

The ORNL divisions located in Y 12 will participate in the ORNL pool at X 10.

EFFECT OF CANCELING THE 25 PROCESSING PROGRAM

The Laboratory's anticipated craft manpower requirements and to a certain extent its technical personnel requirements have been sharply reduced as a result of the AEC decision that 25-processing operations will not be carried out in the ORNL Chemical Pilot Plant as was originally believed. No reductions in the number of personnel already employed are expected and the personnel levels reached by the end of FY 1954 should be adequate for carrying out all the ORNL programs in FY 1955 and FY 1956 with no appreciable increases in the permanent payroll if the K 25 technical personnel released from working on the expansion program can be transferred to ORNL projects as planned.

The release of personnel that had been assigned to 25 processing in FY 1955 and FY 1956 will enable planned increases in effort on other programs to be effected through transfers of personnel already on the payroll.

BUDGETING BY AREAS OF RESEARCH

In accordance with AEC instructions the Laboratory's FY 1956 budget submissions for the Physical Research Programs were organized by areas of research under broad general headings such as chemistry physics and metallurgy. The former designations of basic and applied research are no longer used. AEC budget activity numbers have been changed accordingly.

New AEC activity numbers reflecting the re-grouping of research and development activities are to be used after July 1 1954.

FISCAL YEAR 1956 PROGRAM AND BUDGET PROPOSALS

The detailed program and budget proposals supporting the ORNL formal budget for FY 1956 were completed and submitted to the AEC for the Reactor Development Physical Research and Biology and Medicine Programs. Proposals for the Production and Weapons Programs have been

SERVICES AND ADMINISTRATION PROGRESS REPORT

delayed at the request of the AEC pending further program discussions

COST AND BUDGET OUTCOME FOR FY 1954

ORNL research and development costs for FY 1954 in Programs 2000-6000 were \$29 111 000 which is 101.4% of the budgeted amount. Total costs for all activities at ORNL in FY 1954 including capital costs were \$35 266 000 or 101.0% of the total budget for the year. The significant overruns occurred in the ANP and HRP reactor development programs where year end costs from K 25 for experimental support and from subcontractors reflect the progress in expanding these programs somewhat earlier than was originally anticipated. The personnel becoming available as the K 25 production expansion program nears completion are simply being utilized on the ORNL reactor programs.

GENERAL PLANT PROJECTS AND EQUIPMENT FUNDS

It is the Laboratory's understanding that its request for General Plant Projects funds for FY 1955 was cut by \$74 000 from \$700 000 to \$626 000. This cut is rather serious since the Laboratory is expanding and since a substantial amount of the FY 1955 GPP funds are already committed. This leaves a smaller amount available for new jobs coming up during the year.

The expansion of effort on reactor development and supporting activities requires continued close control of equipment funds to assure that the Laboratory will be able to purchase all the most urgently needed items. The procedure for approval to spend equipment funds that was set up last year to assure the most effective use of the funds is working very smoothly. Adherence to the procedure for approval of funds for items costing over \$500 is being re-emphasized. Divisions are being urged to take advantage of the equipment pool to the fullest possible extent.

UNIFORM LABORATORY REPORTING

The AEC proposal that all its installations collect and report costs by a uniform method has been the subject of continuing discussions. It has been recognized that the Carbide accounting system is not entirely compatible with the AEC's originally proposed method of collecting and reporting costs and efforts to work out a compromise have been in progress. To date there has been no final agreement as to what is required.

ORNL STORAGE IN Y 12

Building 9929 2 a warehouse at Y 12 that has been used by ORNL for storage of large equipment items not immediately needed has been vacated to make room for storage of equipment now being stripped from the unused Y 12 process buildings. Some of the equipment stored in Building 9929 2 was released by the ORNL groups for which it was being held and was declared excess and transferred to the Carbide Property Sales Office. The remainder was stored in other ORNL warehouses. The ORNL Stores Department now has no activities in the Y 12 Plant since ORNL research and development groups located there are served by Y 12 stores.

PHYSICAL INVENTORIES

The annual stores inventory was completed during the week ending June 20. Approximately 30 000 items were inventoried. The three year property inventory was also completed this fiscal year with the following results:

	Number of Items	Per Cent	Value	Per Cent
Inventoried	27 310	98.8	\$57 418 162	99.9
Unaccounted for	343	1.2	81 454	0.1
Total to be inventoried	27 653	100.0	\$57 499 616	100.0

	Number of Items	Value
Unaccounted for	343	\$81 454
Picked up during inventory	171	60 556
Net write off	172	\$20 898

IBM WORK ORDER AND MATERIAL COST REPORTING

The complete IBM reporting of labor and material charges incurred on work order jobs has proved highly satisfactory since its initiation on April 1 1954. During this quarter 153 special expense accounts that had been used for work order cost accumulations were closed because the IBM system provides cost accumulations for all work order jobs without requiring special expense accounts to be maintained.

PHOTOGRAPHIC REPRODUCTION OF CHARTS

The Graphic Arts Department has been faced with the problem of reproducing a number of large graphs plotted by a Variplotter machine that is used by the Tower Shielding Facility for measuring vari-

able intensities of radiation. Due to the large recording surface 30 by 30 in this machine is more accurate than one plotting on smaller recording surfaces. It is estimated that approximately 16 graphs will be reproduced each week.

If a draftsman plotted these curves with the grid he would require from 4 to 6 hr to prepare one graph accurately consequently more than 60 hr would be required each week to draw these graphs. It was suggested that much of the drafting time could be saved if these graphs could be reproduced photographically.

A suitable grid was photographed on negative material with the linear scale reduced to $5\frac{1}{2}$ in this reduction makes it possible to reproduce contact prints with six or more decades on an $8\frac{1}{2}$ by 11 in sheet of paper. Next the large curve plotted by the Variplotter was photographed on negative material with the linear scale reduced to $5\frac{1}{2}$ in. This negative can also be printed by contact on $8\frac{1}{2}$ by 11 in paper. By registering the two films together the grid and the curve and printing one over the other a very accurate duplication is obtained.

The results of reproducing the Variplotter graphs by photographic methods are as follows: (1) the time in man hours has been reduced from 64 hr to approximately 4 hr for 16 graphs and it is believed that this time can be further reduced by improving registration techniques; (2) the graphs are reproduced with a greater degree of accuracy; (3) the Variplotter can be read with more precision and (4) as many different grids as the Variplotter is capable of plotting may be used.

PLAN FOR REDUCING FIRE LOSS POTENTIAL

Engineering drawings and cost estimates for an improved automatic fire protection system at ORNL were completed so that a preliminary proposal could be prepared. Authority is to be requested for the expenditure of \$115,600 to install sprinkler systems in 19 buildings and detection systems in five buildings. The cost of the automatic fire protection systems can be amortized in 14 years by the savings currently being realized from reductions in Fire Department personnel.

FILING CABINET MODIFICATIONS

The modification of the locking mechanism of all Remington Rand filing cabinets as requested by

the AEC has been completed. The modified cabinets afford better security for classified documents.

DOCUMENT CONTROL

A program to stamp the outside envelope of all classified mail has been initiated by the Laboratory Records Department. The stamp calls to the attention of the recipient of the envelope that the contents should be checked before the classified mail receipt is signed.

UNION NEGOTIATIONS

Negotiations with the Atomic Trades and Labor Council on a wage reopener led to a basic difference in the Company's offer and the Union's demands. Hearings on the dispute were conducted in Knoxville on May 12 by the Atomic Energy Labor Management Relations Panel and the Panel's recommendation dated June 14, 1954 was for a \$0.06 per hour across the board increase. The Company notified the Atomic Energy Labor Management Relations Panel that its recommendation was acceptable on June 26, 1954. The Atomic Trades and Labor Council by vote of its membership rejected the Panel's recommendation. Further meetings with the Union are anticipated but none are presently scheduled. The period for wage negotiations with the International Guards Union of America, Local No. 3 was extended by stipulation pending settlement of the wage dispute with the Atomic Trades and Labor Council.

ARBITRATION

A grievance involving the very important principle of the Company's right to subcontract work was arbitrated on May 20, 1954. In this arbitration case the Union protested the Company's action in subcontracting a certain amount of laundry work which had been performed at the Laboratory. The decision of the arbitrator Jacob J. Blair has not yet been received.

RECRUITING AND HIRING OF ADDITIONAL EMPLOYEES

A check of activities in the employment group indicated an increased volume for this period over that of last year for the same period. Housing for research participants and other summer employees was provided with relative ease this year. Practically all participants and other employees were assigned housing prior to their arrival.

SERVICES AND ADMINISTRATION PROGRESS REPORT

2 PERSONNEL SERVICES

PERIODIC PHYSICAL EXAMINATION PROGRAM MODIFICATIONS

Several minor changes in the periodic physical examination program were made during the past quarter. As recommended by the American Diabetes Association, all employees with diabetes mellitus will now receive a complete physical examination yearly regardless of age. All employees classified H 3 with or without restrictions will also receive complete examinations yearly at which time a careful review of all restrictions will be made.

The preliminary physical-examination program has been shortened so that applicants will have more time for interviews with interested persons. The audiogram, Ortho Rater, vision screening, and electrocardiogram are now deferred unless specifically requested by the examining physician until the applicant reports for work. As many applicants as possible are being interviewed briefly by the clinical psychologist during the preliminary examination.

A small subdispensary in the 7009 building is being provided; it is hoped that it will be functioning by August 1, 1954. This dispensary will be staffed by a nurse and will handle minor injuries and illnesses of workers in the 7000 Area.

The second health education seminar was held June 9, 1954, with Dr. J. Vivian Gibbs speaking to a large audience of women on the subject "Female Health."

The problem of the worker who is restricted because of nonoccupational illness or injury disability is being reviewed, and minor changes in the Health Division program will be reviewed in the next progress report after sufficient time has elapsed to allow a preliminary evaluation.

SAFETY RECORD AT ORNL

During the second quarter of 1954, ORNL employees worked 1,265,918 man hours without incurring a disabling injury. At the close of the reporting period, the Laboratory had experienced 1,929,549 man hours without a disabling injury.

AIRLINE TRANSPORTATION TICKETS

A new plan was initiated on April 20, 1954, whereby ORNL Traffic Department employees

write tickets for any airline. Previously, tickets ordered by ORNL were prepared in the Knoxville Airlines offices, and daily cash transactions were required in purchasing the tickets. Under the new system, tickets written during the week are paid for the following week.

Greater convenience for employees has resulted also, especially in the case of trips made on short notice, because the delay experienced by a traveler in having a ticket written at the airport, which is not set up to write tickets, is eliminated. The new system is working very well.

INSURANCE DIVIDENDS

Group insurance dividends were paid on April 15 to all eligible Laboratory employees who participated in the Company's insurance plan during 1953. The dividend represented a return of approximately 30% of the amount employees had paid into the plan.

TRAINING ACTIVITIES

Two subjects were presented in the ORNL Staff Conference Program. The first of these covered the Retirement Plan for Employees at Atomic Energy Installations and was part of the regular program schedule. A total of 345 people attended five conferences on this subject on April 27, 28, and 30. The second subject, Laboratory Programs of Current Interest, was an addition to the regular program and was conducted by C. E. Larson, Laboratory Director. Two conferences were held on May 20 and 21 for large groups. Approximately 300 members attended this series.

Four special orientation programs were conducted for a total of 94 research participants and other temporary employees. Four tours of the Laboratory's operations in the Y-12 area were attended by 43 people, and 12 tours of the Laboratory proper were conducted for a total of 45 people.

The Laboratory General Apprenticeship Committee held its annual program review meeting on June 24. Discussion included progress of the 40 apprentices in seven crafts, plans for related instruction for the fall term, and testing of applicants for apprenticeship.

3 ORGANIZATION AND POLICY CHANGES

ORGANIZATION CHANGES IN REACTOR PROJECTS

K 25 engineering personnel are being increasingly utilized on the ORNL reactor program. Engineers transferred from K 25 were named as Director of the Aircraft Reactor Engineering Division and as Project Engineer of the Homogeneous Reactor Project. It is planned that many of the K 25 engineering personnel as they are released from the production expansion program will be transferred to ORNL to work on the reactor projects. It is expected that during FY 1955 about 70 engineers from K 25 will be supporting the ORNL projects with an additional 30 people bringing the total to approximately 100 in FY 1956.

ORGANIZATION CHANGE IN GENERAL OFFICE DIVISION

The Assistant Manager of the General Office Division was transferred to the Y 12 Plant to assume responsibility for the Accounting Stores and Property functions in the Manufacturing Office Division. In the General Office Division the Property Department Supervisor was made Assistant Office Manager while continuing his responsibility for the Property Department. A new Assistant Property Department Supervisor was named.

OPERATING POLICIES AND PROCEDURES

Laboratory policy adjustments released during this quarter include

Official Bulletins

AI 264 Payment of 1953 Group Insurance Dividend

AI 266 Meteorological Survey
 AI 271 Changes in No. 40 Bus Schedule
 AR 280 Laboratory Distribution Lists
 AR 281 Requisitions for Capital Equipment
 AR 282 Stable Isotope Inventory
 AR 283 Requisitions for Capital Equipment
 DD-64 Naming of New Buildings and Projects
 DD-65 Substitution of Depleted Uranium for Normal Uranium
 DD 66 Shift Differential for Exempt Employees

Standard Practice Procedures

New

D 2 5 The Sale of Uranium-Contaminated Surplus and/or Scrap Materials
 D 5 6 Litigation Involving the Company

Revised

D 1 3 Court Appearance as a Company Witness for the Company or AEC
 D 1 4 Absence to Serve as an Election Official
 D 2 1 Procurement of Material (Number Changed from D 5 6)
 D 4 4 Vacation Plan
 D 9 1 Company Service Credit Rules

SERVICES AND ADMINISTRATION PROGRESS REPORT

4 CONSTRUCTION AND MAINTENANCE PROJECTS

MAJOR PROJECTS COMPLETED

Sampling Gallery

The Sampling Gallery a 9 ft wide 195 ft long addition to the Pilot Plant Building No 3019 designed by the ORNL Engineering Department and constructed by a subcontractor has been completed. Samplers and other process equipment for the Thorex process are now being installed in the gallery. With this new facility it will be possible to remove from the process streams by remote control highly radioactive samples for chemical analysis to determine and evaluate the performance of the process. The final cost of \$60 000 was \$15 000 less than the amount authorized by the directive.

Pump and Waste Line and Monitoring Tank

The installation of the 4000 gal stainless steel waste tank in the North Tank Farm the pumping station in the South Tank Farm and the 2600 ft pipeline to a waste lagoon in an isolated area beyond Haw Ridge has been completed. Radioactive liquid wastes may now be pumped from the underground storage tanks into the open waste lagoon thus additional storage space is available in the tanks and better control and handling of radioactive liquid wastes are possible. The final cost of \$47 960 was \$4 540 less than the amount authorized by the directive.

Pilot-Plant Alterations

This project, which consisted of an extension to the Metal Recovery Building No 3505 and an addition to the cell structure which were built by a subcontractor and of the installation by ORNL personnel of process equipment fabricated and/or procured by the Laboratory was completed at the end of the quarter. The completion had been delayed and the original concept of the project somewhat altered because of the urgency of the request to install and place in operation equipment to recover certain Hanford material.

Tower Shielding Facility

The Tower Shielding Facility consisting primarily of two 300 ft towers with a reactor suspended between them was completed and placed in operation for obtaining reactor shielding data during the previous quarter. During that period additional counterweights to improve the overhauling of the

lines were added to sheaves on the hoisting lines and other minor alterations and additions were made. The final construction report is being prepared in conjunction with the AEC ORO Engineering Department and will be issued during the next quarter.

MAJOR PROJECTS NOW IN PROGRESS

Thorex

The installation of the chemical processing equipment for the Thorex facility which consists of vessels piping and instruments located in cells 1 2 and 3 in the Pilot Plant Building No 3019 progressed rapidly during the quarter. Some delays have been experienced because of the difficulties encountered by outside fabricators in attempting to produce welded seams that would meet the rigid specifications required for this installation. However since certain adjustments were made in the schedule to compensate for the delays attributed to the postponed delivery date of the vessels it is expected that the test will be made in August according to the original schedule.

In Pile Loops

The programs for the fabrication and installation of in pile loops for studying the effects of radiation in reactor systems continued to be quite active during the quarter. On an average five craftsmen were used daily in these programs. Practically all the mechanical components as originally conceived and designed have been completed. However the cold mechanical test runs prior to insertion of the loop in the reactor have revealed that many revisions to the loops will be required before the programs can be successfully completed.

ARE Program

The ARE program continues to be active. To assist in making the various modifications that have been dictated by development of the equipment considerable effort is required. The completion date for these modifications cannot be predicted at this time.

Auxiliary Memory Unit for the ORACLE

The auxiliary memory unit for the ORACLE was received from ANL the builder near the end of the quarter. The installation in the computer room is being performed by the Instrumentation and Controls

Division and the Mechanical Department The Mechanical Department has made the required structural alterations to the room and has modified and extended the temperature control ductwork and electrical services When the instrument wiring is completed (in approximately one month) the unit will be moved into position on the platform with the ORACLE computer and final ductwork and electrical connections will be made

PROJECTS IN DESIGN STAGES

Extension of Rolling Mill

ORNL participation in the project to extend the rolling mill will consist in performing all engineering and making minor extensions and alterations to utilities A Carbide subcontractor will erect a 30 ft long 50-ft wide extension of prefabricated steel frame sheet metal construction This extension will provide the required working areas for full utilization of existing rolling mill equipment and will permit the installation of some additional pieces that are now being stored for lack of a place to install them

HRT Project

The first phase of the HRT project which is now in progress consists in the removal and disposal of a major portion of the components of the HRE the excavation of a 45 ft long 30 ft wide 25 ft deep pit in the existing building and the fabrication and installation in that pit of a steel tank The K 25 Engineering Department is preparing plans and specifications for the excavation of the pit and the fabrication and installation of the steel tank This phase of the project will be performed under a Carbide subcontract which is expected to be awarded early in the next quarter

High Activity Level Analytical Facility

The preparation of plans and specifications for the High Activity Level Analytical Facility which consists of an addition to the west end of the Pilot Plant Building No 3019 containing cells hoods and associated equipment for use in chemical analyses of highly radioactive samples by remote control has been completed It is expected that a subcontract for the construction will be awarded early in the next quarter

Clothing Decontamination and Monitoring Facility

Design criteria for the clothing decontamination and monitoring facility which will provide space

for the clothing decontamination facilities now housed in the Laundry Building 2515 have been completed Representatives of Carbide have met with representatives of several firms for the purpose of selecting an architect engineer A firm has been tentatively selected and negotiations with that firm for a subcontract are currently in progress It is expected that the subcontract will be awarded early in the next quarter

Multi Kilocurie Loading Cell

The design of the Multi Kilocurie Loading Cell which is to be located in the Radioisotope Processing Building 3029 and which will provide a remotely controlled means of loading very large radiation sources into suitable containers has been completed by the K 25 Engineering Department Firm estimates based on that design exceeded the amount authorized for the project therefore the design had to be revised so that the funds authorized would be sufficient A new estimate based on the revised design is being prepared and it is expected that advertising for bids will be done early in the next quarter

Research Reactor (ORR)

Directive No CL 143 Modification No 1 Design and Construction of a Research Reactor and Building was recently issued and authorized an expenditure of \$162 000 Approval was thereby granted for Carbide to award a CPFF contract to an architect engineer for work on this project Architect engineer firms in South Carolina Georgia and Tennessee have been visited during the past two months to discuss the work involved for this project A tentative firm has been selected and the Laboratory is presently working with the AEC toward the negotiation of a contract It is expected that the award will be made and the work started early in the next quarter

MISCELLANEOUS PROJECTS

X 10 Painting Program

Minimum repairs and painting of certain temporary buildings continued throughout the quarter and are now approximately 35% complete This program is scheduled for completion in October

Interior Alterations to Building 3022

Alterations to the first floor of Building 3022 to provide space for the Engineering and Mechanical Division offices were completed and the move was

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made in June as scheduled. Alterations to the second floor to provide space for the Engineering Department are in progress.

Disposal of Buildings

The building disposal program at the Laboratory has been in effect for almost four years. During this period individual reports were made concerning the removal of the buildings at the time of disposal. This report includes a brief history of the program although only a small portion was executed during this quarter.

The completion of new permanent facilities and the acquisition of the former J. A. Jones Construction Camp permitted the consolidation of several of the Laboratory's activities and thereby released some temporary structures for disposal. A survey was conducted in February 1951 for the purpose of developing a logical plan for the disposal of the buildings that were abandoned by the initial relocation of certain functions to the new facilities.

As a result of the survey it was determined that 23 buildings were available for immediate disposal. On this basis a formal request, AEC Form OR 243

Request for Disposal of Buildings and Improvements, was submitted to the AEC for approval in March 1951. Following approval by the AEC the sale of the buildings by the Carbide Sales Department and the removal of the original group of buildings were effected in the third and fourth quarters of FY 1951. Since that time it has not been possible to adhere to a fixed building disposal schedule because of the Laboratory's expansion. As a result the disposal of other temporary buildings was accomplished only when they were finally vacated. To date 79 buildings have been removed. This number includes buildings that were removed by Laboratory forces and the distribution by fiscal years is as follows:

Fiscal Year	Number of Buildings
1951	23
1952	7
1953	25
1954	24

Approval for the removal of 16 other buildings has been received; these will be sold when provisions can be made for housing the facilities now located in them. At present Forms OR 243 have been submitted to the AEC to obtain approval for the

disposal of the two buildings located on the site of the proposed ORR and for the three buildings now housing the laundry facilities.

RECENTLY APPROVED PROJECTS

Recent approval has been received for the following projects:

1. Extension to Metallographic cell Building No. 3025. Preliminary Proposal No. 210. Directive No. CL 157. received June 11, 1954.

2. Corrosion Examination Facility Building No. 4501. Preliminary Proposal No. 209. Directive No. CL 159. received June 30, 1954.

3. Source and Fissionable Materials Machine Shop. Preliminary Proposal No. 211. Directive No. CL 161. received June 29, 1954.

4. Source and Fissionable Materials Storage Vault. Preliminary Proposal No. 215. Directive No. CL 162. received June 28, 1954.

The design of these facilities will be started early in the next quarter. The description of these projects and the progress in connection with them will be reported in the next quarterly report.

ORNL PROJECTS IN THE Y 12 PLANT

More than 90 work orders were handled by Y 12 forces for ORNL during the last quarter of FY 1954. Practically all of these work projects required engineering work by the Y 12 Engineering Division and some of them were for engineering only such as surveys, cost estimates, preliminary engineering for proposals, etc. These are in addition to blanket work orders which covered a large number of jobs. Among the more important special or capital jobs are those described in the following paragraphs:

Special Materials Facility Building 9928

This work order, now completed, involved making the necessary changes and alterations to Building 9928 in order to provide facilities for processing special materials used in the production of reactor fuels. One of the features of the installation was an air sampling system to be used for revealing dangerous concentrations of beryllium (a highly toxic substance) in the air. The estimated cost of this job was \$19,000.

Fluoride Production Facility Building 9201 3

This job has been completed. It consisted of preparing two rooms on the first floor of Building 9201 3 for the production of small batches of fused

salts for experimental work

o

N Work included installation of 15 electric furnaces of various sizes power system and control panels and helium piping The estimated cost of the job was \$14 000

Preparation of Area for Bearing and Seal Work Building 9201 3

The preparation of an area in Building 9201 3 for the development and study of suitable bearings and seals for high temperature applications in reactor construction has been completed Considerable site preparation was required Helium and air piping 150 ft of power bus duct additional lighting and air supply were involved in the installation The estimated cost was \$17 500

Air Conditioning Part of Building 9207

Parts of four floors of Building 9207 were air conditioned to provide the required conditions for biological laboratory work Design conditions specified maintenance of a dry bulb temperature of 77°F and a wet bulb temperature of 63°F when the outside air has a dry bulb temperature of 95°F and a wet bulb temperature of 75°F While the work was completed in April it was not until late June that outside temperatures of 95°F made possible the final approval of the installation The total cost authorized by the directive was \$150 000

Building 9201 3 Stripping and Modification

The project for stripping and modifying Building 9201 3 was completed with a total cost of \$111 000 leaving unexpended funds amounting to \$13 000

Air Conditioning Part of Building 9201 3

The air conditioning of part of Building 9201 3 recently approved by the AEC is to be performed by a contractor with a small amount of participation by Y 12 forces Air conditioning will be pro

vided for engineering offices and two laboratories With an outside temperature of 95°F dry bulb and 75°F wet bulb the installation is specified to provide a 78°F dry bulb temperature and 50% relative humidity The estimated total cost is \$48 000

Library Expansion and Substores Relocation Building 9207

This project for which a directive has been received and definitive engineering is nearly complete provides 1800 sq ft of library space in addition to the 2000 sq ft now available Space for the expansion will be made available by relocating the present substores area The total cost is estimated at \$32 200

Motor Generator Set Installation in Building 9204-3

A directive was received for the installation of a motor generator set in Building 9204 3 to provide flexible magnet power supply for electronuclear research with the calutron units and the cyclotrons A considerable amount of the engineering work has been done This job is scheduled for installation completion in November The estimated cost is \$80 000

Additional Offices Building 9204 1

A preliminary proposal was prepared for provision of 35 additional offices and a drafting room in Building 9204 1 to accommodate the additional personnel assigned to the HRP Indications are that the directive will be received very soon The estimated cost is \$73 788

Ore Leach Facility Building 9202

This job consisted of revising the existing Orex pilot plant for use in the study of extraction of uranium salts from low grade ore Simulated ore extracts will be prepared and the salts will be separated from the extracts The estimated cost is \$19 900