[redacted]



# 1 - H. A. Winne
# 2 - C. G. Suits, Schenectady
# 3 - G. R. Prout
# 4 - C. N. Gross
# 5 - A. B. Greninger
# 6 - W. E. Johnson
# 7 - Hanford Operations Office
Attention: F. C. Schlemmer
# 8 - Hanford Operations Office
Attention: F. C. Schlemmer
# 9 - Hanford Operations Office
Attention: F. C. Schlemmer
#10 - Hanford Operations Office
Attention: F. C. Schlemmer
#11 - Hanford Operations Office
Attention: F. C. Schlemmer
#12 - Hanford Operations Office
Attention: R. W. Richardson, Historian
#13 - 700 File
#14 - 700 File
#15 - 700 File





HANFORD WORKS

MONTHLY REPORT

APRIL 1950



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HW 17660
May 19, 1950

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# GENERAL SUMMARY

## APRIL 1950

## MANUFACTURING DIVISIONS

### Production Divisions

A total of 47 tons of metal was discharged with 37 tons being at the goal concentration and 10 tons at 131 percent of the goal concentration. The pile operating efficiency was 93.8 percent, which is a new high for four pile operation. The operating levels at month end were 275 MW at B Pile, 305 MW at D and F piles, and 370 MW at H pile. The nominal $CO_2$ concentration in the circulating gas at month end was 97 percent, 80 percent, 66 percent, and 94 percent at B, D, F, and H piles, respectively.

A total of 67 tons of acceptable slugs was canned at a yield of 95 percent, which represents a new record yield. The production rate was reduced as a result of favorable inventories, the need for diverting [redacted] and the transfer

General Summary

## TECHNICAL DIVISIONS

### Pile Technology Division

In studies directed toward determining the proper loading for the H-10 program, the dry DR Pile was loaded with P-10 fuel and feed slugs. Criticality was reached by loading 130 tubes, each tube containing six 8-inch fuel slugs and an average of four and one-half 4-inch feed slugs.

P-10 fuel slugs are showing wide and erratic variation in reactivity of individual pieces and it is necessary to test each piece in the Test Pile. Chemical analyses showed that the variable reactivity is caused by variation in the uranium content of the pieces; metallurgical studies show that the phenomenon is not caused by differences in particle size.

Metallographic studies have shown that complete solution of the second phase in P-10 feed slugs is feasible when the alloy is made from high purity aluminum.

For the first time, irradiated P-10 feed slugs were encountered which were covered with a black deposit after removing the jacket and which showed evidence of high gas pressure. General contamination of the can opening facility resulted.

Experiments in the plutonium critical mass laboratory failed to reach criticality in an 8-inch diameter cylinder because of limited cylinder length. Installation of a larger diameter cylinder and correction of operational difficulties were in progress at month's end.

X-ray studies on graphite samples mined from the bore of a process tube channel show that the crystal expansion at the center of the B Pile is less than the crystal expansion near the front and back, despite large differences in neutron flux.

Experiments at Simonds Saw and Steel Company indicated that it is feasible to roll uranium at 300°C, though operating difficulties prevented completion of the test program.

### Separations Technology Division

Recent product hold-up accumulations in the Bismuth Phosphate Extraction step of the Separations Plants have been traced to insufficient agitation at low slurry levels and corrective measures have been applied. Uranium losses at points other than the Extraction step metal waste are being investigated. Production testing of increased final product solution volume transfer to Bldg. 234 from Bldg. 231 is still in progress. Building 234 refluorination frequency has dropped to 3.5%, as compared to a 1950 first quarter average of 23%. Plutonium Casting outgassing time cycles are being reduced by Production Test, monitored by casting radiography studies. Recent plutonium core near-rejections because of alpha emission through coatings have initiated attempts to improve surface monitoring methods and to prevent intra-coating contamination.

General Summary

In Redox and Metal Waste Recovery development, 80 additional solvent extraction runs were made during the past month, all on TBP process studies. Final specifications for TBP Production Plant packed column design have been established and issued.

Preliminary specifications for TBP Production Plant pulse columns are to be issued early in May. Redox "hot" pump testing has progressed satisfactorily to the point where specifications for the final design of Production Plant pumps have been established. A study of the corrosion characteristics of TBP wastes containing chloride ion (from the caustic used in the plants for metal waste neutralization) has indicated rates of penetration of stainless steels of 5 to 15 mils/year, not significantly high.

In the research laboratory, a study of possible effects of the use of lead-dipped slugs as Redox feed material has revealed no complications. Continued study of Redox head-end scavenging has proceeded along the lines of reducing Filtrol weights required and of substituting $MnO_2$ in part or in whole for Filtrol. Redox coupling to metal fabrication by arsenate precipitation has been carried in laboratory test studies through fluorination and reduction with very encouraging results obtained in first trials. A pulse column perforated plate composited from stainless steel and Fluorothene has given preliminary indications of doubling throughput limits of pulse columns. Additional studies of physical properties of TBP diluents, metal precipitates of monobutyl phosphates, and fluoride complexing in the TBP process have been carried out. Selective dissolution of aluminum in uranium-aluminum alloys for "25" process application has continued to look better than other methods studied. Continuous dissolving of "25" alloy slugs also appears feasible.

In the 234-5 process development laboratory, considerable additional study of sulfate-free plutonium peroxide precipitation as a possible substitute for oxalate purification has been carried out. Although much work remains to be done, test fluorinations and reductions of sulfate-free peroxide have given yields as high as 96.8%. Arrangements have been made with Los Alamos to increase the neutron count specification for 090 assemblies, based on the need shown by Hanford studies. Radiography improvement studies are being continued. Careful comparison studies are being carried out with "Poppy", scintillation counter, and "Pee-Wee" survey instruments for use in core components surface and coating examination.

Monitoring studies of sand filter performance have revealed that the moisture-saturated T Plant sand filter has now dried out completely and its filtration efficiency has returned to the normal 99.3 - 99.5%. There are reasonable grounds for believing that the true efficiency of this filter may never have dropped, as compared to "apparent" efficiencies reported by iodine complications of the monitoring methods. An extensive pilot plant study of relative efficiencies and life expectancies of Fiberglas and sand filters is proceeding on a seven-day

PLANT SECURITY AND SERVICES DIVISIONS

There was one major injury during the month making a total of two for the year to date. The major injury frequency rate for the year to date is 0.41.

There were two minor fires which resulted in no loss.

A contract for $141,900 for the construction of a new area laundry in the 200-West Area was awarded to E. P. Erwin, General Contractor, Yakima, Washington.

Mail volume continued to increase. April had the largest volume of mail ever handled in the Mail Room.

Printing and office machine repair work decreased slightly.

Effective April 24, centralized control of motor vehicle equipment was discontinued. In the future each area will be responsible for the proper maintenance of its own equipment.

Repair of the perimeter fence was begun on April 25.

The 105-DR Area was designated as an "exclusion area" and one man per shift assigned to control this post.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

Employment activity continued to increase during the month of April with 1,888 applicants being interviewed, 460 of which were individuals who had applied for employment with the Company for the first time. In addition, 143 new applications were received through the mail. Open non-exempt, non-technical requisitions increased from 152 at the beginning of April to 241 at the end of the month. Total plant personnel increased from 7,565 to 7,646. Turn-over rate during April increased from 0.85% to 0.89%. Eighty-five new requests for transfers to other type of work were received by the Procurement Group from employees in the various divisions. As a result of these requests, a total of 32 transfers were effected. Work was located for two of our retired employees in the Medical Clinic Building for the doctors going into private practice. Positions of janitors were offered to these two men who in turn accepted the offers. A recruiting trip for stenographers was conducted in Spokane, Washington, on April 7 and 8. The results were quite disappointing with only five persons making application and one offer being made.

The G.E. Employees Services Fund was revised during the month to permit employees to designate organizations to whom contributions should be made, as well as to designate the amount which they desired to contribute to each organization. As of the end of the month there was only 60.9% participation in this fund with a required 70% necessary to place it into

effect. A representative of the Infantile Paralysis Foundation, Pacific Mutual Life Insurance Company, and also the Metropolitan Insurance Company visited the Employee Services Group during April. Financial assistance, as well as living quarters, were obtained for a new employee in the Health Instrument Division during April. Visits were made to the homes of 21 retired employees in the Tri-City Area. As a result of these visits, nine contacts were made with former employees. Arrangements were made for distribution of G.E. Group Health Insurance certificates and Stock Bonus Receipts, together with a copy of the Company's Annual Report, to all participants in these plans during April. There were 168 visits made to employees off the payroll because of illness. Five employees retired during the month of April and were interviewed by the Employee Services Group concerning their benefit plans prior to retirement. Two employee deaths occurred during April. Forty-nine suggestion awards, totaling $1,545, were granted to employees during April. These awards represented an estimated savings of $27,019.50. One award, in the amount of $1,000, was granted which is the largest award that has been granted by the Suggestion System since it was installed at this Works. Four publications of Employee Benefit Plans were prepared for release to the Works News during April. Information concerning the Washington State Financial Responsibility Act of 1949, which went into effect February 1, 1950, was furnished to all supervisors through a recent H. W. Instructions Letter issued April 24, 1950.

Twenty-eight supervisors participated in the Supervisor's 40-Hour Training Program during April. The Current Event Economics Program for non-exempt employees was continued by the Training and Program Development Group during April with a total of 3,967 non-exempt employees participating. A 25-page portfolio on the G.E. Employee Services Fund was prepared by the Training and Program Development Group and distributed to all exempt personnel at the Hanford Works. During the week of April 10-14, a total of 40 meetings was made available to supervisors for further explanation of the Employee Services Fund. Seven revisions on the Supervisor's Handbook on Employee Relations were issued during April. A plan for recognizing perfect attendance for non-exempt employees was prepared for consideration by Management.

A proposal was submitted to the Council that the Company furnish bulletin boards for the exclusive use of the Union in all areas and an acceptance has not yet been received. The Union, rather than the Company, will then post Union notices. After an agreement was reached with the Council on April 20, wherein a distinction was made between the various types of possible overtime, work was begun on an instructions letter. A copy of a letter to the United Gas, Coke and Chemical Workers of America from the National Labor Relations Board was received, stating that the CIO's petition for investigation and certification of employees at Hanford Works had been dismissed. Negotiation meetings with the Firemen's Union continued. The Company outlined its objections and presented substantiating data to the series of proposals submitted by the Union. On April 18 a letter was received from the HAMTC stating that the Council desired to negotiate with the Company the question of a wage increase. One meeting was held with the Council Grievance Committee. As a result of the recent instructions

given Division Managers concerning the review of exempt jobs to determine if some should be non-exempt, conferences were held with representatives of three divisions and a total of eleven jobs was discussed. In five instances exempt employees were transferred to the non-exempt roll and the remaining jobs are being given further study by the divisions involved. An analysis, made upon the completion of a survey of those Atomic Energy Commission jobs which fit the description of those positions listed in the General Electric Company Northwest Wage Survey, revealed a startling difference in that the rates paid to government employees are well above the average rate paid General Electric personnel. Intensive efforts were made to conclude the matter created by the decisions of the various craft unions to observe only Pacific Standard Time relative to hours of work during the period the Hanford Project is on Daylight Savings Time, but at month end the matter was not resolved. Negotiation meetings were attended when the Agreement between Atkinson-Jones and the Office Workers Local No. 100 was reopened during the month. Negotiations of wage revisions between Atkinson-Jones and Ironworkers Local No. 14 were attended by this Division.

April was a peak month of activity in the Nucleonics Department News Bureau. A total of 74 releases was made including information on organization changes, news of interest to Richland residents, the Hanford Works construction program, the Telephone "Open House", the plant safety record, the $1000 suggestion award to a Hanford Works employee, Kadlec Hospital, and the Company's various employee benefit plans in effect at Hanford Works.

Special Programs was responsible for handling all of the arrangements concerning the Telephone Open House held on April 29 and has also been busily engaged in planning for a similar activity at Kadlec Hospital to be held next month. Special Programs also played an important part in advising supervisors and employees of the changes made in the Employee Services Fund.

The $1,000 suggestion award to a Hanford Works employee during the month provided Special Programs an opportunity to design and conduct a special presentation meeting in which the Vice President in charge of the Nucleonics Department participated.

As a community service the Supervisor of Community Divisions Public Information served as publicity chairman for the 1950 Cancer Drive in Benton County. The Cancer Committee has advised that, in its opinion, the success of the drive was largely due to the excellence of the Publicity Committee.

The Women's Activities Feature Writer was instrumental in the preparation of a special publicity feature concerning the visit of the Bloodmobile to Richland during April. In addition, through the "What's Doing?" column which she prepared for the Works NEWS, publicity was given to a total of 20 recreational events in which Works NEWS readers could participate.



Through Public Functions and Services, two speakers were arranged for during the month of April. One was for the Inland Empire Section of the

A.S.M.E. at the Desert Inn in Richland and the other was the Kiwanis Club in Kennewick, Washington.

The Hanford Works Photo House produced over 1,000 feet of motion picture film during the month of April. During the same month photographic assignments increased by 20 over the previous month and the number of negatives exposed increased by 40.

PURCHASING AND STORES DIVISIONS

Personnel of the Purchasing and Stores Divisions showed a net increase of 29 people as indicated by the tabulation below:

| | Total Personnel as of 3-31-50 | Total Personnel as of 4-30-50 | Net Change |
|---|---|---|---|
| Exempt | 55 | 57* | + 2 |
| Non-Exempt | 245 | 272** | + 27 |
| TOTALS | 300 | 329 | + 29 |

* Includes five Administrative personnel not shown on divisional reports.
** Includes four Administrative personnel not shown on divisional reports.

Despite the fact that the work load in the Purchasing Division decreased slightly during the month, it was necessary to work a few selected individuals overtime on Saturdays in order to keep current.

Procurement work for Project P-10 A and P-10 B continued on an accelerated basis.

There was a slight increase in the number of purchase requisitions for Major Construction materials and equipment.

Arrangements were concluded with the Aluminum Company of America whereby they will supply our requirements of high purity aluminum to be used in connection with the P-10 operation.

Contract negotiations with General Chemical Division, Allied Chemical and Dye Corporation, for our requirements of aluminum nitrate were temporarily suspended pending selection of a plant site.

Coal inventories were built up to an average 3½ months' supply.

The Assistant Manager, Purchasing and Stores Divisions, visited the Kellex Offices in New York City in an effort to work out some of the problems encountered on purchase requisitions and drawings originating in New York.

Considerable difficulty was experienced by the vendor fabricating aluminum nozzles, and at month end it did not appear as though plant site required dates could be met. All interested Divisions were kept informed.

General Summary

Materials valued at $93,369.85 were declared excess.

There were 1,426 purchase requisitions processed through screening resulting in 1,294 items being furnished from plant inventories, thus obviating the necessity for outside purchase.

Considerable increased activity is noted in both receiving and disbursing sections of active Stores.

Due to a Commission directive to the effect that the Pasco Depot be evacuated no later than November 23, 1950, it was necessary to double the personnel engaged in shipping activity. The Commission was advised that every effort would be made to evacuate the Depot by the date indicated; however, it was pointed out that it would be necessary that we be supplied shipping orders sufficiently in advance to permit orderly and efficient shipments.

Materials and equipment valued at $487,916.40 were removed from excess inventories and returned for use on the Project.

A meeting was held with Northern Pacific and Union Pacific Railroad officials to discuss operating and traffic practices and procedures which will be followed after the completion of the southern rail connection.

COMMUNITY DIVISIONS

A survey and study of the housing situation in the communities adjacent to the Hanford Works was completed by Curtis Middlebrook and Company.

Housing applications increased from 261 on March 31, 1950, to 290 on April 30, 1950.

Through the joint efforts of the Richland Community Council, Community Divisions, Atomic Energy Commission, and the Benton County Commission, an ordinance designed to regulate and license dogs in Richland was to become effective May 1, 1950.

MEDICAL DIVISIONS

The Medical Divisions roll dropped from 362 to 357.

Rental of space in the clinic and other buildings to physicians and dentists entering private practice is to be handled by Community Commercial Facilities Division.

Weekly employee sickness absenteeism was 1.94% as compared to 2.06% a year ago.

Clinic and hospital activities decreased slightly.

General Summary

The net cost of operating the Medical Divisions (before assessments to other divisions and workmen's compensation costs) was $79,593, a decrease of $5,936, due largely to increased revenue. The community medical division showed a profit of $10,702 with both the hospital and clinic operating at a slight profit.

GENERAL ACCOUNTING DIVISION

Budget Estimates for Fiscal Year 1952 and revisions of Budget Estimates for Fiscal Year 1951 for General Divisions were completed and submitted for review by the Appropriations and Budget Committee. Additional information in connection with the Construction Budget, Equipment Budget, and Medical Budget as requested by the Atomic Energy Commission was compiled and submitted to the Atomic Energy Commission.

Further information was developed during the month pertaining to comparative and unit cost studies. Five unit cost reports which had not been previously prepared were issued, and arrangements were completed to secure information required for the issuance of additional reports next month.

Internal Auditors continued their review of records of the Surplus, Salvage, and Scrap Section, reviewed source and distribution of telephone toll and leased line costs, and reviewed proposed transactions in connection with the sale of equipment to doctors and dentists.

Accounting personnel at Kadlec Hospital spent considerable time in connection with preparation of Medical Divisions Budget Estimates and in preparation for the change-over to private practice of clinic physicians and dentists. A force reduction of approximately ten accounting employees may be made due to the reduced volume of accounting work as a result of this change.

Insurance certificates for all employees participating in the new Group Health Insurance Plan which was made effective December 1, 1949 at Hanford Works, were forwarded to Employee and Community Relations Division for distribution to employees through supervision on April 5, 1950. These certificates were prepared by Payroll Divisions from Group Health Insurance Plan records.

Statements of Account for approximately 4,600 Hanford Works employees who are participating in the G.E. Employee Savings and Stock Bonus Plan were received from the Employees Savings Division, Schenectady. After checking the statements with payroll records and inserting a copy of General Electric Annual Report for 1949 with each statement, they were delivered to Employee and Community Relations Division for delivery through supervision to active employees on April 15, 1950. Statements for approximately 200 employees who were not actively at work were mailed to employees' homes by Payroll Divisions.

General Summary

Hanford Works cash disbursements and cash receipts, excluding advances from Atomic Energy Commission, may be summarized as follows:

| | March | April |
|---|---|---|
| **Disbursements** | | |
| Material and Freight - GE | $ 779 692 | $1 403 334 |
| Payrolls - GE (Net) | 2 037 116 | 1 763 244 |
| Payments to Subcontractors | 1 805 822 | 1 670 276 |
| Other | 1 298 156 | 1 081 304 |
| Total | $5 920 786 | $5 923 158 |
| **Receipts** | | |
| House Rents | 104 320 | 107 005 |
| Hospital and Clinic | 82 858 | 79 415 |
| Telephone | 13 117 | 11 405 |
| Bus Fares | 11 556 | 9 743 |
| Other | 92 690 | 27 196 |
| Total | 304 541 | 234 764 |
| Net Disbursements | $5 616 245 | $5 688 394 |

[redacted]

STAFF

| | |
|---|---|
| General Manager | G. R. Prout |
| Assistant General Manager | R. S. Neblett |
| Assistant General Manager | F. K. McCune |
| Assistant to the General Manager (Technical and Education Matters) | W. I. Patnode |
| Assistant to the General Manager | J. R. Rue |
| Assistant to the General Manager and Manager of the Plant Security and Services Divisions | G. G. Lail |
| Department Comptroller | F. E. Baker |
| Counsel | L. F. Huck |
| Community Manager | E. L. Richmond |
| Manager, Design and Construction Divisions | W. E. Johnson |
| Manager, Manufacturing Divisions | C. N. Gross |
| Manager, Technical Division | A. B. Greninger |
| Manager, Health Instrument Division | H. M. Parker |
| Manager, Medical Division | W. D. Norwood, M.D. |
| Manager, Employee and Community Relations Division | H. E. Callahan |
| Manager, Purchasing and Stores Divisions | W. A. Jeffrey |



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FORCE REPORT
APRIL - 1950

| | EXEMPT | | NON-EXEMPT | | TOTAL | |
|---|---|---|---|---|---|---|
| | 3-31-50 | 4-28-50 | 3-31-50 | 4-28-50 | 3-31-50 | 4-28-50 |
| GENERAL | 17 | 17 | 30 | 29 | 47 | 46 |
| LAW | 3 | 3 | 3 | 3 | 6 | 6 |
| DESIGN & CONST. DIV'S. | | | | | | |
| Construction | 7 | 7 | 37 | 36 | 44 | 43 |
| Const. Acct'g. | 10 | 11 | 59 | 58 | 69 | 69 |
| Design | 192 | 194 | 202 | 205 | 394 | 399 |
| No. Richland Realty | 18 | 18 | 72 | 80 | 90 | 98 |
| MANUFACTURING DIV'S. | | | | | | |
| General | 12 | 12 | 4 | 4 | 16 | 16 |
| Proj. Eng'r. Control | 23 | 23 | 19 | 20 | 42 | 43 |
| Proj. Eng'r. Design | 45 | 46 | 67 | 68 | 112 | 114 |
| Proj. Eng'r. Minor Const. | 30 | 30 | 170 | 170 | 200 | 200 |
| Mfg. Acctg. | 8 | 8 | 49 | 51 | 57 | 59 |
| OPERATING DIV'S. | | | | | | |
| "P" | 69 | 70 | 272 | 271 | 341 | 341 |
| "S" | 89 | 97 | 303 | 310 | 392 | 407 |
| Power | 82 | 82 | 456 | 456 | 538 | 538 |
| MECHANICAL DIV'S. | | | | | | |
| Maintenance | 52 | 51 | 307 | 304 | 359 | 355 |
| Electrical | 48 | 50 | 253 | 246 | 301 | 296 |
| Instrument | 48 | 50 | 191 | 190 | 239 | 240 |
| Transportation | 57 | 58 | 541 | 559 | 598 | 617 |
| TECHNICAL DIV'S. | | | | | | |
| General | 3 | 3 | 2 | 2 | 5 | 5 |
| Pile Technology | 83 | 88 | 50 | 52 | 133 | 140 |
| Separations Technology | 96 | 98 | 59 | 59 | 155 | 157 |
| Technical Services | 111 | 113 | 350 | 348 | 461 | 461 |
| MEDICAL | 80 | 77 | 282 | 280 | 362 | 357 |
| H. I. DIVISIONS | | | | | | |
| General | 3 | 5 | 4 | 4 | 7 | 9 |
| Operational | 59 | 59 | 159 | 164 | 218 | 223 |
| Development | 22 | 21 | 68 | 70 | 90 | 91 |
| Biology | 21 | 22 | 32 | 32 | 53 | 54 |
| ACCTG. DIVISIONS | | | | | | |
| Gen. Acctg. Payroll | 8 | 9 | 72 | 72 | 80 | 81 |
| Gen. Acctg. Acctg. | 14 | 15 | 77 | 76 | 91 | 91 |
| EMPLOYEE & COMMUNITY RELATIONS DIV. | 29 | 30 | 57 | 57 | 86 | 87 |
| PLANT SECURITY & SERVICE DIV'S. | | | | | | |
| Patrol & Security | 57 | 56 | 523 | 523 | 580 | 579 |
| Safety & Fire | 35 | 37 | 114 | 108 | 149 | 145 |
| Gen. & Off. Serv. | 21 | 21 | 201 | 200 | 222 | 221 |
| PURCHASING & STORES DIV'S. | | | | | | |
| Purchasing | 38 | 41 | 40 | 44 | 78 | 85 |
| Stores | 23 | 22 | 206 | 229 | 229 | 251 |
| COMMUNITY DIV'S. | 215 | 215 | 506 | 507 | 721 | 722 |
| GRAND TOTALS | 1728 | 1759 | 5837 | 5887 | 7565 | 7646 |

PERSONNEL DISTRIBUTION - APRIL - 1950

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL** | | | | | | | | | | | | |
| Clerical | - | - | - | - | - | - | - | - | - | - | 17 | 17 |
| Total | - | - | - | - | - | - | - | - | - | - | 29 | 29 |
| | - | - | - | - | - | - | - | - | - | - | 46 | 46 |
| **LAW** | | | | | | | | | | | | |
| Clerical | - | - | - | - | - | - | - | - | - | - | 3 | 3 |
| Total | - | - | - | - | - | - | - | - | - | - | 3 | 3 |
| | - | - | - | - | - | - | - | - | - | - | 6 | 6 |
| **DESIGN & CONST. DIV'S.** | | | | | | | | | | | | |
| **CONSTRUCTION** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 4 | - | 4 |
| Inspectors | - | - | - | - | - | - | - | - | - | 3 | - | 3 |
| Clerical | - | - | - | - | - | - | - | - | - | 36 | - | 36 |
| Total | - | - | - | - | - | - | - | - | - | 43 | - | 43 |
| **CONST. ACCT'G.** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 11 | - | 11 |
| Clerical | - | - | - | - | - | - | - | - | - | 58 | - | 58 |
| Total | - | - | - | - | - | - | - | - | - | 69 | - | 69 |
| **DESIGN** | | | | | | | | | | | | |
| Supervisors | - | 2 | - | - | - | - | - | - | - | 11 | 36 | 49 |
| Engineers & Estimators | - | 6 | - | - | - | - | 7 | - | - | 14 | 110 | 137 |
| Other Exempt | - | - | - | - | - | - | - | - | - | 5 | 3 | 8 |
| Draftsmen | - | - | - | - | - | - | - | - | - | - | 66 | 66 |
| Clerical | - | 1 | - | - | - | - | 1 | - | - | 22 | 115 | 139 |
| Others | - | - | - | - | - | - | - | - | - | - | - | - |
| Total | - | 9 | - | - | - | - | 8 | - | - | 52 | 330 | 399 |

DECLASSIFIED

HW 17660

511
72
609

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DESIGN & CONST. DIV'S. CONT'D.** | | | | | | | | | | | | |
| **NO. RICHLAND REALTY** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 18 | - | 18 |
| Clerical | - | - | - | - | - | - | - | - | - | 15 | - | 15 |
| Janitors | - | - | - | - | - | - | - | - | - | 33 | - | 33 |
| Others | - | - | - | - | - | - | - | - | - | 32 | - | 32 |
| Total | - | - | - | - | - | - | - | - | - | 98 | - | 98 |
| **MANUFACTURING DIV'S.** | | | | | | | | | | | | |
| **GENERAL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 6 | 6 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 6 | 6 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 4 | 4 |
| Total | - | - | - | - | - | - | - | - | - | - | 16 | 16 |
| **PROJ. ENG'R. CONTROL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | 1 | - | - | 7 | 8 |
| Engineers | - | - | 1 | - | - | - | - | 1 | - | - | 13 | 15 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 15 | 15 |
| Craftsmen | - | - | - | - | - | - | - | - | 1 | - | 4 | 5 |
| Total | - | - | 1 | - | - | - | - | 2 | 1 | - | 39 | 43 |
| **PROJ. ENG'R. DESIGN** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | 3 | 1 | - | - | 33 | 37 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 9 | 9 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 7 | 7 |
| Others | - | - | 1 | - | - | - | 5 | 3 | 5 | - | 47 | 61 |
| Total | - | - | 1 | - | - | - | 8 | 4 | 5 | - | 96 | 114 |
| **PROJ. ENG'R. MINOR CONST.** | | | | | | | | | | | | |
| Supervisors | - | - | 1 | - | - | - | 1 | - | 24 | - | 1 | 27 |
| Engineers | - | - | 1 | - | - | - | - | 1 | 1 | - | - | 3 |
| Craftsmen | - | - | - | - | - | - | - | - | 158 | - | - | 158 |
| Clerical | - | - | - | - | - | - | 1 | 1 | 9 | - | 1 | 12 |
| Total | - | - | 2 | - | - | - | 2 | 2 | 192 | - | 2 | 200 |

HW 17660

DECLASSIFIED

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MANUFACTURING DIV'S. CONT'D** | | | | | | | | | | | | |
| **MFG. ACCOUNTING** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 8 | 8 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 51 | 51 |
| Total | - | - | - | - | - | - | - | - | - | - | 59 | 59 |
| **OPERATING DIV'S.** | | | | | | | | | | | | |
| **"P"** | | | | | | | | | | | | |
| Supervisors | 10 | 11 | 10 | 10 | - | - | - | 14 | - | - | 2 | 57 |
| Supv. in Training | 1 | 1 | 1 | - | - | - | - | 1 | - | - | 1 | 5 |
| Engineers | 2 | - | - | - | - | - | - | - | - | - | 6 | 8 |
| Operators | 39 | 54 | 39 | 39 | - | - | - | 84 | - | - | - | 255 |
| Clerical | 2 | 2 | 2 | 2 | - | - | - | 4 | - | - | 4 | 16 |
| Total | 54 | 68 | 52 | 51 | - | - | - | 103 | - | - | 13 | 341 |
| **"S"** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | 15 | 32 | - | - | - | 3 | 50 |
| Supv. in Training | - | - | - | - | - | 6 | 11 | - | - | - | 6 | 23 |
| Engineers | - | - | - | - | - | - | 10 | - | - | - | 14 | 24 |
| Operators | - | - | - | - | - | 108 | 175 | - | - | - | - | 283 |
| Clerical | - | - | - | - | - | 6 | 17 | - | - | - | 4 | 27 |
| Total | - | - | - | - | - | 135 | 245 | - | - | - | 27 | 407 |
| **POWER** | | | | | | | | | | | | |
| Supervisors | 12 | 12 | 12 | 12 | - | 5 | 8 | 5 | 1 | - | 2 | 69 |
| Engineers | - | 5 | - | - | - | - | - | - | 8 | - | - | 13 |
| Operators | 78 | 78 | 78 | 78 | - | 27 | 48 | 11 | 15 | - | - | 413 |
| Clerical | 1 | 1 | 1 | 1 | - | - | 1 | - | 4 | - | 2 | 11 |
| Coal Handling | 7 | 6 | 5 | 6 | - | - | 7 | 1 | - | - | - | 32 |
| Total | 98 | 102 | 96 | 97 | - | 32 | 64 | 17 | 28 | - | 4 | 538 |

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MANUFACTURING DIV'S. CONT'D.** | | | | | | | | | | | | |
| **MECHANICAL DIV'S.** | | | | | | | | | | | | |
| **MAINTENANCE** | | | | | | | | | | | | |
| Supervisors | 1 | 6 | 8 | 4 | - | 4 | 14 | 6 | - | - | 2 | 45 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 6 | 6 |
| Craftsmen | 17 | 38 | 36 | 25 | - | 38 | 75 | 48 | - | - | - | 277 |
| Clerical | - | 1 | 3 | 1 | - | 2 | 2 | 2 | - | - | 1 | 12 |
| Others | 2 | 2 | 2 | 2 | - | 2 | 3 | 2 | - | - | - | 15 |
| Total | 20 | 47 | 49 | 32 | - | 46 | 94 | 58 | - | - | 9 | 355 |
| **ELECTRICAL** | | | | | | | | | | | | |
| Supervisors | 2 | 1 | 1 | 3 | - | 1 | 5 | 2 | 17 | - | 11 | 43 |
| Engineers | - | - | - | 1 | - | - | 1 | 1 | 1 | - | 3 | 7 |
| Craftsmen | 11 | 13 | 14 | 14 | - | 10 | 13 | 11 | 70 | - | 27 | 183 |
| Clerical | 1 | - | 1 | 1 | - | - | 1 | 1 | 4 | - | 25 | 34 |
| Operation | 4 | 4 | 4 | 4 | - | - | - | - | 10 | - | - | 26 |
| Others | - | - | - | - | - | - | 1 | - | 1 | - | 1 | 3 |
| Total | 18 | 18 | 20 | 23 | - | 11 | 21 | 15 | 103 | - | 67 | 296 |
| **INSTRUMENT** | | | | | | | | | | | | |
| Supervisors | 1 | 5 | 2 | 2 | - | 2 | 6 | 8 | - | - | 4 | 30 |
| Engineers | - | - | - | - | - | - | 3 | 11 | 1 | - | 5 | 20 |
| Craftsmen | 12 | 15 | 15 | 14 | - | 13 | 33 | 53 | - | - | 11 | 166 |
| Clerical | - | 1 | 1 | 1 | - | 1 | 2 | 6 | 2 | - | 3 | 17 |
| Others | - | - | - | - | - | - | - | 7 | - | - | - | 7 |
| Total | 13 | 21 | 18 | 17 | - | 16 | 44 | 85 | 3 | - | 23 | 240 |

DECLASSIFIED

HW 17660

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MANUFACTURING DIV'S. CONT'D.** | | | | | | | | | | | | |
| **TRANSPORTATION** | | | | | | | | | | | | |
| Supervisors | 2 | 3 | 1 | 1 | - | 2 | 1 | 1 | 8 | - | 35 | 54 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 4 | 4 |
| Buss Drivers | - | - | - | - | - | - | - | - | - | - | 165 | 165 |
| Journeymen | 1 | 3 | 3 | 5 | - | 5 | 5 | - | 12 | - | 75 | 109 |
| Trainmen | - | - | - | - | - | - | - | - | 24 | - | - | 24 |
| Servicemen | 1 | 10 | 2 | 2 | - | 3 | 5 | 4 | 12 | - | 25 | 64 |
| Clerical | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | - | - | 19 | 26 |
| Equipment Operation | 4 | 6 | 3 | 4 | - | 3 | 8 | 4 | 15 | - | 34 | 81 |
| Others | 10 | 14 | 2 | 2 | - | 10 | 4 | 2 | 10 | - | 36 | 90 |
| Total | 19 | 37 | 12 | 15 | - | 24 | 24 | 12 | 81 | - | 393 | 617 |
| **TECHNICAL DIVISIONS** | | | | | | | | | | | | |
| **GENERAL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 3 | 3 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 2 | 2 |
| Total | - | - | - | - | - | - | - | - | - | - | 5 | 5 |
| **PILE TECHNOLOGY** | | | | | | | | | | | | |
| Supervisors | 2 | - | 1 | 1 | 1 | - | - | 12 | - | - | - | 17 |
| Metallurgists & Engrs. | 12 | 4 | - | 4 | - | - | - | 30 | - | - | - | 50 |
| Physicists | 1 | 2 | 1 | 4 | 2 | - | - | 11 | - | - | - | 21 |
| Tech. Grads. | 1 | - | 1 | - | - | - | - | 4 | - | - | - | 6 |
| Laboratory Assistants | 11 | 4 | 1 | 6 | 4 | - | - | 8 | - | - | - | 34 |
| Clerical | - | - | - | 1 | - | - | - | 6 | - | - | - | 7 |
| Others | 5 | - | - | - | - | - | - | - | - | - | - | 5 |
| Total | 32 | 10 | 4 | 16 | 7 | - | - | 71 | - | - | - | 140 |

DECLASSIFIED

HW 17660

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TECHNICAL DIV'S. CONT'D.** | | | | | | | | | | | | |
| **SEPARATIONS TECHNOLOGY** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | 1 | 4 | 14 | - | - | 1 | 20 |
| Chemists - Chem. Engrs. | - | - | - | - | - | 5 | 11 | 60 | - | - | 2 | 78 |
| Tech. Grads. | - | - | - | - | - | 1 | - | 1 | - | - | - | 2 |
| Clerical | - | - | - | - | - | - | 3 | 6 | - | - | 1 | 10 |
| Chem. Operators | - | - | - | - | - | - | 1 | 33 | - | - | - | 34 |
| Others | - | - | - | - | - | - | - | 13 | - | - | - | 13 |
| Total | - | - | - | - | - | 7 | 19 | 127 | - | - | 4 | 157 |
| **TECHNICAL SERVICES** | | | | | | | | | | | | |
| Supervisors | - | - | - | 2 | 3 | 5 | 13 | 28 | - | - | 4 | 55 |
| Chemists & Engrs. | 1 | 1 | 1 | - | 8 | - | 4 | 40 | - | - | 3 | 58 |
| Technologists, Tech Grads. | - | - | - | 3 | 2 | 6 | 25 | 27 | - | - | - | 63 |
| Lab. Asst's. | - | - | - | 4 | - | 32 | 60 | 64 | - | - | - | 160 |
| Clerical | - | - | - | 1 | 2 | 2 | 3 | 39 | - | - | 33 | 80 |
| Others | - | - | - | - | 29 | - | - | 14 | - | - | 2 | 45 |
| Total | 1 | 1 | 1 | 10 | 44 | 45 | 105 | 212 | - | - | 42 | 461 |
| **MEDICAL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 1 | 29 | 30 |
| Physicians | - | - | - | - | - | - | - | - | 1 | 4 | 22 | 27 |
| Dentists | - | - | - | - | - | - | - | - | - | 1 | 9 | 10 |
| Other Exempt | - | - | - | - | - | - | - | - | - | - | 10 | 10 |
| Technicians | - | - | - | - | - | - | - | - | 4 | 5 | 12 | 21 |
| Nurses | 2 | 4 | 4 | 1 | - | 4 | 6 | 2 | - | 2 | 66 | 91 |
| Clerical | - | - | - | - | - | - | - | 1 | 3 | 10 | 66 | 80 |
| Others | - | - | - | - | - | - | - | - | - | 2 | 86 | 88 |
| Total | 2 | 4 | 4 | 1 | - | 4 | 6 | 3 | 8 | 25 | 300 | 357 |

DECLASSIFIED

HW 17660

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H. I. DIVISIONS** | | | | | | | | | | | | |
| **GENERAL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 4 | 4 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 1 | 1 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 4 | 4 |
| Total | - | - | - | - | - | - | - | - | - | - | 9 | 9 |
| **OPERATIONAL** | | | | | | | | | | | | |
| Supervisors | 1 | 1 | 1 | 2 | - | 1 | 5 | 8 | - | - | 1 | 20 |
| Engineers | 5 | 5 | 5 | 5 | - | 4 | 10 | 4 | - | - | 1 | 39 |
| Clerical | - | - | - | 1 | - | - | 2 | 1 | - | - | - | 4 |
| Others | 12 | 14 | 12 | 12 | - | 19 | 39 | 42 | 10 | - | - | 160 |
| Total | 18 | 20 | 18 | 20 | - | 24 | 56 | 55 | 10 | - | 2 | 223 |
| **DEVELOPMENT** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | 1 | 3 | 3 | - | - | - | 7 |
| Engineers | - | - | - | - | - | 6 | 3 | 4 | - | - | 1 | 14 |
| Clerical | - | - | - | - | - | 2 | 1 | 2 | - | - | - | 5 |
| Others | - | - | - | - | - | 12 | 26 | 16 | - | - | 11 | 65 |
| Total | - | - | - | - | - | 21 | 33 | 25 | - | - | 12 | 91 |
| **BIOLOGY** | | | | | | | | | | | | |
| Supervisors | - | - | 4 | - | - | - | 2 | 1 | - | - | - | 7 |
| Engineers | - | - | 10 | - | - | - | 3 | 1 | - | - | 1 | 15 |
| Clerical | - | - | 1 | - | - | - | - | 1 | - | - | - | 2 |
| Others | - | - | 27 | - | - | - | 3 | - | - | - | - | 30 |
| Total | - | - | 42 | - | - | - | 8 | 3 | - | - | 1 | 54 |
| **ACCOUNTING DIV'S.** | | | | | | | | | | | | |
| **GEN. ACCTG. PAYROLL** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 9 | 9 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 72 | 72 |
| Total | - | - | - | - | - | - | - | - | - | - | 81 | 81 |

DECLASSIFIED

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ACCOUNTING DIV'S. CONT'D.** | | | | | | | | | | | | |
| **GEN. ACCTG. ACCTG.** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 1 | 8 | 9 |
| Other Exempt | - | - | - | - | - | - | - | - | - | 2 | 4 | 6 |
| Clerical | - | - | - | - | - | - | - | - | - | 30 | 46 | 76 |
| Total | - | - | - | - | - | - | - | - | - | 33 | 58 | 91 |
| **EMPLOYEE & COMM. RELATIONS** | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 22 | 22 |
| Employee Rel. Counselor | - | - | - | - | - | - | - | - | - | - | 1 | 1 |
| Other Exempt | - | - | - | - | - | - | - | - | - | - | 7 | 7 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 45 | 45 |
| Others | - | - | - | - | - | - | - | - | - | - | 12 | 12 |
| Total | - | - | - | - | - | - | - | - | - | - | 87 | 87 |
| **PLANT SECURITY & SERVICE DIV'S.** | | | | | | | | | | | | |
| **PATROL & SECURITY** | | | | | | | | | | | | |
| Supervisors | 5 | 6 | 6 | 5 | - | 5 | 9 | 7 | 8 | - | 4 | 55 |
| Other Exempt | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Patrolmen | 47 | 67 | 66 | 48 | - | 57 | 108 | 71 | 5 | - | 37 | 506 |
| Clerical | - | - | - | - | - | - | - | - | 14 | - | 2 | 16 |
| Seamstress | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Total | 52 | 73 | 72 | 53 | - | 62 | 117 | 78 | 29 | - | 43 | 579 |
| **SAFETY & FIRE** | | | | | | | | | | | | |
| Supervisors | 8 | - | - | - | - | - | 4 | 4 | 9 | - | 4 | 29 |
| Safety Engineers | - | 2 | - | 1 | - | 2 | - | 2 | - | - | 1 | 8 |
| Firemen | 45 | - | - | - | 8 | - | 14 | 14 | 3 | - | 18 | 102 |
| Clerical | - | 1 | - | 1 | - | 1 | - | 1 | - | - | 2 | 6 |
| Total | 53 | 3 | - | 2 | 8 | 3 | 18 | 21 | 12 | - | 25 | 145 |

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLANT SECURITY & SERVICE DIV'S. CONT'D. | | | | | | | | | | | | |
| GEN. & OFF. SERVICE | | | | | | | | | | | | |
| Supervisors | - | - | 1 | - | - | 1 | 2 | - | 1 | - | 15 | 20 |
| Engineers | - | - | - | - | - | - | - | - | - | - | 1 | 1 |
| Laundry Operators | - | - | - | - | - | - | 2 | - | - | - | 1 | 3 |
| Janitors & Servicemen | 5 | 6 | 4 | 7 | 2 | 5 | 15 | 13 | - | - | 36 | 93 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 25 | 25 |
| Others | - | - | - | - | - | - | 33 | - | - | - | 46 | 79 |
| Total | 5 | 6 | 5 | 7 | 2 | 6 | 52 | 13 | 1 | - | 124 | 221 |
| PURCHASING & STORES DIV'S. | | | | | | | | | | | | |
| PURCHASING | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | - | 13 | 13 |
| Other Exempt | - | - | - | - | - | - | - | - | 12 | - | 16 | 28 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 44 | 44 |
| Total | - | - | - | - | - | - | - | - | 12 | - | 73 | 85 |
| STORES | | | | | | | | | | | | |
| Supervisors | 6 | - | - | - | - | - | - | - | - | 4 | 12 | 22 |
| Clerical | 18 | - | - | - | - | - | - | - | - | 30 | 42 | 90 |
| Others | 30 | - | - | - | 1 | - | 1 | - | - | 7 | 100 | 139 |
| Total | 54 | - | - | - | 1 | - | 1 | - | - | 41 | 154 | 251 |

221
145
379
94

DECLASSIFIED

| | 100-B Area | 100-D Area | 100-F Area | 100-H Area | 101 Area | 200-E Area | 200-W Area | 300 Area | Plant General | 3000 Area | 700-1100 Area | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COMMUNITY DIV'S. | | | | | | | | | | | | |
| Supervisors | - | - | - | - | - | - | - | - | - | 21 | 110 | 131 |
| Other Exempt | - | - | - | - | - | - | - | - | - | - | 14 | 14 |
| Firemen | - | - | - | - | - | - | - | - | - | 25 | 45 | 70 |
| Patrolmen | - | - | - | - | - | - | - | - | - | 9 | 16 | 25 |
| Journeymen | - | - | - | - | - | - | - | - | - | - | 175 | 175 |
| Serviceman | - | - | - | - | - | - | - | - | - | - | 59 | 59 |
| Truck Drivers | - | - | - | - | - | - | - | - | - | - | 43 | 43 |
| Power Operators | - | - | - | - | - | - | - | - | - | - | 43 | 43 |
| Clerical | - | - | - | - | - | - | - | - | - | - | 89 | 89 |
| Others | - | - | - | - | - | - | - | - | - | - | 73 | 73 |
| Total | - | - | - | - | - | - | - | - | - | 55 | 667 | 722 |
| GRAND TOTALS | 439 | 419 | 397 | 344 | 62 | 436 | 925 | 906 | 485 | 416 | 2817 | 7646 |

DECLASSIFIED

[redacted]

MANUFACTURING DIVISIONS

APRIL 1950

SUMMARY

Production Divisions

A total of 47 tons of metal was discharged, with 37 tons being at the goal concentration and 10 tons at the 131 percent of the goal concentration. The pile operating efficiency was 93.8 percent, which is a new high for four pile operation. The operating levels at month end were 275 MW at B pile, 305 MW at D and F piles, and 370 MW at H pile. The nominal $CO_2$ concentration in the circulating gas at month end was 97 percent, 80 percent, 66 percent, and 94 percent at B, D, F, and H piles, respectively.

A total of 67 tons of acceptable slugs was canned at a yield of 95 percent, which represents a new record yield. The production rate was reduced as a result of favorable inventories, the need for diverting manpower to the P-10 fuel canning and testing program, and the transfer of operators to the 100 Areas for training prior to the DR pile start up.

The machining yield reached a new record high of 77.7 percent. The Melt Plant produced 22 tons of billets at a yield of 72.6 percent.

A total of 80 batches was started in the Canyon Buildings, 84 were processed through the Concentration Buildings, and 75 were completed through the Isolation Building. The average purity for completed batches was 98.5 percent.

Mechanical Divisions

Open House was held April 29, 1950 at the Richland Telephone Exchange with approximately 500 persons in attendance.

The Weed Control Program was initiated in all Plant areas, roads, and railroad systems.

A peak load of 75,850 KW occurred on April 6, 1950, which is somewhat higher than seasonal expectation and appears due to lower than normal spring temperatures.

An optical planimeter was designed and fabricated for the Technical Division to measure the area of small irregular foils.

The inactive stores inventories were reduced $51,290 during April.

C. H. GROSS, MANAGER
MANUFACTURING DIVISIONS



[redacted]

MANUFACTURING DIVISIONS

PATENT REPORT SUMMARY
FOR
MONTH OF APRIL, 1950

Richland, Washington
May 8, 1950

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

| INVENTOR | TITLE |
|---|---|
| John M. Holeman<br>(Instrument Division) | Plug Periscope |

C. N. Gross

C. N. GROSS

MANAGER, MANUFACTURING DIVISIONS

[redacted]



DECLASSIFIED
WITH DELETIONS

[redacted]

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DECLASSIFIED
WITH DELETIONS



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DECLASSIFIED
WITH DELETIONS

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[redacted]



May 4, 1950

P DIVISION

APRIL, 1950

I. GENERAL

The B, D, F, and H piles operated throughout the month except for outages listed under Area Activities. Power levels were as follows: B pile - 275 MW, D and F piles - 305 MW, H pile - 345 MW until April 7 when a step-wise increase in level to 370 MW was begun. The 370 MW level was reached on April 17 and maintained for the balance of the month. The piles operated with a "time operated" efficiency of 94.7%; this is the highest efficiency on record since February, 1946.

Record yields of 77.7% on machining and 95.0% on canning were attained in the 300 Area during April.

Two supervisors and twelve operators have been assigned to DR pile for the P-10 fuel slug test program. Loading of the pile for this program was in progress at month end.

The production rates for the 300 Area were reduced as the result of favorable inventories and the need for diverting manpower to the P-10 fuel slug canning and testing program. In addition, thirteen operators were transferred to the 100 Areas for preliminary training in anticipation of the startup of DR pile.

The 305 test pile was operated on a one shift, six day week schedule until April 17, at which time operations were increased to two shifts. This operating schedule was necessary to expedite testing of material for the P-10 fuel slug test program.

[redacted]

P Division

## II. ORGANIZATION AND PERSONNEL



Number of Employees on Payroll - March

| | |
|---|---|
| Beginning of Month | 341 |
| End of Month | 341 |
| Net Increase | 0 |

W. A. Blanton was promoted to Chief Supervisor of the 300 Area effective April 1, 1950.

W. W. Windsheimer, Chief Supervisor, was placed on special assignment April 1 on duties relating to the P-10 program.

E. A. Wegener was promoted to Area Supervisor, 100-B and 100-D Areas effective April 1.

H. G. DeVoss was hired on April 17 and assigned to the 100 Areas as a supervisor in training.

One rotational pool trainee was assigned to the P Division on April 3 for a three month period.

One operator from the 300 Area terminated voluntarily on April 1, and another was placed on leave of absence April 26.

A supervisory reorganization in the 100 Areas was begun on April 17 which will place an area supervisor on each shift in each area and two shift supervisors on each shift -- one providing coverage between B and D Areas and the other covering F and H Areas. This change will result in a reduction in supervisory personnel for 100-F and 100-H Areas; formerly, each of these areas required two supervisors per shift.

$40,000 - $80,000 per year saved.

## III. AREA ACTIVITIES

| Pile Summary | Pile B | Pile D | Pile F | Pile H |
|---|---|---|---|---|
| Time Operated (%) | 92.9 | 92.6 | 93.4 | 99.7 |
| Operating Efficiency (%) | 92.2 | 91.3 | 92.3 | 99.3 |
| *Power Level (MW) | 275 | 305 | 305 | 370 |
| *Inlet Water Temperature (°C) | 8.2 | 8.5 | 8.1 | 8.4 |
| *Outlet Water Temperature (Maximum °C., 10 tubes, 0.240" Zone) | 49.9 | 52.6 | 54.6 | 60.7 |
| Number of Scrams | 2 | 1 | 4 | 3 |
| Number of Purges | 1 | 1 | 1 | 1 |
| Helium Consumption (cu. ft.) | 0 | **27,893 | 26,070 | 0 |
| $CO_2$ Consumption (cu. ft.) | 66,096 | 92,616 | 48,553 | 18,174 |
| Metal Discharged (tons) | 20.82 | 16.43 | 9.91 | 0 |
| Inhours Gained (this month) | -7 | -14.1 | 29 | 65 |
| *Inhours Poisoned | 615 | 605 | 434 | 324 |
| *Inhours in Rods | 65 | 76 | 80 | 225 |
| $CO_2$ Concentration | 97 | 80 | 66 | 94 |

* Month end figures.
** Includes 15,000 cubic feet for DR pile.

P Division

Pile Building



Outage Breakdown

| Date of Outage | Scheduled Metal Discharged | Scheduled Maintenance | Unscheduled | Length of Outage (Hours) |
|---|---|---|---|---|
| 4-4-50 | D | | | 24.1 |
| (1) 4-4-50 | | | B | 0.2 |
| 4-5-50 | F | | | 21.8 |
| (1) 4-7-50 | | | H | 0.2 |
| * 4-12-50 | B | | | 26.5 |
| (2) 4-12-50 | | | H | 0.2 |
| (3) 4-13-50 | | H | | 0.8 |
| (1) 4-14-50 | | | F | 0.3 |
| (4) 4-14-50 | | | F | 0.7 |
| 4-18-50 | F | | | 23.2 |
| (5) 4-19-50 | | | F | 1.3 |
| 4-19-50 | B | | | 22.0 |
| (1) 4-19-50 | | | B | 1.5 |
| (2) 4-21-50 | | | F | 0.3 |
| (2) 4-24-50 | | | H | 0.8 |
| 4-26-50 | D | | | 27.7 |
| (6) 4-27-50 | | | D | 0.4 |
| (7) 4-27-50 | | | D | 1.2 |

* Includes time to discharge temporary poison.
(1) Unit scrammed when panellit alarm could not be reset.
(2) Unit scrammed due to surge of control room Beckman power supply.
(3) Unit shut down for purge because of excessive pressure drop in process tubes.
(4) Unit scrammed when relay failed in emergency alternator circuit.
(5) Unit scrammed when regulated voltage transformer in control room Beckman circuit burned out.
(6) Unit scrammed during investigation of cause for annunciator circuit failure.
(7) Unit shut down to repair annunciator system.

Operating Experience

Production tests having operational significance are reported below:

105-81-P (Probe Test of Top Central Tubes)
The tubes listed below successfully passed the probes as indicated:

| 1.475" | 1.485" | 1.490" |
|---|---|---|
| 4674-F | 4674-D | 4574-B |

105-103-P (Corrosion Rates at Elevated Temperatures, Supplements A and B)
Thirty-two tubes in F pile operated throughout the month with reduced water flow in accordance with the provisions of Supplement A of this test. One of these tubes, 1095-F, required operating level reductions during startup following the outages of April 5 and 18 due to high exit water temperature. No other unusual conditions were noted. Supplement B of this production test (HW-15855) covers the installation of special pigtails on these tubes which will enable flow adjustments to be made to minimize power level cuts. Eight tubes were so equipped during April.

105-168-P (Replacement of Pile Atmosphere with $CO_2$)
The B pile atmosphere has apparently levelled out at 97% $CO_2$ and 1% CO since the replacement of all helium with $CO_2$ was completed in March, 1950. No unexpected operating conditions have been observed.

The D pile $CO_2$ concentration was maintained at 80% throughout the month without incident.

The F pile $CO_2$ concentration was maintained at 60% until April 27 at which time a step-wise increase to 80% was initiated in accordance with Supplement I of this test. At month end the concentration was 66%.

105-180-P (Irradiation of Beta Slugs)
On April 5 a beta slug was discharged from tube #1077-F. The tube was not recharged during the month.

105-237-P (Pile Graphite Sampling)
Graphite samples were taken from tube channel #2486-B on April 19.

105-278-P (Effect of Enrichment Level)
Examination of metal from two tubes discharged at 149% of the current goal value showed no significant change in the extent of blistering or warping.

105-302-P (Power Level Increase of H Pile, Supplement A)
The following power level increases were made in accordance with the provisions of this test:

345 MW to 360 MW on April 7
360 MW to 370 MW on April 17

No unexpected operating conditions have been observed.

A total of 47.16 tons of Group V (alpha rolled, triple dipped, completely transformed) material was discharged during the month. Of this amount, 36.87 tons had an average concentration of current goal

value and 10.29 tons had an average concentration of 131% of current goal value in accordance with the program of investigation of higher discharge concentrations.

Considerable difficulty was experienced at H pile due to unexplained surges on the control room Beckmans. Two such surges have resulted in unscheduled outages and on several other occasions annunciator alarms were received although no outages occurred. The difficulty has not yet been isolated and a systematic check of the electrical circuits is being made.

During the startup of the D pile following the April 26 outage, the pile remained sub-critical with all rods out for approximately five hours after the predicted minimum startup time. The presence of about 25-30% nitrogen (in the form of air) in the circulating atmosphere appeared to be the cause. This large amount of air was apparently introduced during revisions to the gas circulating system in which the D and DR pile gas systems were separated. The L and N gas analyzer indicated 11% helium and 89% $CO_2$ but a check analysis on the Orsat gas analyzer showed 49% $CO_2$ and 6% $O_2$. A thorough purge was initiated to return the system to the desired gas concentrations.

Mechanical Experience

All horizontal and vertical rods are in satisfactory operating condition at month end except the following:

a) Vertical rod #27-F, a knuckle rod, is scrammable, but binds at each joint when operated under power. A revised tip section was installed on April 5 to relieve the binding reported in March.

b) Horizontal rod #2-F cannot be withdrawn more than 300 inches as reported in March. Investigation to date has not revealed the exact cause of this condition.

Rod repairs completed during the month included:

a) Vertical rod #27-D, a knuckle rod, which parted at the first knuckle joint due to a fractured connecting ring (HW-17410) was repaired and operates satisfactorily at month end. During the April 26 outage all joint rings on vertical rods #27-D and #33-D, knuckle rods, were replaced with rings of an improved alloy steel.

b) Vertical rod #26-D was equipped with a shortened rod guide to relieve the binding condition reported in March. The rod operates satisfacotrily, but, because there are no solution grooves in the rod guide, the #26-D thimble is not included in the third safety system.

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c) Vertical thimble #19-F was replaced on April 5 with a special thimble equipped with two thermocouples.

d) Vertical thimble #29-D, which borescopic examination had shown to be in very poor condition, was replaced on April 26.

An interruption of the cooling water to the D pile B experimental hole occurred on April 24 due to a plugged section of the exit water line. On April 26 the plugged section of the line was replaced, a new thermocouple installed on the exit water line, and the cooling water returned to normal.

Gas Processing Building

During April work was begun on the necessary construction to permit the D and DR gas systems to operate independently.

The CO percentage in the H pile atmosphere which had apparently levelled out at 6% gradually increased during the month to a maximum of about 9%, possibly due to the increase in power level made during the month. The system was purged on April 24 to increase the $CO_2$ concentration from 89% to 94.5%. The ratio of $CO_2$ to CO will be carefully followed to determine whether or nor previous trends are confirmed.

Special Hazards

The activity of the effluent water from the 107 retention basins of all piles was unusually high during the month, a maximum of 8.0 mrep/hr. being recorded at 100-H Area. This increase appears to be seasonal and has been attributed to higher than normal amounts of manganese in the water. The addition of dilution water at the 1904 Buildings has been effected in maintaining the activity of the water entering the river below the desired level of 4.17 mrep/hr.

Project Status

Below is summarized the status of P Division projects which are currently active.

C-306 (Front Face Shielding Caps)
Three hundred additional plugs were received during the month. Procurement is proceeding satisfactorily.

C-330 (Improved Ventilation, Building 313-314)
The installation has been completed except for the outside duct work.

C-347 (Nozzle Replacement)
No nozzles were received during April due to fabrication difficulties.

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C-355 (Pile Clearance, Near Side)
B pile work is contemplated for July. No plans have been made for D and F piles.

C-399 (Rolling Mill)
Preparation of the project proposal continues.

M-711 (Algae Filter)
The filter was functionally tested during the month in preparation for routine operation starting in May.

M-713 (Flexible Vertical Rod)
Work has been held up pending a review of the future needs contingent with the removal of vertical thimbles.

M-715 (IBM Individual Tube Accounting)
Further installation has been stopped pending a re-evaluation of the project.

M-721 (Pile Shield Restraining Clamps)
Installation on B pile has been deferred until the need becomes apparent.

M-723 (Repairs to 107-B Basin)
Deferred until B pile extended shutdown in July.

A-1123 (F Pile Downcomer Vent Modification)
Vent modification was completed during April.

B-814 ($CO_2$ Bulk Handling Facilities)
Project proposal is being prepared.

## 300 AREA - METAL FABRICATION

### Production Statistics

Production for the month of April was as follows:

| | |
|---|---|
| Billets Produced | 22 |
| Rods Machined | 60 |
| Bare Pieces Machined | 46 |
| Acceptable Pieces Canned | 67 |

### Melt Plant

The casting yields were as follows:

| | March | April | To Date 1950 |
|---|---|---|---|
| Billet (Ave. per furnace run) | 68.2 | 72.6 | 68.7 |
| Billet (Yield from total scrap processed) | 81.3 | 86.1 | 81.7 |
| Solid Yield | 88.2 | 87.6 | 87.5 |

P Division

The significant increase in the billet yield was attributed to reduced stopper rod breakage. Improved techniques in changing crucibles and closer alignment of stopper rods with furnace lid assemblies contributed in reducing this breakage.

During the month the inventory of TXB in storage was processed. This material had oxidized to a considerable extent and its usage resulted in a slight decrease in the solid yield.

Machining

Machining yields were as follows:

| | March | April | To Date 1950 |
|---|---|---|---|
| [illegible] | 77.3 | 77.7 | 76.9 |

The yield for April is the highest ever obtained on four inch slugs machined from alpha rolled rods. The reduction of cut-off length on the roller turner lathes as a result of the elimination of the facing of one end of the slug, and the continued good quality of the rods machined, were contributing factors in attaining this yield.

Chip Recovery

The chip recovery yield was as follows:

| March | April | To Date 1950 |
|---|---|---|
| 89.3 | 89.8 | 88.4 |

The entire chip recovery process was operated three shifts and the press was operated an additional seven shifts. A total of 24,371 pounds of TXB was produced from pickled chips.

Work on Production Test 313-111-M, "Substitution of Calcium Nitrate for Calcium Chloride in the Chip Recovery Process", is tentatively scheduled for completion in May.

Oxide Burning



The material burned was as follows:

| Weight Out - Pounds | | |
|---|---|---|
| March | April | To Date 1950 |
| 22,414 | 23,235 | 84,105 |

Oxide on Hand at Month End (Metal Content)

| | |
|---|---|
| To be burned | 3,908 pounds |
| To be analyzed | 4,394 |
| To be shipped | 50,129 |
| Total | 58,431 |

P Division

Canning Operation

The canning yield was as follows:

| March | April | To Date 1950 |
|---|---|---|
| 93.0 | 95.0 | 93.7 |

Canning rejects, by cause, were:

| | Per Cent | | |
|---|---|---|---|
| | March | April | To Date 1950 |
| Non Seating | 1.1 | 1.7 | 1.0 |
| Marred Surface | 2.0 | 0.8 | 2.0 |
| Al-Si on Outside of Can | 1.2 | 0.8 | 0.9 |
| Frost Test | 0.6 | 0.5 | 0.9 |
| Bad Welds | 1.0 | 0.7 | 0.6 |
| Miscellaneous | 1.1 | 0.5 | 0.9 |
| | 7.0 | 5.0 | 6.3 |

A record yield of 95.0% was obtained on canning four inch slugs during the month. Continued emphasis on the careful handling of canned pieces resulted in a lower number of marred surface rejects. The reduced number of Al-Si rejects was attributed in part to improved crimping techniques and can quality.

The following special request pieces were canned:

| Request No. | Content | No. of Pieces |
|---|---|---|
| P-10-A | Lithium Aluminum Alloy | 435 |
| 37-77 | Bismuth (Reclaimed) | 9 |
| "J" | Aluminum and U-235 | 963 |

A total of 1016 "J" pieces was inspected during the month.

The "J" piece canning yield was as follows:

| % Yield | | |
|---|---|---|
| March | April | To Date 1950 |
| 97.3 | 91.3 | 92.3 |

The "J" piece canning rejects, by cause, were:

| | Per Cent | | |
|---|---|---|---|
| | March | April | To Date 1950 |
| Air Pockets | --- | 1.0 | 0.9 |
| Non Seating | 0.5 | 2.9 | 2.5 |
| Marred Surface | 0.6 | 2.9 | 2.5 |
| Al-Si on Outside of Can | 1.1 | 0.3 | 0.4 |
| Bad Welds | 0.5 | 0.3 | 0.2 |
| Frost Test | 0.0 | 1.3 | 1.2 |
| | 2.7 | 8.7 | 7.7 |

Methods of analyzing the "J" slug canning bath for U-235 build-up were evaluated during the month. The spectrographic method appears to be the most desirable from the standpoint of reliability. Although the radioactivity analysis by counting methods appeared very favorable for baths used on untested slugs, it was found to be unsatisfactory for baths used to can 305 tested material. Apparently minute quantities of fission products resulting from the 305 exposure interfered with the counting method results.

In addition, 118 papoose pieces and 48 partially transformed pieces were canned. The papoose pieces are to be used for graphite exposure studies. The partially transformed pieces are to be used by the Technical Division for calibrating a dialatrometric transformation testing apparatus.

Slug Recovery

| | % Recovered | | Average Wt. Lbs. | |
|---|---|---|---|---|
| | April | To Date 1950 | April | To Date 1950 |
| Z Slugs | 86.5 | 86.9 | 3.900 | 3.903 |
| X Slugs | 12.0 | 11.3 | 3.862 | 3.862 |
| Rejects | 1.5 | 1.8 | --- | --- |
| | 100.0 | 100.0 | | |

Inspection and Testing

Autoclave rejects were as follows:

| March | April | To Date 1950 |
|---|---|---|
| .11/M | .20/M | .14/M |

Six autoclave failures occurred during April. Three were complete failures and three were partial.

None of the canned pieces tested during the month were penetrated within 0.010" of the outer can wall.

P Division

The "as received" quality of cans, caps, and sleeves inspected was as follows:

| | % Usable | | |
|---|---|---|---|
| | March | April | To Date 1950 |
| Aluminum Cans | 92.3 | 97.2 | 93.9 |
| Aluminum Caps | 97.5 | 99.0 | 96.6 |
| Steel Sleeves | 76.2 | 94.9 | 88.9 |

Only Scovill cans were inspected during the month. The quality of these cans continued to run high.

Material Handling

Two thousand two hundred and twelve aluminum U-235 alloy slugs were received during the month, making a total of 2524 received to date. A total of 908 pieces has been processed and transferred to 105-DR for experimental tests. Ten special test pieces were returned to ORNL.

305 Test Pile

This unit was operated on a one-shift six day week schedule until April 17, at which time scheduling was increased to two shifts. This operating schedule was necessary to expedite testing of material for the H-10 program.

A total of 1730 tests was made on "J" material. In addition, the following special work requests were run:

| Request No. | | No. of Tests |
|---|---|---|
| 140 | To measure the reactivity of a stringer loaded with 8" "J" pieces and P-10-A slugs. | 11 |
| 141 | To irradiate gold foil for counting. | 1 |
| 142 | Test reactivity of mixtures of "J" slugs and P-10-A slugs. | 10 |

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HW-17660

DECLASSIFIED

May 3, 1950

S DIVISION

APRIL, 1950

OPERATING SECTION

I. GENERAL

Eighty charges were started in the Canyon Buildings, eighty-four charges were processed through the Concentration Buildings and seventy-five charges were completed through the Isolation Building. The average purity for completed charges was 98.5 percent.

| | B Plant | T Plant | Combined |
|---|---|---|---|
| Number of charges started in Canyon | 38 | 42 | 80 |
| Number of charges completed thru 224 | 40 | 44 | 84 |
| Number of charges completed thru 231 | 34 | 41 | 75 |

Canyon and Concentration Building Production Performance Data - (4-1-50 - 4-30-50, inclusive)

| For Completed Charges: | B Plant | T Plant | Combined |
|---|---|---|---|
| Percentage of starting product in waste: | | | |
| This month | 3.4(a) | 3.2(a) | 3.3 |
| Last month | 3.2(b) | 3.1(b) | 3.1 |
| Cumulative to date | 4.2(c) | 3.9(c) | 4.1 |
| Percentage of starting product recovered: | | | |
| This month | 97.1 | 95.8 | 96.4 |
| Last month | 97.9 | 95.1 | 96.5 |
| Cumulative to date | 97.0 | 95.6 | 96.3 |
| Percentage of starting product accounted for: | | | |
| This month | 100.5 | 99.0 | 99.7 |
| Last month | 101.1 | 98.2 | 99.6 |
| Cumulative to date | 101.2 | 99.5 | 100.4 |
| Gamma decontamination factor (Log.) | | | |
| This month | 7.37 | 7.44 | 7.41 |
| Last month | 7.39 | 7.48 | 7.43 |
| Cumulative to date | 7.36 | 7.35 | 7.36 |



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(a), (b), (c): Includes waste from processing recycle. The recycle wastes are estimated as: (a) 0.020%-T Plant; 0.001%-B Plant. (b) 0.012%-T Plant; 0.008%-B Plant. (c) 0.086%-T Plant; 0.009%-B Plant.

Isolation Building Performance Data (4-1-50 to 4-30-50, inclusive)

| | Prepared for Shipment | Recycle | Waste | Retained Samples | Material Balance |
|---|---|---|---|---|---|
| Average for this month | 95.4 | 4.72 | -0.16 | 0.024 | 100.0 |
| Average for last month | 95.7 | 3.66 | 0.02 | 0.029 | 99.4 |
| Average to date | 95.9 | 4.61 | 0.07 | 0.022 | 100.6 |

## II. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 392 |
| End of month | 408 |
| Net increase | 16 |

Remarks: The changes which occurred in the S Division are listed below:

5 new hires (monthly roll)
6 new hires (weekly roll)
6 transfer from another division (weekly roll)
1 re-engaged (weekly roll)
1 Deceased (weekly roll)
1 resigned (weekly roll)
4 transfer from weekly roll to monthly roll

Changes in the supervisory organization:

B. V. Snow, W. Tressler, A. Motyka and R. W. Chiles were promoted from Chief Operators to Supervisors-in-Training on April 1, 1950.

E. T. Walsh was employed as a Supervisor-in-Training, April 12, 1950.

A. J. Anderson was employed as a Supervisor-in-Training, April 17, 1950.

W. E. Burlingame was employed as a Supervisor-in-Training, April 19, 1950.

R. Kennedy was employed as a Supervisor-in-Training, April 24, 1950.

D. E. Bloomfield was employed as a Supervisor-in-Training, April 24, 1950.

R. K. Smith, Senior Supervisor, T Plant, was transferred to the Expansion Section, April 24, 1950.

L. A. Berry was promoted from Supervisor-in-Training to Shift Supervisor, April 1, 1950.

T. E. Philbeck was promoted to Senior Supervisor, April 1, 1950.

W. Watson, Shift Supervisor, was made acting Senior Supervisor in the 231 Bldg., April 24, 1950.

## III. AREA ACTIVITIES

### PRODUCTION PERFORMANCE

#### B and T Plants and 231 Building

#### Extraction Waste Losses - B and T Plants

Processing of twenty-six successive charges of 600 Test Program material, having an average exposure in the piles of 440 MWD/Ton, was completed through B Plant with charge B-10-04-F16. As was anticipated, due to the increased Americum and Curium content proportional to exposure of the metal in the piles, significant increases in losses form the extraction step were experienced. Average analyses of the extraction wastes from these runs were 1.85% before rework and 1.35% after rework (throw-away loss) as compared to an average of approximately 1.5% and 1.2% respectively for 400 MWD/Ton material runs.

Averages of significant data obtained during the month for extraction wastes are tabulated below.

| | B Plant | | T Plant | |
|---|---|---|---|---|
| | April | March | April | March |
| Analysis before rework | 1.82 | 1.58 | 1.70 | 1.69 |
| Analysis after rework (throw-away) | 1.28 | 1.22 | 1.15 | 1.23 |
| Average MWD/Ton | 363 | 412 | 354 | 368 |

#### Extraction Precipitator Heels - B Plant

Acid washes recently processed through B Plant equipment indicated that a constant product heel of approximately 15% of a standard charge is being held in each of the extraction precipitators. Since the amount of product in these heels is about twice what is normally expected, a series of special flushes of the precipitators, followed by analysis for the product pick-up in the flushes, was carried out using the product cake dissolving acid prior to introduction of each of the runs into the extraction process. The excessive hold-up of product in the precipitators was verified. Subsequent to these special flushes,

it became expedient to change the agitator in each of the extraction precipitators, and since then it appears that the product heels in these tanks have returned to the normal range of less than ten percent of a normal charge. Apparently there existed some abnormality in the performance of the agitation in each of the extraction precipitators for which there is no clear explanation.

Acid Wash Run - T Plant

An acid wash run was completed through one of the parallel lines of the Canyon Building and through the Concentration Building of T Plant early in the month. Product pick-up through the canyon process was higher than normal by approximately 10% with the increased pick-up being fairly well distributed through the process. Data for this acid wash follows:

| | Product Pick-up (Percent) | | | | | |
|---|---|---|---|---|---|---|
| | Extraction | 12-7 and 1st Cycle | 2nd Cycle | 221 Bldg. Total | 224 Bldg. | Total thru Process |
| T-10-03-AW-1 | 9.3 | 20.7 | 12.1 | 42.1 | 10.8 | 52.9 |

WASTE DISPOSAL

Second Decontamination Cycle Waste Supernatant Cribbing - B and T Plant

A total of 489,500 gallons of supernatant from second cycle waste storage tanks X-106-B and X-110-B were cribbed in the 200 East Area. Cribbing of supernatant from the X-112-T second cycle waste storage tank in the 200 West Area was started late in the month when this tank became 85% filled.

Waste Status

The status of the Waste Storage Areas as of April 30, 1950, is shown in the following table:

B Plant

| Bldg. 241 Tanks | Waste | Percentage Full | | | | Reserve Capacity in Batches to Process | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | B | C | BX | BY | B | C | BX | BY | Total |
| x101,2,3 | Metal | 100 | 100 | 100 | 19.0 | 0 | 0 | 0 | 571 | 571 |
| x104,5,6 | Metal | - | 100 | 100 | 0.5 | - | 0 | 0 | 698 | 698 |
| x201,2,3,4 | Metal | - | 100 | - | - | - | 0 | - | - | - |
| x111,12 | Metal | - | - | - | 0 | - | - | - | 468 | 468 |
| x104,5,6 | 1st Cycle | - | - | - | - | - | - | - | - | - |
| x107,8,9 | 1st Cycle | 100 | 100 | 66.7 | 0 | 0 | 0 | 184 | 710 | 894 |
| x109,10,11, 12 | 1st Cycle | - | - | - | - | - | - | - | - | - |

B Plant

| Bldg. 241 Tanks | Waste | Percentage Full B | C | BX | BY | Reserve Capacity in Batches to Process B | C | BX | BY | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| x110,111, 112 | 1st Cycle | - | 100 | 59.0 | - | - | 0 | 202 | - | 202 |
| x110 | 1st Cycle | - | - | - | 0 | - | - | - | 237 | 237 |
| x115,118 | 1st Cycle | - | - | - | - | - | - | - | - | - |
| x104,5,6 | 2nd Cycle | 85.0 | - | - | - | 91 | - | - | - | 91 |
| x110,11,12 | 2nd Cycle | 40.3 | - | - | - | 374 | - | - | - | 374 |
| x113,14,16, 17 | 2nd Cycle | - | - | - | - | - | - | - | - | - |

T Plant

| Bldg. 241 Tanks | Waste | Percentage Full T | U | TX | Reserve Capacity in Batches to Process T | U | TX | Total |
|---|---|---|---|---|---|---|---|---|
| x101,2,3 | Metal | 100 | 100 | - | 0 | 0 | - | 0 |
| x101,2,3,4 | Metal | - | - | 40.4 | - | - | 503 | 503 |
| x104,5,6 | Metal | - | 100 | - | - | 0 | - | 0 |
| x105,6,7,8 | Metal | - | - | 0 | - | - | 841 | 841 |
| x107,8,9 | Metal | - | 100 | - | - | 0 | - | 0 |
| x104,5,6 | 1st Cycle | 100 | - | - | 0 | - | - | 0 |
| x107,8,9 | 1st Cycle | 100 | - | - | 0 | - | - | 0 |
| x109,10,11, 12 | 1st Cycle | - | - | 56.6 | - | - | 367 | 367 |
| x110,111, 112 | 1st Cycle | - | 100 | - | - | 0 | - | 0 |
| x110 | 1st Cycle | - | - | - | - | - | - | - |
| x115,118 | 1st Cycle | - | - | 0 | - | - | 418 | 418 |
| x104,5,6 | 2nd Cycle | - | - | - | - | - | - | - |
| x110,11,12 | 2nd Cycle | 92.0 | - | - | 47 | - | - | 47 |
| x113,14,16, 17 | 2nd Cycle | - | - | 0 | - | - | 1128 | 1128 |

MECHANICAL PERFORMANCE

Canyon Equipment Failures - B and T Plants

A description of equipment failures in B and T Plant Canyons, for which replacements were necessary due to excessive radiation making repairs impossible, are given below:

a) In B Plant the Section 8 (extraction) precipitator agitator failed after nine months of service. Its failure is believed to be due to a broken pinion in the Phillie Gear.

b) In B Plant the Section 17 (first cycle product) precipitator agitator, which has been in service since plant start-up failed. It was found that the dowel pin which fastens the drive shaft to the upper coupling had come out and permitted the agitator shaft to drop to the bottom of the tank.

c) In B Plant the "A" jet for the Section 8 precipitator to centrifuge transfer was replaced due to a severe leak at the steam inlet flange to the jet. It was necessary to make a similar replacement in Section 13 for the same reason.

Following are descriptions of equipment failures in the B and T Plant Canyons and associated Buildings where repairs were successfully effected:

a) During the month the Section 7 centrifuge in T Plant failed to operate due, apparently, to corrosion of the contacts in the electrical connector. The voltage to the centrifuge motor was raised sufficiently by use of a "Megger" to break through this corrosion, and the centrifuge has since operated satisfactorily.

b) In T Plant the centrifuge in idle Section 10 was completely overhauled and made ready as a spare piece of equipment to be kept in the canyon. During the overhaul, dual skimmers of the reinforced type were installed, replacing the old type skimmer on one side of the centrifuge and the plow on the other side. This centrifuge was run in for twenty-four hours following the repairs and observed for performance and leaks in the lubrication and hydraulic control systems. It was found to be in satisfactory operating condition.

Concentration Building Equipment Repairs - B and T Plants

a) Permanent repairs were made to the Cell D centrifuge effluent line in B Plant by removing a corroded section and installing a packing sleeve similar to the one which has been in use in the B Plant Cell E centrifuge effluent line for several months. The original leak had been stopped temporarily in March by peening.

b) In T Plant it was necessary to install a new distributor in the Cell D precipitator due to the suction leg of the assembly breaking off.

Isolation Building Equipment Repairs

a) The water jets used for evacuating the head tanks for Cell 3 at the Isolation Building were replaced during the month by air jets. A similar installation was made approximately one year ago in Cell 2 on a trial basis, and this arrangement has proven to be entirely satisfactory. Conversion to the use of air operated jets will result in a substantial reduction in the amount of water which must be disposed of from this building to underground sumps.

## IV. SPECIAL HAZARDS

### Sand Filter Operation - T Plant

The removal of excess moisture from the T Plant sand filter was accomplished during the month, and the apparent efficiency of the filter was restored to the normal range of 99.3%. It has been fairly well established, since it was first discovered that moisture was being accumulated in the filter, that the apparent lowering of the filtration efficiency was due to the gradual release of iodine absorbed in the moisture rather than to an increased escape of particulate matter to the atmosphere.

## V. PROCESS CONTROL SECTION

### Dissolver Off-Gas Filters (Project C-337) and Silver Reactor

At the end of the month the fabrication of the first off-gas filter was approximately 50% complete. Plans for the silver reactor for iodine removal from dissolver off-gases were completed and approved by the Appropriations and Budget Committee and the project proposal is now awaiting AEC approval.

### Increased Capacity for Canyon and Concentration Buildings

A project proposal for equipment rearrangements in F cell of the Concentration Buildings which will permit operation of the two centrifuges in those cells in parallel has been presented to the A & B Committee for approval. A work order for preparation of the necessary design and project proposal for installation of an additional precipitator for the second decontamination cycle process has been submitted to the Project Engineering Division. The equipment changes which will be accomplished by these two revisions to existing equipment will reduce the time cycles at these two points to nine hours.

### Settling of Canyon Cell Drainage Wastes

Investigations recently carried out by the Separations Technology Division have indicated that considerable decontamination of canyon cell drainage wastes can be accomplished by permitting these wastes to settle before discharging them to underground cribs. In addition there are available methods which appear quite attractive for scavenging activity from these wastes. During the month a study was completed which indicated the x-110 tanks in both the 241-B and 241-T waste farms could be removed from second decontamination cycle waste service and be converted to canyon cell waste drainage settling tanks with continuous overflow to the cribs. Allocation of the x-110 B and T tanks to this service was approved and immediate steps will be taken to effect the necessary piping changes.

Special Sampling

The following special samples were obtained and delivered during the month:

a) 210 lbs. of metal waste sludge from x-101-U for underground nitric wash tank Oak Ridge National Laboratories.

b) 100 ml metal solution from T Plant Canyon Building for shipment to the Berkley Radiation Laboratory.

c) 500 ml first cycle neutralized waste, 500 ml first cycle unneutralized waste and 500 ml first cycle sludge for Mounds Laboratory.

d) 100 ml of dissolver solution from the T Plant Canyon for the 300 Area Chemical Research Group of the Technical Divisions.

e) 4 lbs. of metal waste sludge from x-101-U tank for the 300 Area Chemical Research Group.

Cell Drainage Conductivity Meters

An experimental set of conductivity leak detecting devices was fabricated and placed in a cell drain in the 224-U Building for fitting. From this trial fitting it was found that there are still some mechanical refinements to be accomplished before the unit is ready for installation in an active cell. It is expected that the necessary changes in this apparatus can be completed within the next month.

VI. EXPANSION SECTION

1. Rala

General

Scope design is estimated to be 90% complete and detailed design 46% complete. A total of 10 scope prints and 76 detailed design prints were approved during the month.

The construction work has been divided into six major phases. These phases are:

Phase I

1. Canyon clean-up (Essentially Complete)
2. Equipment salvage (Complete)
3. Temporary construction (50% Complete)
4. Cell 5 and Cell 5 gallery installation including instrumentation and electrical work and the fabrication of cell jumpers, trench jumpers, several jumpers for other 221-T building cells and equipment mock-up adjustment.

[redacted]



5. Procurement of designed equipment for Phases III, IV, V and VI.

Phase II

1. Secure mock-up dummies for Cell 5, TA & TB vessels. (Dummies for Cell 5 complete)

Phase III

1. Cell TA and Cell TA gallery equipment, piping, instrumentation and electrical work. The fabrication of cell jumpers and adjustment of equipment in mock-up.
2. Outside lines installation.
3. Service and sewer tie-ins to 222-T Addition.

Phase IV

1. Modifications to 15 sample pits in Cells 5, TA and TB.
2. A building addition to the rear of 221-T head end for sampler and shipping cask handling, roads and grading to this addition.
3. Procurement of special items, as listed in Attachment B, for inclusion in Phase I cost estimate.

Phase V

1. Cell TB and Cell TB gallery installation including piping, instrumentation and electrical work.

Phase VI

1. Install fan, filter and duct work at 291-T Bldg.
2. Rebuild power substation and supply motor controls for 291-T fan addition.

The Separations Division of the Design and Construction Divisions will release work for construction to Project Engineering Divisions by phases in accordance with a schedule agreed to by both parties.

The cost estimate, prior to release, for Phases I and II is scheduled for completion May 4, 1950.

Electrolytic Cell

The General Engineering and Consulting Laboratory has agreed to forward a scope description of the cell design to Hanford on May 2, 1950. Detailed design would be expected two weeks after scope approval.



[redacted]

Laboratory

Eight prints embodying the entire scope of the 222-T laboratory building addition for the radiolanthanum project, were submitted to the AEC for approval on April 21.

The Analytical Section has requested that a standard sample size of 1 ml be used for all samples. The Design Division is re-evaluating the shielding and handling problems of a carrier to contain a 1 ml sample.

The results of this evaluation are expected May 12, 1950.

2. Metal Waste Recovery Plant

General

G.E. scope design is about 80 percent complete.

An inventory has been taken of the process equipment in the 221 and 224-U Building, and it is being reconciled with Property Accounting. D&C will assume the responsibility for this equipment when construction funds become available and the necessary procedures have been formulated.

Explanatory conferences have been held regarding construction acceptance procedures, as well as to outline the apparent responsibilities of interested parties in Health Instrument phases. Since these items are extremely important, a definitive program will be resolved in the near future.

The study of the procurement of essential materials continued, and at month-end, five (5) firms have indicated a definite interest in connection with tributyl phosphate, and four (4) companies are examining the petroleum diluent specifications. It is expected that certain preliminary features of the nitric acid supply will be resolved during the coming month.

Removal of Metal Waste from Tank Farm

The Design Instruction Letter, covering the removal of waste solution from the x-101 series tanks in the 241-U tank farm, has been in the hands of the Architect-Engineer for about a month. It is expected that representatives of the S Division and D&C will confer with the Architect-Engineer in New York early next month on the various aspects, prior to proceeding with detail design. Further scope work on the other two cascades in 241-U and the remaining tank farms will be contingent upon the design of the first cascade in 241-U.

Underground Transfer of Process Solutions

The preliminary plans and estimates are being reviewed at month-end. Since there has been almost continual consultation between the interested Divisions, it is anticipated that this phase will progress rapidly.

Metal Recovery - Conversion of 221 and 224-U Buildings

The following Design Instruction Letters have been approved by the Separations Committee:

1. Architectural and Structural.
2. Heating and Ventilation.
3. Exhaust ventilation System - 291-U.
4. General Instructions for 277-U.
5. Mock-up Facilities.

Design Instruction Letters to be submitted for approval at month-end were as follows:

1. Process Equipment.
2. Rotating Equipment.
3. Demineralized water System.
4. 221-U Building Canyon Crane.

Other Design Instructions are being developed and reviewed as indicated below:

1. Electric Power System
2. Equipment Removal and Building Renovation.
3. Outside utility Lines.
4. R.R., Roads, walks, and Fences.
5. Materials of Construction.
6. Special Protective Coatings.

An estimate has been made relative to item No. 2 above, and information being forwarded to the A & B Committee requesting approval to obtain construction funds to cover stripping the building of existing process and related equipment. Only a fraction of the existing facilities will be applicable to the TBP process.

Considerable explanatory work has been accomplished in connection with items Nos. 5 and 6, however a few specific features are undergoing confirmatory tests.

3. UNH Conversion to $UO_3$

A re-estimate of the UNH Conversion facilities, based upon relocation in the existing 224-U Building, indicates a decrease of $722,000 when compared with the original estimate. Also, it appears that the TBP project might realize a saving of $500,000,

due to a consolidation of process equipment, as a result of merging the product concentration phases. The foregoing is being reviewed prior to submittal to the AEC.

Scope work has been initiated and a Material Balance Flow Sheet is being reviewed currently.

The Technical Divisions have made inquiry as to the specific and definite chemical specifications desired concerning the finished $UO_3$.

4. Redox

General

Mr. R. K. Smith, senior supervisor, joined the group on 4-24-50, and has been assigned the responsibility of establishing a Manufacturing Division field office for construction checking work in the S Area

Design

1. Drawings for Signature

A large number of prints have been received during the past month for comment and signature. Emphasis has been placed on drawings showing piping-through-concrete (particularly in the lower sections of the building), Class I and II vessels, heating and ventilating ductwork, and electrical conduit-in-concrete. The pipe and conduit-through-concrete drawings are being expedited in order to assure availability of prints to the construction forces. Class I and II vessels details are being expedited because of the criticality of procurement of these items.

2. Silo Lighting and Viewing Windows

A re-study of the silo lighting has been submitted by the Architect-Engineer for G.E. information and approval. Sodium vapor lamps have been eliminated and it is proposed to insert approximately 90 explosion proof incandescent lights through ten inch pipe sleeves in the silo wall to supply the bulk of the general lighting. For detailed work with the crane in the silo area, this will be augmented by a total of ten spot and flood lights mounted on the crane bridge, and further supplemented by two banks of explosion proof fluorescent tubes which can be lowered into the silo as required. It is being suggested by the Manufacturing Division that, because of its several undesirable features, the latter be eliminated until proved essential.

Comments on the detailed design of the viewing windows have been returned to the Design Division. Studies are currently being made to establish a minimum number of standard viewing window thicknesses, and it appears now that there will be two thicknesses of window in the silo area; namely, 20 inch and 36 inch.

3. Piping-through-concrete Shielding

Details of the piping-through-concrete bends from the pipe gallery to the cells have been returned to the Architect-Engineer for re-study to obtain the maximum possible shielding in the design of the S bends in the concrete.

4. Pipe Tunnel Piping

The preliminary designs of the pipe tunnel piping have been returned to the Architect-Engineer for re-study to simplify the piping by eliminating, where possible, superfluous expansion bends.

5. 291-S Preliminary Design

Heating and ventilating engineers from the Architect-Engineer's New York Office were present in meetings at Hanford during the past month presenting the design principles underlying building heating and ventilation. Of particular interest to the Manufacturing Divisions was the design of the sand filter and of the 291-S exhaust fan and stack facilities. The 291-S system features a steam turbine driven emergency exhaust fan which is capable of maintaining an air flow through the canyon comparable to that of the two electrically driven fans operated in parrallel.

6. 277-S Mock Up Building

A rather large number of Mock Up Building drawings were presented for signature during the past month. The design of this building is now essentially complete.

7. Modification of "C" Building Crane

A purchase order has been issued to the Whiting Corporation for the necessary materials and equipment to change the 221-C Building crane from a 75 ton to a 60 ton capacity, and provide low-voltage, direct current, Ward-Leonard type of drive and controls for all crane and hoist motors. Motors and wiring over the cell area will be of the totally enclosed type as required by process conditions. The "C" Building crane optics are currently undergoing revisions in the 300 Area shops and are not included in the above purchase order.

8. 207-S Retention Basin

Final approval has been received permitting the operation of the 207-S retention basin on a continuous basis with only sufficient holding capacity to permit the retention of cooling water discharge from the plant during an emergency shut-down. On this basis, the capacity of the originally designed basin will be reduced by approximately 50% with an accompanying construction cost saving.

9. Connector Development

Models of the 1,2,3 and 4 inch pipe connectors and explosion proof 7-point electrical connectors have been received at Hanford and are currently undergoing tests. To date tests on the pipe connectors have been satisfactory, however, tests of the electrical connector have indicated design changes in the impact screw and operating nut to be necessary. Re-designed replacement parts currently being fabricated, will be shipped to Hanford for completion of the tests. The molded Johns-Manville S-84 gasket has performed very favorably in steam service, and steps are currently being taken to eliminate, if possible, minor chipping of the inner gasket surface to prevent accumulation of chips in the process streams.

10. Comment System

A comment system, similar in many ways to the one which is in operation between this group and G.E. Design, has now been put into effect between G.E. Design and the Architect-Engineer. Under the terms of this agreement, written comments are submitted by the Design Division as follows:

Class I - Comments pertaining to safety and operability of the plant. These changes must be made prior to approval of the drawing by G.E. (or drawings approved with appropriate "holds" in place).

Class II - Comments pertaining to changes which must be made, but not necessarily prior to drawing approval.

Class III - Comments pointing out excessive design, poor utilition of facilities, undue complexity, etc., the alteration of which is left to the discretion of the Architect-Engineer.

11. Auxiliary Facilities

Detail prints have been received from the Design and Construction Divisions Power and Mechanical group indicating the design of the 211-S chemical storage area and of the 276-S organic

treatment and storage area. These prints are currently being studied by the Contact Engineer. Plot plans showing utility distribution and the orientation of the building in the S Area have been received for comment.

12. Pump Development

On the basis of testing and evaluation work performed in the 300 Area on "hot" process pumps, instructions have been issued to the Architect-Engineer to request bids on two special pumps both of which have been proved satisfactory during the testing. These pumps, designed by the Peerless and the Roth Companies, are quite similar in design, both being of the submerged turbine type and driven via a shaft extension from the tank top by an explosion proof motor. Pump and internal shaft bearings are lubricated by process solution, and the mechanical shaft seal is water lubricated from the pipe gallery. Preliminary studies indicate that two sizes of pumps will serve for all process uses in the 202-S Building.

Construction

202-S Building

Major excavation work for the 202-S Building has been completed and forms are being constructed for building footings. Additional construction fencing is being completed in the vicinity of the 241-S tank farm and the 277-S Mock Up Building. Removal of the saw filing shop and the contaminated sewer at the mock up building site has been completed by plant forces, and excavation has been started for construction of the mock up building footings. Bridging work to protect sewers and water lines in the construction corridor to the mock up area has been completed. Enlargement of the steam loop west of the laundry building is also being completed.

5. First Cycle Waste Evaporation

The Project Proposal was approved by the A and B Committee and forwarded to the AEC for approval. A request for $25,000 has been approved by the AEC and the design work will be resumed immediately.

POWER DIVISION
APRIL 1950

GENERAL

Eight boilers in the Power areas received their annual inspection by a Travelers' Insurance Company certified inspector, on April 12.

PERSONNEL AND ORGANIZATION

| No. of employees on Payroll - April | |
|---|---|
| Beginning of month | 539 |
| End of month | 539 |
| Net Increase | 0 |

Personnel activity for the month included the termination of one operator, the transfer out of the Division of two operators, and the transfer into the Division of three operators.

100 AREAS

Coagulant feed rates which averaged 12.5 ppm were the lowest for April since the start of operations, with a definite trend toward higher feed rates, due to changing water characteristics being evident at the months' end.

The installation of 14-inch deaerator by-passes in the 185 Deaerator Buildings was completed in the 100-F Area on April 7, and in the 100-B Area on April 21.

The annual inspection of the 100-B Area septic tanks was completed on April 19.

The transfer of the dichromate mixing equipment from the 108 Chemical Mixing Building to the 185 Deaerator Building was completed in the 100-B Area on April 27.

In the 100-D Area on April 12, the Fire and Sanitary water line to Patrol Headquarters was out of service from 9:00 a.m. until 12 noon, while a 6-inch connection was made for construction purposes.

In the 100-H Area, 190 Process Pump House, the replacement of the 30-inch water flow control valve on the No. 4 storage tank with a 14-inch valve was completed on April 19. All 30-inch flow control valves at this location have now been replaced with 14-inch valves.

200 AREAS

On April 22, a scheduled total electrical power outage was effected from 4:00 a.m. until 8:00 p.m. in the 200 Areas, during which time the emergency generators were operated to supply necessary power.

Power Division

In the West Area, during the above period, a cracked section of raw water line to the 271-T Canyon Building was replaced. Also, a two inch and six inch connection was made to the sanitary water line in the "T" Plant Area for Project C-343 work.

Some difficulty has been experienced with the bearings on the exhaust fans at the 234-5 Facility. Several measures for improvement of performance are in effect.

300 AREA

An 8-inch pressure control valve was installed in the suction line to the service water pumps on April 4. This will permit complete utilization of the maximum water supply available from the 3000 Area.

~~101 SHOPS~~

A 6-inch by-pass around the ground water storage tanks was completed on April 14. This installation will permit the required sectionalization of the water system in case of fire, by the operation of valves near the boiler house.

WHITE BLUFFS ICE PLANT

Operations were normal with 1,458,600 pounds of ice in storage.

POWER ENGINEERING SECTION

A survey of the density of coal in all storage piles was completed during the month, and as a result a new standard of 65 lbs./cu.ft. was adopted in place of the previously used standard of 70 lbs./cu.ft.

A review of the essential material requirements and storage facilities now permits the Division to vacate the temporary warehouses in the B, D, and F Areas. This move will be completed by July 1, 1950.

A study of the 300 Area water supply and distribution system was completed and resulted in recommendations to install a new line from the Nos. 3 and 4 well header for use at the 321-S location.

Satisfactory progress was made on the power plant fuel oil study.

[redacted]

## POWER DIVISION STATISTICS

From April 1, 1950

Thru April 30, 1950

| | | | AREAS | | | |
|---|---|---|---|---|---|---|
| | | | 100-B | 100-D | 100-F | 100-H |
| **RIVER PUMP HOUSE (Bldg 181)** | | | | | | |
| River state Feet above sea level | | (max) | 393.0 | 384.2 | 370.7 | 375.9 |
| | | (min) | 387.1 | 379.9 | 366.4 | 372.5 |
| | | (avg) | 390.7 | 382.1 | 368.5 | 374.1 |
| River temperature | avg. °F. | | 41.5 | 41.5 | 42.6 | 42.1 |
| Water to Reservoir | gpm avg.rate | | 39,313 | 41,077 | 39,841 | 48,544 |
| **RESERVOIR (Bldg 182)** | | | | | | |
| Water to Filter Plant | gpm avg.rate | | 34,030 | 35,603 | 34,120 | 43,264 |
| Water to Condenser System | gpm avg.rate | | * 3,753 | * 3,940 | * 5,148 | * 4,747 |
| Water to Export System | gpm avg.rate | | 1,530 | 1,534 | 573 | 533 |
| | gpm nor.rate | | 4,170 | 4,170 | 4,170 | 4,170 |
| Chlorine added #1 inlet | pounds | | 16,677 | 19,777 | 9,500 | 22,000 |
| * Process Waste Dilution | gpm avg.rate | | 467 | 972 | 1,946 | 1,931 |
| **FILTER PLANT (Bldg 183)** | | | | | | |
| Filtered water Power House | gpm avg.rate | | 233 | 262 | 247 | 259 |
| Filtered water to Process | gpm avg.rate | | 31,721 | 31,609 | 30,305 | 38,984 |
| Filtered water to construction | gpm avg.rate | | - | - | - | - |
| Filtered water to DR Process | gpm avg.rate | | - | - | - | - |
| Filtered water Fire & San. | gpm avg.rate | | 178 | 174 | 198 | 126 |
| Chlorine for Water Treatment | pounds | | 4,877 | 3,305 | 5,500 | 4,000 |
| | ppm avg. | | 1.59 | 1.59 | 1.16 | 1.59 |
| Lime for Water Treatment | pounds | | 67,000 | 58,000 | 60,500 | 63,000 |
| | ppm avg. | | 5.5 | 4.5 | 5.0 | 4.1 |
| Coagulant Water Treatment | pounds | | 140,100 | 148,000 | 156,360 | 203,940 |
| | ppm avg. | | 11.4 | 11.5 | 12.9 | 13.3 |
| Raw Water $p^H$ | $p^H$ avg. | | 7.86 | 7.79 | 7.9 | 7.9 |
| Finished Water $p^H$ | $p^H$ avg. | | 7.69 | 7.73 | 7.73 | 7.76 |
| Alkalinity, M.O. - Raw | ppm avg. | | 61 | 61 | 60 | 60 |
| Finished | ppm avg. | | 62 | 58 | 58 | 62 |
| Residual Chl. - Settled | ppm avg. | | .22 | .15 | .17 | .18 |
| Finished | ppm avg. | | .14 | .10 | .14 | .10 |
| Iron - Raw | ppm avg. | | .98 | 1.24 | 1.02 | 1.05 |
| North Clearwell | ppm avg. | | .02 | .01 | .02 | .01 |
| South Clearwell | ppm avg. | | .02 | .02 | .02 | .01 |
| Hardness - Finished | ppm avg. | | 83 | 79 | 76 | 66 |
| Turbidity - Raw | ppm avg. | | 40.1 | 44.0 | 41 | 47 |
| Filtered | ppm avg. | | 0 | 0 | 0 | 0 |



[redacted]

[redacted]

DECLASSIFIED

Power Division

From April 1, 1950

Thru April 30, 1950

| | | 100-B | 100-D | 100-F | 100-H | x |
|---|---|---|---|---|---|---|
| **POWER HOUSE (Bldg 184)** | | | | | | |
| Maximum Steam Generated | lbs./hr. | 134,000 | 148,000 | 136,000 | 132,000 | |
| Steam generated - Total | M pounds | 87,536 | 91,455 | 89,315 | 73,975 | |
| Avg. rate | lbs./hr. | 121,746 | 127,197 | 124,230 | 102,880 | |
| 225 psi Steam Plant (est) | M pounds | 73,674 | 76,997 | 75,183 | 62,022 | |
| 15 psi Steam Plant (est) | M pounds | 556 | 556 | 556 | 556 | |
| Coal Consumed | Tons | 6,535 | 6,494 | 6,589 | 5,416 | |
| Coal in storage (est) | Tons | 31,843 | 29,583 | 27,546 | 28,438 | |
| **DEAERATOR PLANT (Bldg 185) And 190-H TANK ROOM** | | | | | | |
| Water flow | gpm avg.rate | 31,471 | 31,359 | 30,055 | 38,734 | |
| Chemicals consumed: | | | | | | |
| Dichromate | pounds | 21,100 | 19,800 | 21,100 | 29,700 | |
| Sodium Silicate | pounds | 0 | 0 | 0 | 0 | |
| Chemical Analysis: | | | | | | |
| pH | pH avg. | 7.63 | 7.67 | 7.67 | 7.64 | |
| Dichromate | ppm avg. | 1.8 | 1.9 | 1.8 | 1.8 | |
| Dissolved Iron | ppm avg. | .02 | .02 | .02 | No anal. | |
| Free Chlorine | ppm avg. | .09 | .12 | .10 | " " | |
| **PROCESS PUMP ROOM (Bldg 190)** | | | | | | |
| Total water pumped | gpm avg.rate | 31,296 | 31,184 | 29,880 | 38,559 | |
| | gpm nor.rate | 32,137 | 31,926 | 30,760 | 40,700 | |
| Water temperature | avg. °F. | 44.6 | 44.6 | 44.6 | 44.8 | |
| **VALVE PIT (Bldg 105)** | | | | | | |
| Chemicals consumed: | | | | | | |
| Solids | pounds | 1,350 | 2,000 | 800 | 4,100 | |
| Chemical analysis: | | | | | | |
| A, B, C & D Headers | | | | | | |
| Standard limits | | | | | | |
| pH 7.5-7.8 | pH (max) | 7.65 | 7.70 | 7.70 | 7.70 | |
| | (min) | 7.55 | 7.60 | 7.60 | 7.60 | |
| | (avg) | 7.61 | 7.65 | 7.65 | 7.65 | |
| $Na_2Cr_2O$ 1.8-2.2 | ppm (max) | 1.9 | 1.9 | 2.0 | 2.0 | |
| | (min) | 1.7 | 1.8 | 1.8 | 1.7 | |
| | (avg) | 1.8 | 1.9 | 1.9 | 1.9 | |
| Iron | ppm (max) | .03 | .02 | .03 | .04 | |
| | (min) | .01 | .01 | .01 | .01 | |
| | (avg) | .01 | .01 | .02 | .02 | |
| Chlorides | ppm avg. | 1.7 | 1.7 | 1.6 | 1.7 | |



1220638

[redacted]

Power Division

From Apil 1, 1950

Thru April 30, 1950

| | Unit | 200 Areas | |
|---|---|---|---|
| | | 200 -E | 200-W |
| **RESERVOIR (Building 282)** | | | |
| Raw Water Pumped | gpm avg. rate | 1,819 | 2,350 |
| **FILTER PLANT (Building 283)** | | | |
| Filtered Water Pumped | gpm avg. rate | 277 | 800 |
| Chlorine Consumed | lb. | 185 | 228 |
| Alum Consumed | lb. | 3,362 | 7,956 |
| Chlorine Residual - Sanitary Water | ppm | .7 | .3 |
| **POWER HOUSE (Building 284)** | | | |
| Maximum Steam Generated | lbs./hr. | ** 76,000 | 76,000 |
| Steam Generated - Total | M Lb | 19,119 | 42,994 |
| Steam Generated - Ave. Rate | lb./hr. | 26,591 | 59,797 |
| Coal Consumed (Est.) | Tons | 1,517 | 2,986 |
| Coal in Storage (Est.) | Tons | 8,099 | 14,432 |

| | | 300 Area |
|---|---|---|
| **POWER HOUSE (Building 384)** | | |
| Maximum Steam Generated | lbs./hr. | 19,700 |
| Steam Generated - Total | M lb | 12,648 |
| Steam Generated - Avg. Rate | lb./hr. | 17,592 |
| Coal Consumed - Total (Est. | Tons | 917 |
| Coal in Storage (Est.) | Tons | 2,376 |
| **SANITARY AND FIRE SYSTEM (300)** | | |
| Sanitary Water from 3000 Area | gal. | 35,168,960 |
| Well Water Pumped - Total | gal. | 497,140 |
| Total Water Per Day | gal/day | 1,188,870 |
| Total Water | gpm avg. rate | 826 |
| Chlorine Residual | ppm | .30 |

| | | MISCELLANEOUS AREAS |
|---|---|---|
| **White Bluffs** | | |
| Ice Manufactured | lbs | 467,400 |
| **101 SHOPS** | | |
| Coal Consumed | Tons | 235 |

**Electrical Load Carried on Emergency Generator

[redacted]



INSTRUMENT DIVISION

MONTHLY REPORT FOR APRIL, 1950



## 100 AREAS

### 100-D Area

Experimental work in 105-DR has deferred the repositioning of the gauge lines for the process tube pressure monitor system. Gauge replacement on this unit is approximately 45% complete.

On April 25, 1950, a check on the "B" hole thermocouple installation in 105-D revealed a jumper across the terminals in the B.G.S.T. indicator case. Investigation has definitely established that false temperature data has been recorded on the "B" hole test operations for a period of at least four months. All available evidence having a bearing on this incident is being collected and will be given further publicity in a special report.

### 100-F Area

Two thermocouples have been installed in the vertical thimble to #19 VSR at 15 and 22 ft. levels.

More than normal amount of work on Victoreen Integrons has been experienced during the month. As a result a special study has been ordered to ascertain any possible significance between this experience and the power interruptions (See Shutdown Experience) that have occurred.

Considerable time has been expended in efforts to provide a suitable sheep collar radiation counter for the Animal Farm. A number of casualties to tubes and cables have been experienced.

### 100-H Area

Replacement of process tube pressure monitor gauges with factory modified units is approximately 75% complete.

### H-10 Project

All necessary instrument installation and calibrations have been completed.

### P-11 Project

Trouble developed in use of underwater proportional counter tubes due to water leakage. Liquid level indicators failed due to poor contacts. A fast trip device using a scintillation counter as the primary element is now being installed. Other instrumentation has performed satisfactorily.



[redacted]

P-13 Project, 105-H

All panels received and installed on X-1 level. Work has progressed slowly due to many necessary and requested changes to original design. Additional recorders and controllers required have been located and will be installed.

Shutdown Experience

100-B Area: Scram at 5:29 A.M. April 4 due to faulty mercoid in Pressure Monitor gauge 0668. Alarm was not cleared in the allotted time.

Scram at 6:26 P.M. April 19 due to plugged orifice on tube 2874. Pressure Monitor alarm not cleared in time.

100-F Area: Scram at 12:15 P.M. April 14 due to alarm on row 02 of Pressure Monitor; not cleared in allotted time. Cause: a brass sliver caused a short to ground in the mercoid circuit on gauge 0274.

Other scrams at 100-F on April 14 and April 19 were caused by failure of regulated voltage supply system. Defective Sola transformer discovered as cause. New transformers will be installed on next scheduled shutdown.

Scram at 4:40 P.M. April 21 apparently due to No. 2 Beckman. Investigation failed to reveal cause. It must be noted, however, that amplifiers were not on regulated voltage at the time.

100-H Area: Scram at 3:38 A.M. April 7 due to alarm on Pressure Monitor row #17; not cleared in the allotted time. Cause: poor connection on mercoid lead to banana jack on gauge no. 1772.

Scram at 9:55 P.M. April 24 when No. 3 Beckman annunciator tab dropped. This incident (cause unexplained) was followed by three near scrams, one of which caused No. 2 tab to drop and another gave simultaneous recordings of surges from Nos. 3 & 4. Though no shutdowns occurred the fact that several units performed erratically leads to the belief that electrical transients in supply circuit are responsible. Investigation of operational activity at time of experience failed to reveal any determining evidence. Extensive plans for correction during coming shutdown May 12 were agreed upon by "P", Electrical and Instrument Divisions.

200 AREAS



T & B Plants

Production Instruments

One conductivity cell in both 221T and B failed during the month. One had a broken electrode, the other a broken lead wire. Frequency of electrode unit failure indicates the necessity for a detachable unit such as is now on trial in 221T.

Three specially mounted Raytheon CK512AX tubes have been on trial as substitute input tubes for the Beckman amplifiers. Indications to date are that they are satisfactory and in some respects superior to the Beckman $P_1$.

It has been necessary to replace several broken mirrors in the 221-B crane periscope. Breakage was apparently caused by violent swinging of the lens in changing magnification. Larger dash pots have been installed to dampen the movement and no further breakage has been experienced.

Z Area

Production Instruments

Hood 8. Six oxygen rotameters became fouled by liquid HF. This condition has not been troublesome since the initial startup difficulties. To date no plausible reason has been found for liquid H.F. reaching this part of the system.

Hood 14. Considerable difficulty experienced in maintaining a leak-free vacuum system. Connecting joints were modified and strengthened to correct the condition.

Hood 19. Thermocouples were replaced on numerous occasions. There was no apparent change in the temperature response, indicating off-standard performance elsewhere in the system.

Hood 26. A great deal of overtime was spent in leak checking the system during the month. Modifications were made, using flanged joints where joints were necessary, and eliminating as many openings to the system as possible. As each component part was completed, it was pre-tested on a vacuum test system in the shop. As components were found leak-free they were re- installed. Part of the modification of the system included changing the thermocouple feed-through insulator from a Stupakoff to Kovar seals. At the same time a new thermocouple tip was installed in an attempt to get a better temperature indication and facilitate replacement.

Building 234-5 Ventilation System

The new atmospheric pressure reference tip installation is now complete.

During the shutdown of April 22 because of electrical outage a Taylor manual control station was installed. Operation is entirely satisfactory. Control stations for the other three boards were not received in time for installation on this shut-down.



[redacted]

## 300 AREA

### MANUFACTURING SECTION

#### C-290 - Fabrication of Neutron Spectrometer

Preliminary unapproved drawings for the shielding arrangement were received from the Project Engineering group on April 25. A superficial study of these drawings indicates that a major portion of the work is of such magnitude and weight that it may have to be fabricated off the site. The instrument portion of this project was scheduled for completion on May 1.

#### C-192 - Operational Instruments for Biology Laboratory - 108-F Building

Instructions are being received for establishing the scope of work. Work is proceeding to the extent of cost estimates for instruments required.

### OPTICAL SECTION

An optical planimeter was designed and fabricated for the Technical Division to measure the area of small, irregular foils. The device consists of a lamp, a ground glass, a metal aperture and a photocell to measure the amount of light not obscured by the sample. Suitable standards of known area allow calibration of the instrument.

#### Modification of Crane Periscopes for 202-S Building

Tests have proven that the telescoping tubes now in use are unnecessary for the revised periscopes. Shop work will be resumed when revised prints are available.

### MAINTENANCE SECTION

A pressurized Poppy has been completely rebuilt and delivered to the 321 Building. Electrical switches are interlocked with the pressure system to insure cabinet pressure of approximately 5 inches of water before the unit can be operated. Shop tests indicate about 36 hours of operating from a single filling of the self-contained air supply.

Approximately 300 instruments, consisting of Espey Junos and Nuclear GM Survey Meters, have been received for the A.E.C. Disaster Program. One hundred thirty of these instruments have been serviced and forwarded to the H.I. Calibrations Section.

### DEVELOPMENT SECTION

A feasibility report on the proposed Remote Control Transport System for the Radio-Lanthanum Analytical Laboratory was issued in two sections - Documents No. HW-17567 and HW-17582.

DESIGN & CONSTRUCTION GROUP

100-DR Area

Project C-342-P1 (190 Pump House)

Check lists are being prepared for instruments on order. Ninety per cent of the instrument equipment is now on order.

Project C-342-P2 (Gas System)

All equipment for the additional instrumentation is now on requisition. Eighty per cent of the required drawings have been issued.

100-G Area (Project C-300)

Bell 3X System

A work order has been issued to the Instrument Development Group to supply instruments and contribute required instrument personnel to run tests on borax glass ball safety system.

Control Rod Test

Tests are to be made to obtain data on the heat generated inside metals by neutron absorption. This data will be used to determine the rod material and the design of the rod cooling system. A work order has been issued to the Instrument Development Group and work on this item is approximately one-half complete.

Project C-187-D (Redox S)

Kellex Instrument Engineering Flow Diagrams (Scope) were approved April 7, 1950, with a hold on all steam and water flow rates to be checked after approval.

The first construction print, details on ion chamber tubes and windows, has been received for approval.

Study and approval of requisitions submitted by Kellex are consuming an abnormal amount of time. This is because of the number of errors to be corrected and revisions required.

Building ventilation was reviewed with Kellex representatives. Agreement was obtained between all parties to purchase a packaged system and to tighten up the automatic control specifications.



[redacted]

## Project C-343 (Radio-Lanthanum)

### Progress on Cell 5 Instrumentation

All instruments have been purchased and all drawings have been issued to Construction.

### Progress on Cell TA Instrumentation

Prints covering Cell TA Instrumentation are out for final comment and approval. Purchase orders have been placed on all instrument equipment required.

### Ionization Chambers

Calculations have been completed on ionization chambers for sample carriers. Discussion is in progress on the number and types of chambers required.

Calculations have been completed on ionization chambers for Cell TA and the tentative location and size of lead shielding determined.

A preliminary layout is being made of equipment in Cell TB to facilitate the calculation of radiation to ionization chambers located in this cell.

### Surplus Instruments

Instruments obtained from old TA and TB panels have been cleaned and checked. Instruments found to be economically beyond repair have been replaced with new instruments when surplus from other plant installations was not available. Parts for conversion of ranges or functions have been ordered.

## Project C-362 (Tri-Butyl Phosphate Process)

Twenty-eight instrument engineering scope drawings have been started. Eight will be ready for review by May 1, 1950.

The scope work is progressing with a graphic panel in mind. This type of control has been discussed with representatives of Foxboro, Bailey, Brown, and the Panellit Corporation. Comment has been favorable.

[redacted]

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MAINTENANCE DIVISION
April, 1950

The work on hand in the division decreased 3.8 per cent during the month to 9188 mandays, which represents a 31.8 crewday backlog.

100 AREAS

In an effort to prevent binding of the vertical safety rod, a special guide with sufficient clearance inside of the thimble to permit self alignment was machined and installed in # 26 position on the "D" pile. Likewise, to decrease sticking on entering the thimble, the tip on jointed rod # 27 on the "F" pile was decreased in length from twenty-seven inches to twenty-three inches.

As reported last month, #27 jointed rod on the "D" pile failed at a joint connector. The material for these connectors has been changed from type 416 stainless steel to type 303 and installed on # 27 and # 33 rods.

In order to permit Technical personnel to make observations, process tubes #1663 and #2486 were removed from the "B" pile. New 72-S aluminum tubes were used as replacement. For similar reasons #29 vertical safety rod thimble was removed from the "D" pile and #19 from the "F" pile. A special thimble fitted with thermocouples for temperature check was installed as replacement in the #19 "F" pile opening.

To permit the variation of cooling water supply, valved pigtails were installed on selected process tubes on the "F" pile at the request of the "P" and Technical Divisions. The valve plugs had orifice holes drilled in them to prevent complete stoppage of water flow.

A "G" design, tapered bore, gun barrel was installed in the "A" test hole to the "D" pile. Three canned samples of graphite have been inserted for radiation tests.

In order to reduce down time for valve repair on the Stoakes vacuum pump in 108-B, P-10 Laboratory, the valve facing was changed to Teflon material. Also, in this same facility, two melt furnaces were remodeled to permit the operators to easily remove spilled molten metal and also to prevent it from getting into the vacuum pump.

An improvement was made to the interior construction of the Ruggles-Klingman emergency turbine control valve in 184-D to reduce maintenance frequency and steam loss through leakage. A hard-faced valve seat was installed in such a way as to prevent leakage around the seat. Other changes were made to improve the operating efficiency of the valve. A small by-pass line was installed to permit turbine warm up.

[redacted]

Maintenance Division

As part of the construction cleanup work in 190-H Building, the Maintenance Division was requested to remove four-thirty inch butterfly valves and install thirteen inch valves in the thirty-inch storage tank supply lines. After the first was installed, line vibration from the turbulance indicated that further revisions were necessary. The solution was a combination of straightening vanes and 13 x 30" cone reducing section. The flow of water that can be permitted before turbulance starts was increased sufficiently to warrant similar installations in the remaining three lines.

In order to reduce the oil foaming in the 190-H prime pump drive turbines and gear reducers, changes in the oil return piping were made and orifices installed in the bearing supply lines. These changes have corrected the condition.

A six-inch by-pass line was installed around the emergency fire water storage tank and booster pump to permit the deep well pumps to force water directly into the 101 Building fire lines when needed.

200 AREAS

The division performed the following work in maintaining the 234-5 Building process hood line:

> Leaks were detected and repaired in the Hood 14 No. 1 furnace vacuum system. This involved replacement of a zinc plated furnace cover with a stainless steel cover and replacement of a purge valve.
>
> In order to restore Hood 26 vacuum system to satisfactory operating condition it was completely dismantled and cleaned. Several parts were altered to make them standard with Hood 25 and numerous piping changes were made to eliminate doubtful construction joints.
>
> The glass-lined cover to Hood 29 evaporator was replaced due to failure of the glass lining. Previous replacement was made in September, 1949.

The outboard bearing in #2 exhaust fan in 291-Z was removed from service because of excessive vibration. After cleaning and inspection, it was determined the bearing had not failed, and it has been re-installed for a trial period. Dynamic balance tests made at this time indicate the fan is in good balance and that unsatisfactory operation is due to other causes which appear to be excessive clearance between the inner race of the bearing and the shaft. Further study is being made of this difficulty in order to fully correct it. To eliminate one possible source of vibration the replacement of the drive V belts with matched sets of belts is in progress. To do this at a minimum cost a belt matching device has been built which permits matching of belts on hand rather than purchasing entire new sets.

[redacted]

Maintenance Division

The replacement of chemical sewer lines has been completed in the "T" Canyon Building. These replacements have been made with discarded stainless pipe rather than earthen glazed tile. This will increase the service life of this sewer installation.

New steam coils were installed in the caustic storage tank in the "T" Canyon Tank Farm. The original coils failed from freezing.

A number of strainers and connecting piping were replaced in Sections three and four in the "B" Canyon Building pipe gallery due to contamination. The contaminated liquid was pulled from the cell vessels because of vacuum in the line, the cause of which has not been determined.

A special adaptor was successfully used for a second time to repair a 224 Building centrifuge effluent line. Other methods of repair had not been successful on this line on the "D" Centrifuge in 224-B. This prevents the necessity of discarding the centrifuge and replacing it and thus represents a considerable savings.

The electrical driven sump pump was replaced in the 200 West coal crusher pit with a steam jet pump. This will eliminate failure of the motor due to flooding and related cost.

An air jetting system of liquid transfer was installed in cell #3 of the 231 Process Building to replace the water jet transfer system. This was done to curtail the large volume of waste water being sent to the disposal cribs. A similar change will be made in Cell #4.

The East Area maintenance shops fabricated eight replacement canyon cell piping assemblies.

300 AREA

Winter damage to the project perimeter fences has made it necessary to assign personnel to this repair work. Regular daily patrol, by maintenance personnel, of the perimeter fences was discontinued in September, 1949.

A ten inch pressure reducing valve and an eight inch by-pass line were installed in the main feed water line to the area service pumps. This change is to smooth out pressure variations to the pumps and thus increase the total water pumped.

[redacted]

## ELECTRICAL DIVISION

## APRIL, 1950

### GENERAL

The backlog of scheduled work for the Division at month end was 9,230 mandays, an increase of 586 mandays during the month. Very likely this increase is transitory because of work associated with Project C-295, expansion of 251 Substation. A seven percent increase of telephone backlog was offset by a similar decrease in line crew backlog.

The attached load chart for the peak day of the month, April 6, shows a peak of 75,850 KW with a coincidental demand of 25,850 KW for the 115 KV system plus the remaining portion of the 66 KV system. This peak, slightly higher than seasonal expectation, is due to lower than normal temperatures. [illegible]

A number of projects were reviewed with the Design Divisions:

(a) Continued group discussions of the electrical expansion in 200-W Area were arranged by the Electrical Division. Present and future load requirements were reviewed and are to be incorporated in a single design layout. Preliminary cost assignments to the various major projects (order of magnitude) were determined. An agreement was reached to install the spare transformer (220 KV) in 251 Substation with associate switchgear and steel so as to provide for complete dual service to the 200 Areas. Telephone facilities were reviewed and considered adequate for future projects in the 200-W Area.

It is generally considered that substantial saving will result from this co-ordinating action whereby the requirements are considered from the viewpoint of the entire area rather than from each individual new major project. Such savings, however, cannot be evaluated directly.

(b) Further review of Project C-341 (Additions to Richland Distribution System) were made with Project Engineering. Load studies last winter indicate the desirability of omitting the proposed Williams Street feeder at this time, and the addition of a relief feeder to the southwest portion of the Village plus minor changes in scope. Construction schedules, outage requirements, and division of work with a Subcontractor were reviewed. Data have been given to Project Engineering to enable preparation of a revised Project Proposal for early approval.

(c) Joint meetings were initiated by the Electrical Division for the purpose of establishing the normal and emergency power requirements of the Hanford Works Laboratory as well as the Rolling Mill for the 300 Area.

A major divisional organization change was accomplished, creating a staff as well as a line organization. The change was accomplished by re-assignment of present supervisory personnel, creating the position of "Assistant to the Superintendent" for the staff organization, and regrouping the 100 Area supervisory staff so that each Assistant Area Engineer is now responsible for two areas.



[redacted]

"Safety Inventory" with questionnaire was taken throughout the Division with excellent results directed toward improvement of safety program. All working plans and equipment were thoroughly reviewed.

AREA ACTIVITIES

In the 105-B Pile Building, selenium cell rectifiers were installed in series with the accumulator annunciator drop coils to eliminate "sneak circuits" through the indicating lights to correct improper functioning on some occasions.

A number of scrams occurred during the month:

A. April 14 - 105-F: Relay coil on emergency generator control panel burned out causing the generator to start and thus scram the unit.

B. April 19 - 105-F: Defective sola transformer supplying four Beckman instruments caused unit to scram.

C. April 27 - 105-D: An Electrician inadvertently pulled a safety circuit fuse instead of an annunciator fuse while investigating trouble in the latter circuit.

Dust tight switches were installed on four coal scales in Building 184-H to minimize failures from coal dust entry.

In the 300 Area, the wiring in the control cubicles of the dipping and canning furnaces was changed to enable delta operation with resultant improvement in temperature control and greater heating speed in changing from standby to operating condition.

In Building 3745-A, the 2 MEV X-Ray tube failed and is the subject of a special report.

TRANSMISSION AND DISTRIBUTION

Photo-electric control has been established for street and fence lighting in all 100 Areas.

Tie-in of switchgear and new lines at the 251 Substation for 200-W Area (Project C-295) is 57 percent complete.

Bonding of dead end structures in 251 Substation Yard has been accomplished during scheduled outages (Project C-295) thus completing this work on the entire 230 KV system as a measure to eliminate pole top fires on this type of wood structure.

In Richland, a 500 MCM bus has been installed between load centers in the new commercial area to facilitate maintenance.

An alternate feeder has been provided to Kadlec Hospital to permit line alterations and maintenance work on lines along Swift Blvd.



[redacted]

TELEPHONE SECTION

The old 18 position manual Richland exchange board has been removed, crated, and excessed.

Splicing of cable and installation of telephones in Richland continues at a high rate.

An intensive training course for maintenance of North Electric relay equipment has been started with the assistance of the Manufacturer.

An "open house" was held on April 29 at the Richland Exchange to enable the public to view this new installation and become acquainted with the customer services available. Approximately 500 persons attended.

The following summarizes current telephone services in Richland:

| | March 31 | April 30 |
|---|---|---|
| Lines in service | 3178 | 3314 |
| Stations in service | 4730 | 5045 |
| Vacant lines | 822 | 686 |

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## POWER STATISTICS - ELECTRICAL DIVISION
## FOR MONTH ENDING APRIL 30, 1950

| ITEM | ENERGY - MW HRS. March | ENERGY - MW HRS. April | MAX. DEMAND - KW March | MAX. DEMAND - KW April | LOAD FACTOR - % March | LOAD FACTOR - % April |
|---|---|---|---|---|---|---|
| **230 KV SYSTEM** | | | | | | |
| A-2 Out (100-B) | 7,410 | 7,220 | 11,800 | 11,800 | 84.4 | 85.0 |
| A-4 Out (100-D) | 7,740 | 7,660 | 12,300 | 12,700 | 84.6 | 83.8 |
| A-5 Out (100-H) | 9,360 | 9,000 | 13,800 | 13,950 | 91.2 | 89.6 |
| A-6 Out (100-F) | 7,180 | 6,970 | 11,500 | 11,000 | 83.9 | 88.0 |
| A-8 Out (200 Areas) | 3,550 | 3,142 | 5,400 | 5,300 | 88.4 | 82.3 |
| TOTAL OUT | 35,240 | 33,992 | 54,800** | 54,750** | 86.4 | 86.2 |
| MIDWAY IN | 35,853 | 34,598 | 52,000* | 51,600* | 92.7 | 93.1 |
| Transm. Loss | 613 | 606 | | | | |
| Percent Loss | 1.7 | 1.7 | | | | |
| **115 KV SYSTEM** | | | | | | |
| B1-S4 Out (N.Rich.) | 1,541 | 1,613 | 2,592 | 3,053 | 79.9 | 73.4 |
| B3-S4 Out (300 Area) | 396 | 349 | 744 | 756 | 71.5 | 64.2 |
| B3-S5 Out " | 452 | 400 | 1,120 | 1,220 | 54.3 | 45.6 |
| BB1-S1 Out (Richland) | 6,626 | 5,372 | 13,500** | 12,600** | 66.0 | 59.2 |
| BB1-S2 Out " | 6,442 | 5,396 | 13,320** | 12,960** | 65.0 | 57.8 |
| TOTAL OUT | 15,457 | 13,130 | 31,276** | 30,589** | 66.4 | 59.6 |
| Benton In | 160 | 180 | 25,000* | 13,200* | .9 | 1.9 |
| S. Richland In | 14,136 | 12,168 | 26,000* | 24,840* | 73.1 | 68.0 |
| TOTAL IN | 14,296 | 12,348 | 51,000** | 38,040** | 37.7 | 45.1 |
| Transm. Loss | -1,161 | -782 | | | | |
| Percent Loss | -8.1 | -6.4 | | | | |
| **66 KV SYSTEM** | | | | | | |
| B7-S10 Out (W.Bluffs) | 300 | 279 | 877 | 923 | 46.0 | 42.0 |
| Hanford Out | 324 | 284 | 600 | 600 | 72.5 | 65.7 |
| TOTAL OUT | 624 | 563 | 1,477** | 1,523** | 56.8 | 51.3 |
| HANFORD IN | 627 | 567 | 1,300* | 1,400* | 64.8 | 56.3 |
| Transm. Loss | 3 | 4 | | | | |
| Percent Loss | .5 | .7 | | | | |
| **PROJECT TOTAL** | | | | | | |
| 230 KV Out | 35,240 | 33,992 | 54,800** | 54,750** | 86.4 | 86.2 |
| 115 KV Out | 15,457 | 13,130 | 31,276** | 30,589** | 66.4 | 59.6 |
| 66 KV Out | 624 | 563 | 1,477** | 1,523** | 56.8 | 51.3 |
| TOTAL OUT | 51,321 | 47,685 | 87,553** | 86,862** | 78.9 | 76.2 |
| 230 KV In | 35,853 | 34,598 | 52,000* | 51,600* | 92.7 | 93.1 |
| 115 KV In | 14,296 | 12,348 | 51,000** | 38,040** | 37.7 | 45.1 |
| 66 KV In | 627 | 567 | 1,300* | 1,400* | 64.8 | 56.3 |
| TOTAL IN | 50,776 | 47,513 | 78,200* | 75,850* | 87.3 | 87.0 |
| Transm. Loss | -545 | -172 | | | | |
| Percent Loss | -1.1 | -0.4 | | | | |

* Denotes Coincidental Demand
** Non-Coincidental Demand

Average Power Factor - 230 KV System-- -95.7
Average Power Factor - 115 KV System-- -95.6
Average Power Factor - 66 KV System-- +95.2

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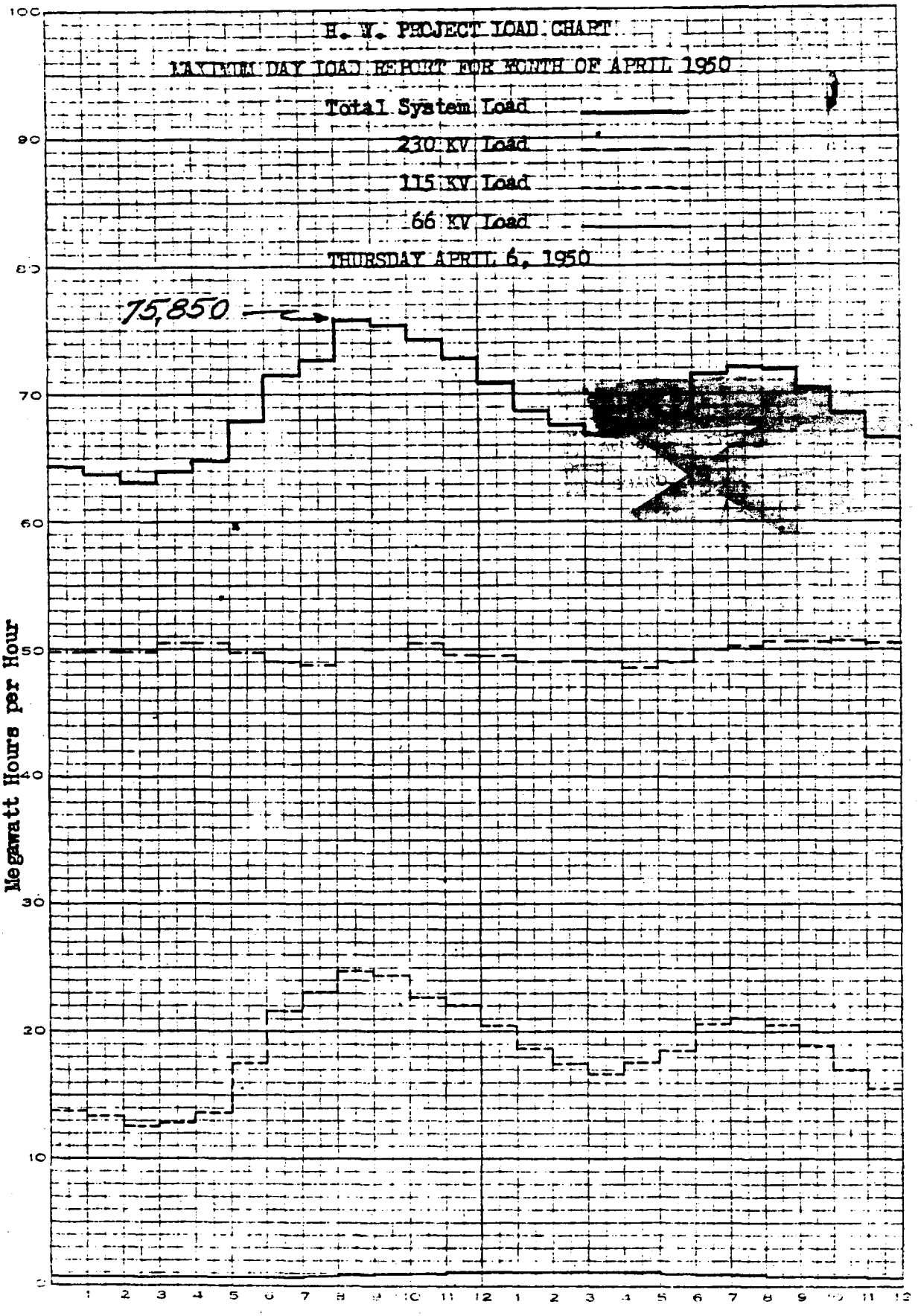

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HW-17660

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Classification Cancelled or Changed to [redacted]

By Authority of HANFORD OPERATIONS OFFICE, NON-TECHNICAL DOCUMENT REVIEW BOARD. H. L. Newton, Chairman

Date: 12-18-57

TRANSPORTATION DIVISION
MONTHLY REPORT
APRIL 1950

## GENERAL

Transportation Division personnel forces were increased by one exempt and 17 non-exempt employees during the month, from 598 to 616, by 13 transfers in, 8 new hires, 2 terminations, and 1 de-activation because of personal illness.

## RAILROAD ACTIVITIES

Commercial cars handled during April increased approximately 7% over March with the continuation of volume coal receipts plus some construction materials. Process service continued at a normal level with all movements being completed as scheduled. Considerable regulated work in connection with process building requirements was performed during the month.

The following recapitulation indicates the number of commercial cars handled:

Carload Movements - General Electric Company

| Loads In | Empties In | Loads Out | Empties Out |
|---|---|---|---|
| 1369 | 32 | 32 | 1310 |

Carload Movements - Subcontractors and Others

| | Loads In | Empties In | Loads Out | Empties Out |
|---|---|---|---|---|
| Atkinson-Jones Company | 32 | | | 31 |
| Rust Engineers | 1 | | | 1 |

Cars handled during April including process movements totaled 3,132 compared with 2,978 in March, 1,433 in February, and 1,223 in January.

Completed major overhaul of #2 engine on 80-ton Diesel electric locomotive 39-3719. This unit was returned to service on April 7 after being out of operation since February 1.

Factory representative completed load tests on four Alco 120-ton Diesel electric locomotives. Indicated adjustments have been made.

Samples of lubricating oil from all Diesel engines were sent to an outside laboratory for analysis. Recommendations were complied with upon receipt of analytical reports.

Completed removal of top and bottom plates of center sill on flat car 10-A-3622 which is undergoing major repairs.

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Transportation Division

By Authority of HANFORD OPERATIONS OFFICE NON-TECHNICAL DOCUMENT REVIEW BOARD. Chairman

12-18-57

Railroad track maintenance and rehabilitation work continued on a normal basis throughout the five sections. Replaced 1,400 defective cross ties in 100-B, 100-D and 200 West Areas. Completed rehabilitation of the tunnel portion of the 221-U track in the 200 West Area. The 183-D lead was cut at the construction fence and will be out of service for an extended period. The 108 track in the 100-B Area was removed for construction and will be replaced when building remodeling is completed. Surfacing of track was in progress on the "A" line near Mile Post 2.5, between Mile Posts 17 and 18, and the lead turnouts at Hanford; on the "B" line near Mile Post 25, Mile Post 35, and on the line west of Richland; on the "C" line from Mile Post 0.5 to Mile Post 1.0; and the 100-D Coal Track and 183-B track inside the fenced areas.

AUTOMOTIVE ACTIVITIES

The Area Bus System transported approximately 9% fewer passengers in April than in March. The following tabulation indicates the passenger volume by shifts and the total revenue received during the month.

| No. 1 | No. 2 | No. 3 | Total | Revenue |
|---|---|---|---|---|
| 23,528 | 49,774 | 51,216 | 124,518 | $6,225.90 |

The following is a comparative breakdown of average daily bus trips to the Plant Areas:

| | |
|---|---|
| Passenger Buses - 100-B Area | 10 |
| Passenger Buses - 100-D Area | 10 |
| Passenger Buses - 100-F Area | 10 |
| Passenger Buses - 100-H Area | 11 |
| Passenger Buses - Hanford | 5 |
| Passenger Buses - 200 East | 12 |
| Passenger Buses - 200 West | 17 |
| Passenger Buses - 300 Area | 8 |
| Passenger Buses - Riverland | 3 |
| Passenger Buses - Pistol Range | 1 |
| Passenger Buses - White Bluffs | 2 |
| Passenger Buses - North Richland | 3 |
| Passenger Buses - Pasco | 3 |
| 700-300 Shuttle Service | 17 |
| Inter-Area Passenger Service | 3 |
| Inter-Area Express Service | 1 |
| Inter-Area Mail Service | 1 |

The Village Bus System transported approximately 14% fewer passengers in April than in March. The service rendered is indicated in the following statistics:

| | |
|---|---|
| Total passengers including transfers | 48,699 |
| Total bus trips | 5,320 |
| Total bus miles operated | 29,260 |
| Revenue | $ 4,283.15 |

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Transportation Division

Special shuttle service within the Pasco Warehousing Area was rendered to prospective buyers at a public sale for two periods of three days during the month. This service was requested by the Atomic Energy Commission, Excess and Salvage Disposal Department.

A Plant inspection tour of the areas by visiting officials (MLC) required the services of two buses and drivers and April 13.

Off-Plant automobile trips (Company business and official visitors) totaled 169.

The following tabulation indicates the services rendered by the Drivers' Test Unit:

| | | | | |
|---|---|---|---|---|
| Applicants: | Male | 60 | Number retested | 0 |
| | Female | 3 | Number rejected | 0 |
| | Total | 63 | Number tests given | 63 |
| Permits Issued: | Unlimited | | | 54 |
| | Limited to driving with glasses | | | 9 |
| Permits Re-issued | | | | 44 |

The following tabulation indicates the volume of fuel distribution by the Equipment Maintenance Section:

| | Gasoline | Diesel Fuel | 50 Cetane | Kerosene |
|---|---|---|---|---|
| Stock at start of month | 32,673 | 15,183 | 8,001 | 2,719 |
| Received during month | 92,681 | 44,623 | 23,488 | 7,423 |
| Total | 125,354 | 59,806 | 31,489 | 10,142 |
| Delivered to Area Stations | 103,199 | 50,575 | 25,053 | 7,783 |
| Atock at end of month | 22,155 | 9,231 | 6,436 | 2,359 |

The following tabulation indicates the Plantwide usage of automotive equipment:

| Code | Type | No. of Units | Total Mileage |
|---|---|---|---|
| 1A | Sedans | 331 | 552,179 |
| 1B | Buses | 155 | 230,831 |
| 1C | Pick-ups | 454 | 274,659 |
| 1D | Station Wagons | 83 | 63,691 |
| 1E | Armored Cars | 12 | 860 |
| 1G | Weapon Carriers | 55 | 10,018 |
| 68 Series | Trucks | 330 | 114,165 |
| | | 1,420 | 1,246,403 |

Painting of 15 K-7 International Village passenger buses was completed on April 17 by an outside contractor.

Transportation Division [redacted]

Began removal and storage of antifreeze from the cooling systems of automotive equipment and similar equipment where the quantity of the solution and location of equipment makes it possible to effect a savings over handling charges.

Completed overhaul of ten weed spray units and released for operation.

The Planning and Methods Section prepared a purchase requisition for 42 sedans to replace high mileage 1947 and 1948 models, which have passed mileage criteria recommended by the Bureau of the Budget and as suggested by the Atomic Energy Commission. The units in question have also reached the stage of being uneconomically reparable.

LABOR ACTIVITIES

Expended 254 manhours in manufacturing and delivering 500 tons of pre-mix material for Richland Village; 381 manhours in maintaining outside area roads and 214 manhours for Patrol roads; and 282 manhours for hauling and spreading ballast for stabilizing sand blow at the 3000 Area.

Road asphalt statistics in gallons are indicated in the following tabulation:

| | MC 1 | MC 3 | MC 4 | MC 5 |
|---|---|---|---|---|
| Stock at start of month | 4,725 | 0 | 0 | 0 |
| Received during month | 0 | 9,575 | 0 | 0 |
| Dispensed during month | 100 | 4,332 | 0 | 0 |
| Stock at end of month | 4,625 | 5,243 | 0 | 0 |

The volume of materials handled is indicated in the following tabulation of cars handled; broken down by Plant Areas:

| | 100 B | 100 D | 100 F | 100 H | 200 W | 200 E | 300 | Total |
|---|---|---|---|---|---|---|---|---|
| Cars coal unloaded | 288 | 257 | 248 | 166 | 112 | 57 | | 1128 |
| Cars other material | 0 | 4 | 2 | 2 | 11 | 2 | 1 | 22 |
| Cars loaded out | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 3 |

Loaded 12 carloads of lumber, 5 carloads of steel, 6 carloads of equipment, 4 carloads of ballast, 3 carloads of miscellaneous material, 195 truck loads of lumber, 60 truck loads of steel, 45 truck loads of equipment, 100 truck loads of tile, and 58 truck loads of miscellaneous material for off-plant shipments.

Expended 1,069 manhours in handling area deliveries, 350 manhours for Stores deliveries, and 953 manhours for moving furniture.

Expended 2,225 manhours in handling salvage materials for the Stores Division at the Pasco Warehousing Area which included the sorting and loading of 205 truck loads. Expended 432 manhours in unloading and warehousing 120 truck loads of incoming new material for the Stores Division at Warehouse #6.

Transportation Division

[redacted]

Expended 843 manhours in handling excess materials for the Stores Division at White Bluffs.

The Weed Control Program was started during the month when spraying operations were begun on April 24 in the Plant Areas, Roads, and Railroad Systems.

Routine Area Maintenance was performed in all operating areas with labor and transportation equipment being furnished for Projects C-138, C-192, C-227, C-287, C-295, C-326, C-343, and C-347.



[redacted]

# PROJECT ENGINEERING DIVISIONS
# MID-MONTHLY STATUS REPORT

DATE APRIL 15, 1950

($000,000) HIGH SPOT ESTIMATE ONLY
WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

# 100 AREA PROJECTS

| ENG. REQ. NO. | DATE RECEIVED | BLDG. OR AREA | DESCRIPTION OF WORK | DIVISION RESPONSIBLE | PROJECT NO. | ESTIMATED COST | ENGINEERING STATUS PER CENT COMPLETE | PROJECT DATE | APPROPRIATION REQUEST DATE | APPROVED A & B COMMITTEE | ROUTED TO GOVERNMENT | DIRECTIVE DATE | AUTHORIZATION RECEIVED | WORK RELEASE | FIELD WORK PER CENT COMPLETE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1034 | 5-29 | 185BDF | DISMANTLING OF EQUIPMENT IN THE DEMINERALIZING AND DE-AERATING PLANTS | POWER | C-172 | 360,200 | | 7-11-47 | | | 7-13 | 3-31 | 4-4 | 4-7 | | REVISED DIRECTIVE RECD. CERTAIN WORK TO BE SUBCONTRACTED |
| A532 | 1-7 | 108F | BIOLOGICAL LABORATORY, PARTS I AND II | H-I | C-192 | 1,121,000 | | 3-31-49 | 4-1 | 4-1 | 4-1 | 3-29 | 4-3 | 4-6 | | REVISED DIRECTIVE RECD. WORK PROGRESSING |
| A1046 | 6-14 | 105 D | NEUTRON SPECTROMETER | TECH. | C-290 | 17,400 | | 9-5-48 | 9-9 | 9-14 | 9-14 | 10-4 | 10-11 | 10-11 | | DESIGN PROGRESSING ON SHIELDING |
| A1060 | 7-29 | 100B,D,F | INCREASED SHIELDING - FRONT NOZZLE CAPS | P | C-306 | 79,000 | | 10-6-48 | 10-11 | 11-10 | 11-10 | 11-30 | 12-2 | 6-17 | | MATERIAL NOW BEING RECEIVED |
| A1057 | 4-20 | 105BF | EFFLUENT DIVERSIONARY OUTLET (105 - 107 B & F) | P | C-321 | 153,000 | | 1-12-49 | 1-14 | 1-26 | 1-26 | | | | | POSTPONED UNTIL FISCAL YEAR 1951 |
| A1093 | 3-17 | TRACT HOUSE | P-11 PROJECT | TECH. | C-340 | 328,000 | | 5-23-49 | 5-20 | 6-1 | 6-1 | 6-28 | 7-1 | 7-12 | | NO. 1 CONVERSION DESIGN PROGRESSING |
| A1097 | 4-27 | 101 | P-12 PROJECT | TECH. | C-346 | 391,000 | | 8-1-49 | 8-16 | 8-17 | 8-17 | 10-31 | 11-3 | 11-11 | | FIELD WORK SUSPENDED |
| A1100 | 5-27 | 105BDF | NOZZLE GALVANIZING AND REPLACEMENT | P | C-347 | 775,000 | | 8-15-49 | 8-15 | 10-12 | 10-12 | 12-28 | 1-4 | 1-13 | | FIELD WORK STARTED |
| A1110 | 7-21 | 105BDF | PILE CLEARANCE - INNER ROD ROOM WALLS 105BDF | P | C-355 | 40,600 | | 9-26-49 | 9-26 | 12-13 | 12-14 | 1-18 | 1-19 | 2-8 | | WORK BEING SCHEDULED IN ONE AREA |
| A1068 | 10-29 | 105 | DEVELOPMENT OF FLEXIBLE VERTICAL SAFETY RODS | P | M-713 | 18,500 | | 5-18-49 | 5-18 | 5-27 | 5-27 | 7-19 | 7-22 | 9-26 | | FIELD WORK IN PROGRESS |
| A1101 | 6-1 | 105BDF | IBM INSTALLATION FOR INDIVIDUAL PILE TUBE ACCOUNTING | P | M-715 | 13,400 | | 8-15-49 | 8-15 | 9-6 | 8-7 | 9-15 | 9-15 | 9-22 | | WORK TO BE RESCOPED |
| A1106 | 7-21 | 105BDF | RESTRAINING CLAMPS - PILE SHIELDING | P | M-721 | 15,000 | | 8-25-49 | 8-25 | 9-8 | 9-8 | 10-7 | 10-14 | 10-17 | | TWO AREAS COMPLETED - THIRD DEFERRED |
| A1104 | 6-7 | 107B | REPAIRS TO 107 BASIN (IMMEDIATE PROGRAM ONLY) | P | M-723 | 18,100 | | 9-15-49 | 9-15 | 10-12 | 10-12 | 10-25 | 10-27 | 12-2 | | WORK POSTPONED BY P-DIVISION |
| A1125 | 11-23 | 105H | P-13 PROJECT — AUTH. ON SUSP. CODE 20,000; ESTIM. ENTIRE COST (90,000) | TECH. | M-754 | | | 3-31-50 | 3-31 | | | | S.C. | 1-31 | | PROJECT AWAITING APPROVALS |
| A1130 | 2-3 | 108B | P-10-A EXPANSION — AUTH. ON SUSP. CODE 100,000; ESTIM. ENTIRE COST (300,000) | TECH. | M-758 | | | | | | | | S.C. | 2-24 | | WORK PROGRESSING ON SUSP. CODE |
| A1129 | 2-2 | 108-B | P-10-B COLD DEVELOPMENT LABORATORY — AUTH. ON SUSP. CODE 50,000; ESTIM. ENTIRE COST (95,000) | TECH. | M-759 / C-368 | | | 3-1-50 | 3-21 | 3-21 | 3-22 | | S.C. | 2-24 | | DESIGNS PROGRESSING UNDER HIGH PRIORITY ON SUSP. CODE |
| A555 | 11-6 | 100F | AQUATIC BIOLOGY LABORATORY — ENGINEERING 25,600; ENTIRE PROJECT (350,000) | H-1 | | | | 2-17-50 | 3-1 | | | | | | | FIELD WORK IN PROGRESS |
| A1059 | 6-29 | 100B | INSTALL STEEL PROCESS SEWER 105-B - 107-B | P | | (550,000) | | | | | | | | | | SCOPING WORK IN PROGRESS |
| A1086 | 2-4 | 100BDF | HIGH TANK CONTROL VALVES | POWER | | 40,000 | | | | | | | | | | PRESENT LINE BEING CHECKED FOR LEAKS |
| A1116 | 9-30 | 111-B | HEALTH MONITORING AND STORAGE FACILITIES | TECH. | | 16,100 | | 3-20-50 | 3-20-50 | | | | | | | HELD UP BY HIGHER PRIORITY WORK |
| A1118 | 10-14 | 105F | DOWNCOMER REPLACEMENT | P | | (100,000) | | | | | | | | | | AWAITING APPROVAL |
| A1119 | 10-17 | 100 200 300 | COAL METERING FACILITIES | POWER | | 31,400 | | | | | | | | | | HELD UP FOR HIGHER PRIORITY WORK |
| A1122 | 11-9 | 100 | DEVELOPMENT OF FLEXIBLE HORIZONTAL CONTROL RODS | P | | (50,000) | | | | | | | | | | TEMPORARILY HELD IN ABEYANCE |
| A1135 | 3-13 | 108B | P-10-D | TECH. | | (350,000) | | | | | | | | | | HELD UP FOR HIGHER PRIORITY WORK |
| | | | | | | | | | | | | | | | | DESIGN IN PROGRESS |

DECLASSIFIED

COMBINED TOTAL OF AUTHORIZED AND PENDING 100 AREA WORK $5,302,700

# PROJECT EN NEERING DIVISIONS
# MID-MONTHLY STATUS REPORT
# 200 AREA PROJECTS

($000,000) HIGH SPOT ESTIMATE ONLY
WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

DATE APRIL 15, 19 50

| ENG. REQ. NO. | DATE RECEIVED | BLDG. OR AREA | DESCRIPTION OF WORK | DIVISION RESPONSIBLE | PROJECT NO. | ESTIMATED COST | ENGINEERING STATUS PER CENT COMPLETE | PROJECT DATE | APPROPRIATION REQUESTED DATE | APPROVED A & B COMMITTEE | ROUTED TO GOVERNMENT | DIRECTIVE DATE | AUTHORIZATION RECEIVED | WORK RELEASE | FIELD WORK PER CENT COMPLETE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E-436 | 2-14 | 251 & 200EW | ENLARGING 251 SUBSTATION AND ADDITIONAL 13.8 KV FEEDERS 200 E-W | ELECT. | C-295 | 1,500,000 | | 8-25-48 | 10-5-48 | 10-12-48 | 10-15-48 | 10-13-48 | 11-19-48 | | | DESIGNS AND ESTIMATE PROGRESSING |
| 2469 | 12-30 | 200 | UNDERGROUND GEOLOGICAL & HYDROLOGICAL INVESTIGATION PROGRAM INCLUDING TEST WELLS & OTHER FACILITIES | H.I. | C-326 REV. | 95,000 | | 1-20-50 | 1-20-50 | 2-1-50 | 2-1-50 | 2-16 | 2-21 | 3-1 | | WORK PROGRESSING |
| 2460 | 12-23 | 221 TB | EQUIPMENT FOR DISSOLVER OFF GAS FILTRATION ($337,000 ORIGINALLY AUTHORIZED) | S | C-337 | 158,000 | | 4-13-49 | 4-13 | 5-6 | 5-6 | REV. DIR. 1-30-50 | REV. DIR. 2-2-50 | REV. DIR. 2-16-50 | | REVISED PROJECT APPROVED FOR CONSTRUCTION |
| A-546 | 7-19 | 200 E | HOT SEMIWORKS COMPLETE PLANS & SPECS. PART II | TECH. | C-349 | 150,000 | | 2-1-50 | 2-8 | 2-8 | 2-15 | 3-9 | 3-16 | 3-24 | | DESIGNS PROGRESSING |
| | | | HOT SEMIWORKS (ACTUAL CONSTRUCTION) PART III | TECH. | C-349 | (3,000,000) | | | | | | | | | | PROJECT IN PREPARATION |
| 2513 | 8-30 | 234-5 | AUXILIARY HOOD ENCLOSURE FOR PART I BLDG. 234 | S | C-366 | 49,000 | | 2-20-50 | 3-6 | 3-21 | 3-22 | 4-11 | 4-14 | | | WORK BEING SCHEDULED |
| 2491 | 5-13 | 200 EW | EVAPORATION FACILITIES FOR WASTE SOLUTIONS (200 EW) | S | C-369 | 864,000 | | 2-28-50 | 2-28 | 4-11 | 4-12 | | | | | AWAITING AUTHORIZATION |
| 2490 | 5-13 | 221 TB | IODINE REMOVAL FACILITIES FOR DISSOLVER OFF-GAS (200 EW) | S | C-378 | 149,000 | | 3-9-50 | 3-9 | 4-11 | 4-12 | | | | | AWAITING AUTHORIZATION |
| 2498 | 8-18 | 222-T | DESIGN AND INSTALL FISSION COUNTER | TECH. | M-753 | 14,750 | | 9-1-49 | 9-1 | 9-8 | 9-8 | 10-7 | 10-7 | 1-18 | | FIELD WORK PROGRESSING |
| A-554 | 12-23 | 222-U | OFFICE AND STORAGE ANNEX TO BLDG. 222-U | H-1 | M-755 | 9,700 | | 10-26-49 | 10-26 | 11-22 | 11-25 | 12-7 | 12-7 | 2-21 | | WORK BEING SCHEDULED |
| 2501 | 9-2 | 224 TB | REARRANGEMENT OF F CELL EQPT. BLDGS. 224 T & B | S | | 30,000 | | 4-12-50 | 4-12 | | | | | | | PROJECT AWAITING APPROVALS |
| 2501 | 9-2 | 221-TB | COMPLETE PARALLEL OPERATION FOR 221 BLDGS. | S | | (270,000) | | | | | | | | | | DESIGN WORK BEING RE-SCHEDULED |
| 2503 | 7-22 | 234-5 | DUCT LEVEL FLOOR COVERING AND SAFETY SHOWERS | S | | (150,000) | | | | | | | | | | DESIGNS POSTPONED BY S DIVISION |
| 2504 | 7-22 | 271 TB | INSTALLATION OF LABORATORY EQPT. IN BLDGS. 271 T-B | TECH. | | 13,600 | | | | | | | | | | INFORMAL REQUEST IN PREPARATION |
| 2520 | 1-16 | 234-5 | LOADING FACILITIES FOR RECYCLED MATERIAL BLDG. 234 | S | | 19,000 | | | | | | | | | | INFORMAL REQUEST IN PREPARATION |
| 2533 | 4-11 | 234-5 | PROCESS WASTE DISPOSAL SYSTEM | S | | (50,000) | | | | | | | | | | PRELIMINARY STUDIES IN PROGRESS |

COMBINED TOTAL OF AUTHORIZED AND PENDING 200 AREA WORK $6,372,050

# PROJECT ENGINEERING DIVISIONS
# MID-MONTHLY STATUS REPORT
# 300 AREA PROJECTS

DATE APRIL 15, 19 50

($000,000) HIGH SPOT ESTIMATE ONLY
WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

| ENG. REQ. NO. | DATE RECEIVED | BLDG. OR AREA | DESCRIPTION OF WORK | DIVISION RESPONSIBLE | PROJECT NO. | ESTIMATED COST | ENGINEERING STATUS PER CENT COMPLETE | PROJECT DATE | APPROPRIATION REQUEST DATE | APPROVED A & B COMMITTEE | ROUTED TO GOVERNMENT | DIRECTIVE DATE | AUTHORIZATION RECEIVED | WORK RELEASE | FIELD WORK PER CENT COMPLETE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A3044 | 11-10 | 3706-3707-C | 3706 CONVERSION AND 3707-C CONSTRUCTION | TECH. | C-227 | 557,000 | | 3-1-48 | | 3-3 | 3-15 | 5-1 | 3-18 | | | CONSTRUCTION COMPLETED 3-31-50 |
| A3060 | 8-12 | 300 | EXPERIMENTAL METALLURGY LABORATORY - BUILDING 3730 | TECH. | C-287 | 140,000 | | 11-5-48 | 11-5 | 11-7 | 11-9 | 12-2 | 12-6 | 3-7 | | WORK PROGRESSING |
| A3061 | 8-14 | 313-314 | IMPROVED VENTILATION - BLDGS. 313-314 | P | C-330 | 200,000 | | 12-8-49 | 12-8 | 12-28 | 12-18 | 2-1 | 2-3 | 2-10 | | SCOPE OF PROJECT COVERS ONLY ENGINEERING & DEVELOPMENT WORK AT PRESENT |
| A3062 | 2-9 | 314 | ROLLING MILL ($60,000 AUTHORIZED 12-13 FOR ENGINEERING) — AUTHORIZED / EST. TOTAL COST | P | C-339 | 60,000 / (2,800,000) | | 5-23-49 | 5-23 | 5-27 | 6-1 | 12-13 | 12-23 | 12-23 | | CONSULTANT'S REPORT RECEIVED 4-7-50 |
| A550 | 9-15 | 300 | ADDITION TO BLDG. 3745 | H.I. | C-354 | 20,300 | | 11-8-49 | 11-8 | 12-1 | 12-1 | 12-19 | 12-23 | 3-2 | | READY FOR SUBCONTRACT |
| A510 | 10-10 | 3701 | 300 AREA BADGE HOUSE ADDITION — PREVIOUSLY AUTH. INF. REQ. / PRESENT EST. TOTAL COST | SERV. | | 14,500 / 34,000 | | 12-14-48 | 12-10 | 12-14 | 12-31 | 1-3 | 1-6 | | | PROJECT AWAITING AUTHORIZATION |
| A528 | 11-14 | 300 | ADDITIONAL INSTRUMENT SHOP | INST. | C-377 | (102,000) | | 3-21-50 | 3-25 | | | | | | | AWAITING APPROVAL |
| A548 | 8-29 | 300 | SOLVENT STORAGE FACILITIES - BLDG. 3706 | TECH. | | (60,000) | | | | | | | | | | DESIGN IN PREPARATION |
| A3077 | 12-23 | 313 | AUTOMATIC SCREW MACHINE INSTALLATION | P | | (180,000) | | | | | | | | | | PROJECT IN PREPARATION |
| A3083 | 7-21 | 313 | SEGREGATION OF FLUORIDE SLUDGE | P | | (40,000) | | | | | | | | | | DESIGNS HELD PENDING FURTHER DECISIONS ON WORK TO BE DONE |
| | | | | | | | | | | | | | | | | DESIGNS HELD PENDING FURTHER DECISIONS ON WORK TO BE DONE |

COMBINED TOTAL OF AUTHORIZED AND PENDING 300 AREA WORK $3,576,300

DECLASSIFIED

# PROJECT EI INEERING DIVISIONS
# MID-MONTHLY STATUS REPORT

DATE APRIL 15, 19 50

($000,000) HIGH SPOT ESTIMATE ONLY
WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

# GENERAL PLANT PROJECTS

| ENG. REQ. NO. | DATE RECEIVED | BLDG. OR AREA | DESCRIPTION OF WORK | DIVISION RESPONSIBLE | PROJECT NO. | ESTIMATED COST | ENGINEERING STATUS PER CENT COMPLETE | PROJECT DATE | APPROPRIATION REQUEST DATE | APPROVED A & B COMMITTEE | ROUTED TO GOVERNMENT | DIRECTIVE DATE | AUTHORIZATION RECEIVED | WORK RELEASE | FIELD WORK PER CENT COMPLETE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 828 | 11-22 | 702 | ADDITION TO BLDG. 702 - AUTOMATIC DIAL TELEPHONE EXCHANGE | ELECT. | C-138 | 470,500 | | 3-7-47 | | | 3-10 | 5-12 | 5-21 | 5-13 | | WORK PROGRESSING |
| 900 | 8-21 | 506 | ADDITIONAL TELEPHONE CABLES - RICHLAND | ELECT. | C-144 | 71,000 | | 3-28-47 | | | 4-1 | 5-5 | 5-21 | 5-13 | | WORK PROGRESSING<br>PART IV AWAITING AUTHORIZATION |
| 962 | 7-10 | ALL | 115 KV POWER LINE TO RICHLAND PLUS SUBSTATION FACILITIES — AUTHORIZED 1,364,000; EST. TOTAL COST 1,500,000 | ELECT. | C-177 | | | 7-17-47 | | | 7-21 | 8-14 | 8-26 | 8-29 | | WORK HELD UP<br>SUB-CONTRACT NEGOTIATIONS - PROCEEDING FOR REMAINING WORK AS AUTHORIZED |
| A452 | 2-17 | ALL | PLANT TELEPHONE PROJECT | ELECT. | C-276 | 1,548,600 | | 9-8-48 | 7-13 | 9-8 | 9-9 | 10-3 | 10-6 | 10-6 | | WORK PROGRESSING |
| 990 | 6-28 | ALL | INSTALLATION OF NEW SECURITY FENCES - ALL AREAS | SERV. | C-291 | 424,000 | | 8-31-48 | 9-9 | 9-9 | 9-15 | 10-13 | 11-8 | 11-8 | | COMPLETED 1-17-50 |
| A511 | 10-13 | ALL | BUTT TREATMENT OF POWER LINE POLES | ELECT. | C-322 | 154,000 | | 12-27-48 | 1-20 | 1-20 | 1-26 | 2-1 | 2-4 | 10-15 | | WORK STARTED |
| 2480 | 3-15 | ALL | H. I. OPERATIONAL DIVISION SURVEY INSTRUMENTS | H.I. | C-333 | 85,000 | | 3-30-49 | 4-1 | 4-1 | 4-1 | 4-20 | 4-26 | 4-29 | | WORK BEING SCHEDULED |
| E406 | 5-16 | 1100 | ADDITIONS TO RICHLAND ELECTRICAL DISTRIBUTION SYSTEM | ELECT. | C-341 | 173,600 | | 5-27-49 | 5-27 | 6-6 | 6-16 | 9-2 | 9-13 | 9-2 | | WORK BEING SCHEDULED |
| A536 | 3-17 | 1100 | ADDITIONAL CAPACITY RICHLAND SEWAGE LIFT STATION | VILL. | C-357 | 47,500 | | 11-22-49 | 11-22 | 12-28 | 12-28 | 2-16 | 2-23 | | | AWAITING AEC AUTHORIZATION<br>HELD PENDING CONFERENCES WITH ARMY OFFICIALS |
| A543 | 7-14 | HANFORD | ARSENAL, SANITARY AND FIRE PROTECTION FACILITIES - PATROL PISTOL RANGE | SERV. | C-360 | 54,000 | | 12-19-49 | 12-23 | 2-14 | 2-15 | | | | | WORK BEING SCHEDULED |
| A542 | 7-8 | 200 | ADDITION TO METEOROLOGY BLDG. 622 | H.I. | C-365 | 23,100 | | 3-2-50 | 2-25 | 3-9 | 3-10 | 4-3 | 4-5 | 4-12 | | |
| E435 | 2-10 | 1100 | ELECTRICAL METERING - VILLAGE OF RICHLAND | ELECT. | M-735 | (350,000) | | | | | | | | | | DESIGNS STARTED |
| A534 | 2-25 | 1100 | SURGICAL WING AIR CONDITIONING - KADLEC HOSPITAL (INFORMAL REQUEST) | MED. | | 16,000 | | 5-2-49 | 5-2 | 5-5 | 5-5 | 5-18 | 5-23 | 5-27 | | WORK PROGRESSING |
| A552 | 10-7 | 1100 | SOFT WATER PIPE LINE 784-B TO KADLEC HOSPITAL (INFORMAL REQUEST) | MED. | | 9,800 | | 5-18-49 | 5-18 | 5-20 | 5-27 | 8-4 | 8-18 | | | READY FOR SUBCONTRACT |
| A557 | 11-11 | ALL | PERMANENT FENCING 230 KV AND DISTRIBUTION SUBSTATIONS | ELECT. | | (170,000) | | | | | | | | | | PROJECT IN PREPARATION |
| A558 | 11-11 | 500 | TRANSFORMER OIL STORAGE FACILITIES | ELECT. | | (10,800) | | | | | | | | | | DESIGNS STARTED<br>HELD UP FOR HIGHER PRIORITY WORK |
| A560 | 11-11 | 1100 | RELOCATION OF RICHLAND LINE CREW HEADQUARTERS | ELECT. | | (30,000) | | | | | | | | | | DESIGNS STARTED |
| A562 | 11-1 | 3000 | CENTRAL STORES WAREHOUSE IN 3000 AREA | STORES | | (1,417,000) | | | | | | | | | | AWAITING APPROVALS |
| A563 | 12-22 | ALL | REMOTE METEOROLOGICAL STATIONS | H.I. | | 30,800 | | 3-25-50 | 3-25 | | | | | | | DESIGN WORK PROGRESSING |
| A565 | 1-16 | 706 | ADDITIONS AND ALTERATIONS-706 LABORATORY | H.I. | | (100,000) | | | | | | | | | | AWAITING APPROVALS |
| A567 | 1-23 | 1100 | DORM M-1 CONVERSION TO OFFICE BLDG. | PURCH STORES | | 38,600 | | 3-16-50 | 3-16 | | | | | | | PROJECT IN PREPARATION |
| A568 | 2-27 | ALL | 1950 AREA ROAD MAINTENANCE PROGRAM | TRAN | | 115,000 | | | | | | | | | | PROJECT IN PREPARATION |
| A570 | 3-15 | 200 | CONSOLIDATED MAINT. SHOPS | MAINT. | | 310,000 | | | | | | | | | | DESIGNS STARTED |
| A571 | 4-7 | 200W | ANIMAL EXPOSURE CHAMBER | H.I. | | (45,000) | | | | | | | | | | DESIGNS STARTED |
| E426 | 11-11 | ALL | SALVAGE AND RECOVERY OF TELEPHONE CABLE AND EXCHANGE EQUIPMENT | ELECT. | | (32,600) | | | | | | | | | | DESIGNS STARTED |
| E432 | 1-11 | 300 | ELECT POWER SERVICE TO TECH CENTER | ELECT. | | (10,000) | | | | | | | | | | DESIGNS STARTED |
| E433 | 1-17 | 300 | TELEPHONE SERVICE TO TECH CENTER | ELECT. | | (5,000) | | | | | | | | | | DESIGNS STARTED |
| E434 | 1-13 | 300 | EXPERIMENTAL INDUCTION HEATING FACILITIES BLDG. 3732 | TECH. | | (35,000) | | | | | | | | | | COMBINED TOTAL OF AUTHORIZED AND PENDING GENERAL PLANT AREA WORK $7,122,900 |

DECLASSIFIED

# PROJECT ENGINEERING DIVISIONS
## ENGINEERING DESIGN
### 100 AREA

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (0 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| A-1001 | 9-1-49 | 100 | "AS-BUILT" DWGS. SINCE 9-1-46 | | | WORK PROGRESSING | | |
| A-1002 | 2-1-50 | 105 | G.E.C. STUDY | | | EXTENDED STUDY BY STANDING COMMITTEE | TECH. & P | |
| A-1074 | 11-2-49 | 115BDF | DESIGN MOISTURE EXTRACTION EQUIPMENT FOR GAS SYSTEM | | | NOT STARTED | P | |
| A-1075 | 12-10-49 | 100B | STUDY AND RECOMMEND ON LONG RANGE WAREHOUSING - 100, 200, AND 300 AREAS | | 3-29-50 | REPORT ISSUED | MFG. | |
| A-1085 | 2-4-50 | 100F | STUDY PILE OPERATION WITH 100% $CO_2$ ATMOSPHERE | | | DATA IN HANDS OF "P" DIV. | P | 7-1-50 |
| A-1127 | 1-20-50 | 108B | P-10 SHIPPING TUBE NUMBERING | | | REPORT IN ROUGH DRAFT FORM | TECH. | 4-30-50 |
| A-1128 | 2-1-50 | 100H | DESIGN GRAPHITE MONITORING PUSH RODS | | | NOT STARTED | P | 5-30-50 |
| A-1132 | 2-8-50 | 105 | ROTARY TUBE CUTTER | | | NOT STARTED | P | 6-30-50 |
| A-1134 | 3-10-50 | 108B | IMPROVED P-10 CAN OPENER | | 4-10-50 | DESIGN COMPLETED | TECH. | |

# PROJECT ENGI..ERING DIVISIONS
## ENGINEERING DESIGN
### 200 AREA

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (10 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| 2266 | 10-28-49 | 200EW | "AS-BUILT" DWGS. SINCE SEPT. 1, 1946 | | | ONLY URGENT CORRECTIONS BEING MADE TO DWGS. AT PRESENT | -- | 12-31-50 |
| 2279 | 12-1-49 | 221TB | STUDY AND MAKE RECOMMENDATIONS FOR REMOTE CONTROL REGASKETING FACILITIES | | | POSTPONED BY S-DIV. 2-7-50 | S | |
| 2517 | 1-16-50 | 234 | REV. PRINTS FOR RECOVERY HOOD EVAPORATORS | | | DRAWINGS BEING CHANGED | S | 4-21-50 |
| 2519R | 1-16-50 | 234-5 | PREPARE DWGS. FOR LATHE INSTALLATION | | | DRAWINGS BEING PREPARED | S | 4-28-50 |
| 2524 | 2-17-50 | 234-5 | PREPARE PIPING DESIGNS FOR HOODS 5,6,7 | | | DESIGN IN PREPARATION | S | 4-15-50 |
| 2525 | 2-23-50 | 221TB | DESIGN GASKET FOR DISSOLVER LID | | 3-24-50 | DESIGN COMPLETE | S | |
| 2526 | 2-24-50 | 234-5 | MODIFY EQUIPMENT ROOM #230 | | | DESIGN IN PREPARATION | S | 4-15-50 |
| 2528 | 2-24-50 | 222-B | DESIGN REPLACEMENT DRY WASTE CRIB | | 3-24-50 | DESIGN COMPLETE | TECH. | |
| 2529 | 3-15-50 | 235 | GLASS PIPE FOR HOODS 29 & 30 | | | DESIGN IN PROGRESS | S | 4-20-50 |
| 2530 | 4-3-50 | 234-5 | FILTERS FOR 26" VACUUM LINE | | | DESIGN IN PROGRESS | S | 4-28-50 |
| 2531 | 4-6-50 | 221-T | SPECIAL JUMPER FOR DIVERSION BOX #153 | | | DESIGN IN PROGRESS | S | 4-20-50 |
| 2532 | 4-6-50 | 221-T | CHANGE DWGS. FOR CONNECTORS IN SECTION 6-R | | | NOT STARTED | S | 5-5-50 |

# PROJECT ENGINEERING DIVISIONS
## ENGINEERING DESIGN
### 300 AREA

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (10 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| A-3002 | 9-1-49 | 300 | "AS-BUILT" DRAWINGS SINCE 9-1-46 | | | ONLY URGENT CORRECTIONS BEING MADE AT PRESENT | | |
| A-3070 | 10-28-49 | 3706 | STUDY VENTIL. REQUIREMENTS TO PROVIDE 40% HUMIDITY AND 2 MINUTE AIR CHANGE | | | WORK POSTPONED UNTIL ALL HOODS HAVE BEEN INSTALLED | TECH. | 5-1-50 |
| A-3082 | 7-8-49 | 3706 | DESIGN AND PREPARE COST EST. FOR EXHAUST SYSTEM FOR GRAPH. MACHINING IN ROOM 41A | | | DESIGNS PROGRESSING | TECH. | 5-1-50 |
| A-3085 | 9-27-49 | RIVER. | STUDY HIGH WATER TANK - RIVERLAND | | | RECOMMENDATIONS BEING PREPD. | POWER | 6-1-50 |
| A-3088 | 2-13-50 | 314 | STUDY GATE TYPE CRUCIBLE, MELT PLANT | | | WORK PROGRESSING | P | 5-1-50 |
| A-3090 | 3-7-50 | 314 | HOOD FOR OUTGASSING FURNACE | | | STUDY PROGRESSING | P | 5-1-50 |
| A-3091 | 3-23-50 | 101 | ESTIMATE IBM FACILITIES, 101 BLDG. | | 4-11-50 | COST ESTIMATE SUBMITTED | TECH. | |

# PROJECT ENGINEERING DIVISIONS
## ENGINEERING DESIGN
## PLANT GENERAL

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (10 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| A-537 | 4-8-49 | ALL | SURVEY FOR MAINTENANCE OF ALL RAILROADS INSIDE RESTRICTED AREAS | | | WORK PROGRESSING AS REQD. | TRAN. | 9-1-50 |
| A-553 | 9-7-49 | ALL | ARCHITECTURAL STANDARDS | | | WORK PROGRESSING AS REQD. | - | |
| A-569 | 3-2-50 | 300 | ENGRG. REPORT ON 300 AREA DEVELOP. STUDY | | | WORK PROGRESSING AS REQD. | TECH. & MFG. | 6-1-50 |
| E-405L | 1-12-50 | ALL | ELECTRICAL AS-BUILTS (LAYOUT WORK ONLY) | | | AS REQUIRED | - | |
| E-406L | 8-1-49 | 1100 | ADDITIONS TO VILLAGE DIST. - LAYOUT ONLY FOR PROJECT C-341 | | | WORK PROGRESSING AS REQD. | ELECT. | |
| E-436 | 3-7-50 | 251 SUB | ASPHALT TILE FLOOR DESIGN 251 SUB STA. | | 4-10-50 | COMPLETED | ELECT. | |
| A-1001L | 5-26-49 | 100 | AS-BUILTS - 100 AREAS - LAYOUT ONLY | | | WORK PROGRESSING AS REQD. | - | |
| A-1034S | 6-29-49 | 100BDF | DISMANTLING OF DEAERATING PLANTS ARCH. & MECH. DESIGNS & SPECS. ONLY | | | PROJECT PROPOSAL COMPLETED | POWER | |
| 2266L | 1-13-50 | 200EW | AS-BUILTS (LAYOUT WORK ONLY) | | | WORK PROGRESSING | - | 6-1-50 |
| A-3002L | 12-7-49 | 300 | AS-BUILTS - 300 AREA - LAYOUT ONLY | | | WORK PROGRESSING AS REQD. | - | |
| A-3062A | 5-17-50 | 314 | ROLLING MILL - ARCH. DESIGN ONLY- C-339 | | | NOT STARTED | P | |
| 4365D | 12-2-49 | - | PROCESS CHARTS - 300 AREA (FOR IND. ENGINEERING GROUP) | | | WORK PROGRESSING AS REQD. | P | |
| 4375D | 1-20-50 | 1100 | DRAFTING FOR TRANS. CONSOLID. STUDY | | | AS REQUIRED | TRAN. | 5-1-50 |
| 4377 | 3-3-50 | 100 | PREPARE CHARTS FOR P-10-A STUDY | | | WORK PROGRESSING | P | 6-1-50 |
| 4385 | 3-8-50 | 700 | FLEXIBLE PARTITION STUDY (DESIGN) | | 4-1-50 | COMPLETED | SERV. | |

# PROJECT ENGIN ERING DIVISIONS
## ELECTRICAL DESIGN
### PLANT GENERAL

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (10 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| A-505E | 8-19-49 | ALL | ELECTRICAL STANDARDS | | | WORK PROGRESSING | - | |
| A-528E | 1-16-50 | 300 | 300 AREA INSTRUMENT SHOP | | | WORK PROGRESSING | INST. | 5-1-50 |
| A-532E | 3-4-50 | 108F | BIOLOGICAL BLDG. - ELECT. DESIGN ONLY | | | WORK PROGRESSING | H-I | 5-1-50 |
| A-562SE | 2-27-50 | ALL | WAREHOUSE MODIFICATIONS | | | WORK PROGRESSING | STORES | 5-1-50 |
| A-567E | 2-10-50 | 1100 | DORM M-1 CONVERSION (HOLD) | | | HELD UP | STORES | 5-1-50 |
| E-427 | 11-11-49 | ALL | ADD'N. ELECTRICAL POLE REPLACEMENT - FISCAL YEAR 1950 | | | PRELIMINARY WORK STARTED | ELECT. | 6-1-50 |
| E-428 | 11-1-49 | HANF. | DISMANTLE DISTRIBUTION LINES AND TELEPHONE CABLE - HANFORD | | | PRELIMINARY WORK STARTED | ELECT. | 5-1-50 |
| E-431 | 11-11-49 | 1100 | EMERGENCY POWER PLANT - RICHLAND EXCHANGE (PRELIMINARY ENGINEERING) | | | PRELIMINARY WORK STARTED | ELECT. | 5-1-50 |
| E-436 | 2-20-50 | 251 | ENLARGING 251 SUB. | | | WORK PROGRESSING | ELECT. | 6-15-50 |
| E-438 | 3-30-50 | 66KV | DISMANTLE 66KV LINE | | | WORK PROGRESSING | ELECT. | |
| E-439 | 4-1-50 | ALL | AS BUILTS ALL AREAS | | | | | |
| A-1129E | 2-6-50 | 100B | P-10-B COLD LAB. | | | WORK PROGRESSING | TECH. | 4-21-50 |
| A-1130E | 2-16-50 | 100B | P-10-A EXPANSION | | | WORK PROGRESSING | TECH. | 4-21-50 |
| A-1135E | 4-2-50 | 108B | P-10-D | | | WORK PROGRESSING | TECH. | 7-1-50 |
| 2490E | 2-15-50 | 200EW | IODINE REMOVAL FACILITIES | | | WORK PROGRESSING | P | 5-1-50 |
| 2491E | 9-14-49 | 200EW | FIRST CYCLE EVAP. FAC. - 241 T-X, ELECTRICAL DESIGNS | | | HELD UP FOR ADDITIONAL INFORMATION | S | |
| A-3061E | 12-10-49 | 314 | INCREASED VENTIL. - ELECT. DESIGNS ONLY | | | WORK PROGRESSING | TECH. | 5-1-50 |
| A-3062E | 8-1-49 | 314 | ROLLING MILL FOR PROJECT C-339 - ELECTRICAL DESIGNS | | | WORK PROGRESSING | [illegible] | 5-1-50 |
| 4354E | 1-26-50 | 313 | FURNACE STUDY - ELECTRICAL SKETCHES | | | TEMPORARILY POSTPONED | P | |

# PROJECT ENGINEERING DIVISIONS
## INDUSTRIAL ENGINEERING
### ALL AREAS

---- WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ENGINEERING COMPLETE (10 20 30 40 50 60 70 80 90) | DRWGS. OR REPORT ISSUED DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| M714 | 5-4-49 | ALL | ELECTRICAL POWER CONSERVATION | | | WORK RESUMED | ELECT. | 4-21-50 |
| A-562S | 12-8-49 | 700 | STORES DIVISION CONSOLIDATION | | | WORK PROGRESSING | STORES | 4-21-50 |
| 4363 | 3-21-50 | ALL | PROJECT ENGRG. DIV. PERSONNEL ANALYSIS | | | WORK DEFERRED | P.E.D. | 5-26-50 |
| 4365 | 4-15-49 | 300 | METHODS STUDIES - P-DIVISION | | | | | |
| | | | CHIP BRIQUETTING STUDY | | | WORK COMPLETED 4-15-50 | P | |
| | | | MELT PLANT OPERATION ANALYSIS | | | WORK PROGRESSING | P | 5-1-50 |
| | | | OPTIMUM BILLET DIMENSION DETERMINATION | | | WORK PROGRESSING | P | 5-1-50 |
| | | | REDUCED CUT-OFF TOOL WIDTH | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| | | | PICKLED CHIP ECONOMICS | | | WORK PROGRESSING | P | 5-1-50 |
| | | | CANNING LINE MECHANIZATION | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| | 11-1-49 | 300 | MODIFIED MACHINING METHODS | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| | | | CHIP PICKLING METHODS | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| | | | PERSONNEL EXPOSURE - CHIP RECOVERY | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| | | | MELT PLANT MATERIAL HANDLING | | | AWTG. PERSONNEL ASSIGNMENT | P | |
| 4370 | 11-1-49 | 100 | INDUSTRIAL ENGINEERING P-DIVISION | | | | | |
| | | | CHARGE-DISCHARGE METHODS | | | WORK PROGRESSING | P | |
| | | | 105 BLDG. MECHANIZATION | | | WORK DEFERRED | P | 12-1-50 |
| | | | EVAL. OF SUGGESTIONS FOR P.C. GROUP | | | WORK PROGRESSING | P | 6-1-50 |
| | | | NOZZLE REPLACEMENT STUDY | | | WORK DEFERRED | P | 10-1-50 |
| | | | SHUTDOWN ECONOMICS | | | WORK PROGRESSING | P | 5-1-50 |
| 4374 | 12-20-49 | 200 | INDUSTRIAL ENGINEERING, S-DIVISION CREW REQUIREMENTS 221 & 224 BLDGS. | | | AWTG. PERSONNEL ASSIGNMENT | S | 12-20-50 |
| 4375 | 12-22-49 | 1100 | TRANSPORTATION DIVISION CONSOLIDATION | | | WORK PROGRESSING | TRANS. | 4-21-50 |
| 4376 | 12-16-49 | 1100 | ELECTRIC POWER METERING | | 3-31-50 | WORK COMPLETE | ELECT. | |
| 4378 | 2-5-50 | 202S | LUBRICATION SPECIFICATIONS MJ-1 | | | AWAITING EQUIPMENT DATA | S | 8-1-50 |
| 4379 | 2-3-50 | 234-5 | " " MJ-2 | | | " " " | S | 8-1-50 |
| 4380 | 2-3-50 | 221T | " " MJ-3 | | | " " " | S | 8-1-50 |
| 4381 | 2-3-50 | 221U | " " MJ-4 | | | " " " | S | 8-1-50 |
| 4382 | 3-2-50 | 200 | " " MJ-5 | | | " " " | S | 8-1-50 |
| 4383 | 3-6-50 | ALL | FUEL OIL STUDY | | | WORK PROGRESSING | POWER | 6-16-50 |
| 4384 | 3-3-50 | 762 | P.E.D. OFFICE SPACE ANALYSIS | | 3-13-50 | WORK COMPLETE | P.E.D. | |
| 4385 | 3-6-50 | 703 | OFFICE PARTITION STUDY | | | WORK PROGRESSING | O.S.D. | 4-28-50 |
| 4386 | 3-13-50 | ALL | STUDY DEVELOPMENT AND ROUTINE | | | GENERAL SERVICE | P.E.D. | 3-13-51 |

# PROJECT ENGINEERING DIVISIONS
# COST ESTIMATING WORK SCHEDULE
# WORK RECEIVED AND COMPLETED
## ALL AREAS

----WORK PROGRESS DURING PERIOD
———WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ESTIMATING COMPLETE (10 20 30 40 50 60 70 80 90) | SCHED. COMPL. DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| C-295 | 3-18-50 | 251 | ENLARGED 251 SUB. EST. TO COMPLETE | | 3-24-50 | $474,000 | | 4-7-50 |
| C-343 | 4-1-50 | 200 | WORK ORDER MJ-3-31 | | 4-3-50 | $4,700 EST. TO HOLT, JR. | | 4-1-50 |
| C-343 | 4-1-50 | 200 | WORK ORDER MJ-3-41 | | 4-4-50 | | | |
| C-343 | 3-22-50 | | MODIFY TANKS - RALA | | 3-29-50 | $13,500 EST. TO D & C | | 3-29-50 |
| M-715 | 2-10-50 | 105 | I.B.M. INSTALLATION - EST. TO COMPLETE | | HOLD | | | |
| M-754 | 3-3-50 | 100H | P-13 | | 3-6-50 | $100,000 EST. TO BOWMAN | | 3-30-50 |
| M-758 | 3-29-50 | 108-B | REVISION - ADDITIONAL FACILITIES | | 4-8-50 | $300,000 | | 4-8-50 |
| A-546 | 3-20-50 | 200W | SEMI-WORKS - REDOX SITE | | 3-20-50 | $320,000 EST. TO PETERSON | | 3-20-50 |
| A-557 | 4-6-50 | -- | FENCES - 230 KV & DISTR. SUBSTATIONS | | HOLD | | | |
| A-562 | 1-11-50 | 1,2,7 & 1100 | STORES DIVISION CONSOLIDATION | | 3-14-50 | | | |
| A-565 | 4-6-50 | 700 | BIO-ASSAY LABORATORY | | | | | 4-15-50 |
| A-568 | 3-28-50 | -- | SEAL COATING PLANT HIGHWAYS 1950 | | 3-28-50 | $103,300 EST. TO HYLBAK | MFG. | 3-30-50 |
| A-588 | 3-22-50 | 251 | OIL REPROCESSING FACILITIES | | 3-24-50 | $19,000 EST. TO PETERSON | | 3-24-50 |
| E-433 | 4-4-50 | 300 | TELEPHONE LINE FOR TECHNICAL CENTER | | 4-5-50 | $4,700 REVISED | | 4-5-50 |
| A-1085 | 4-1-50 | 100 | $CO_2$ BULK STORAGE AND DRY ICE GENERATOR | | 4-1-50 | $25,000 | | 4-2-50 |
| A-1125 | 3-29-50 | 105H | P-13 REVISION | | 3-31-50 | $100,000 | | 3-31-50 |
| A-1130 | 3-3-50 | 108B | P-10-A EXPANSION | | 3-20-50 | $300,000 EST. TO BOWMAN | | 4-8-50 |
| A-1135 | 4-10-50 | 108B | COMPARISON - AIR CONDITIONING | | 4-11-50 | | | |
| 2501 | 3-22-50 | 200 | PARALLEL OPERATION - F CELL | | 3-31-50 | $30,000 EST. TO JOHNSTON | | 3-31-50 |
| 2520 | 4-6-50 | 234-5 | R.C. WASTE CONTAINER FACILITY | | 4-15-50 | | | |
| 2527 | 4-5-50 | 100 | SHIPPING BOXES (2) | | 4-5-50 | $1,275 EST. TO JOHNSTON | | 4-5-50 |
| A-3090 | 3-30-50 | 300 | OXIDE ROASTING FURNACE - ALT. #1 | | 4-1-50 | $15,500 EST. TO SHAW | | 4-1-50 |



CONTD. ON PAGE 2

# PROJECT ENGINEERING DIVISIONS
# COST ESTIMATING WORK SCHEDULE
# WORK RECEIVED AND COMPLETED
## ALL AREAS

- - - - WORK PROGRESS DURING PERIOD
——— WORK PREVIOUSLY DONE

DATE APRIL 15, 1950

| E.R. NO. | DATE RECD. | BLDG. OR AREA | DESCRIPTION | PERCENT ESTIMATING COMPLETE (0 20 30 40 50 60 70 80 90) | SCHED. COMPL. DATE | REMARKS | DIV. RESPON. | ESTIM. COMPL. DATE |
|---|---|---|---|---|---|---|---|---|
| A-3090 | 3-30-50 | 300 | OXIDE ROASTING FURNACE - ALT. #2 | | 4-1-50 | $27,300 EST. TO SHAW | | 4-1-50 |
| A-3090 | 3-30-50 | 300 | ROTARY ROASTING FURNACE - ALT. #3 | | 4-20-50 | AWAITING VENDOR'S QUOTATION | | |
| A-3091 | 4-6-50 | 101 | I.B.M. COMPUTING LABORATORY | | 4-7-50 | $12,500 EST. TO SHAW | | 4-7-50 |
| 4365 | 4-5-50 | -- | METHYL ALCOHOL RECOVERY STILLS | | 4-21-50 | AWAITING VENDOR'S QUOTATION | | |
| 4375 | 3-24-50 | 600, 700, 1100 | RENOVATION OF TRANSPORTATION FACILITIES | | 4-6-50 | $337,000 | | 4-7-50 |
| BUDGET | 3-9-50 | 200 | BY TELEPHONE EXCHANGE ADDITION | | 3-12-50 | $50,000 | | 3-20-50 |
| W.O. #EE1686 | 3-3-50 | 100H | WATER RECIRCULATION | | 3-15-50 | $45,600 EST. TO D & C | | 3-13-50 |
| W.O. #H52985 | 4-1-50 | 200E | 231 FACILITY IN 224B | | 4-12-50 | $350,000 EST. TO BELL | | 4-6-50 |
| -- | 3-30-50 | 200 | RELATIVE COST - STEAM LINE SUPPORTS | | 4-12-50 | | | |

DECLASSIFIED

[redacted]

APRIL 15, 1950

RECAP - ALL AREAS

PROJECT COSTS

| | 100 | 200 | 300 | GENERAL | TOTAL |
|---|---|---|---|---|---|
| AUTHORIZED | $3,347,200 | $1,976,450 | $ 434,800 | $4,233,100 | $ 9,991,550 |
| AWAITING APPROVAL | 106,100 | 1,043,000 | 121,500 | 259,400 | 1,530,000 |
| WORK IN PREPARATION | 1,849,400 | 3,352,600 | 3,020,000 | 2,630,400 | 10,852,400 |
| TOTALS | $5,302,700 | $6,372,050 | $3,576,300 | $7,122,900 | $22,373,950 |
| LAST MONTH'S TOTALS | $4,955,500 | $3,474,050 | $4,138,800 | $6,797,300 | $19,365,650 |

PROJECTS COMPLETED DURING MONTH:

| | | |
|---|---|---|
| C-227 | 3706 CONVERSION & 3707-C CONSTRUCTION | $557,000 |
| C-322 | BUTT TREATMENT OF POWER LINE POLES | $154,000 |

SUBCONTRACTS IN FORCE: $ 76,606
SUBCONTRACTS PREPARING: $443,500

DECLASSIFIED

[redacted]

TECHNICAL DIVISIONS

April 1950 5/10/50

SUMMARY

Pile Technology Division

In studies directed toward determining the proper loading for the H-10 program, the dry DR Pile was loaded with P-10 fuel and feed slugs. Criticality was reached by loading 130 tubes, each tube containing six 8-inch fuel slugs and an average of four and one-half 4-inch feed slugs.

P-10 fuel slugs are showing wide and erratic variation in reactivity of individual pieces and it is necessary to test each piece in the Test Pile. Chemical analyses showed that the variable reactivity is caused by variation in the uranium content of the pieces; metallurgical studies show that the phenomenon is not caused by differences in particle size.

Metallographic studies have shown that complete solution of the second phase in P-10 feed slugs is feasible when the alloy is made from high purity aluminum.

For the first time, irradiated P-10 feed slugs were encountered which were covered with a black deposit after removing the jacket and which showed evidence of high gas pressure. General contamination of the can opening facility resulted.

Experiments in the plutonium critical mass laboratory failed to reach criticality in an 8-inch diameter cylinder because of limited cylinder length. Installation of a larger diameter cylinder and correction of operational difficulties were in progress at month's end.

X-ray studies on graphite samples mined from the bore of a process tube channel show that the crystal expansion at the center of the B Pile is less than the crystal expansion near the front and back, despite large differences in neutron flux.

Experiments at Simonds Saw and Steel Company indicated that it is feasible to roll uranium at 300°C, though operating difficulties prevented completion of the test program.

Separations Technology Division

Recent product hold-up accumulations in the Bismuth Phosphate Extraction step of the Separations Plants have been traced to insufficient agitation at low slurry levels and corrective measures have been applied. Uranium losses at points other than the Extraction step metal waste are being investigated. Production testing of increased final product solution volume transfer to Bldg. 234 from Bldg. 231 is still in progress. Bldg.234 refluorination frequency has dropped to 3.5%, as compared to a 1950 first quarter average of 23%. Plutonium Casting outgassing time cycles are being reduced by Production Test, monitored by

casting radiography studies. Recent plutonium core near-rejections because of alpha emission through coatings have initiated attempts to improve surface monitoring methods and to prevent intra-coating contamination.

In Redox and Metal Waste Recovery development, eighty additional solvent extraction runs were made during the past month, all on TBP process studies. Final specifications for TBP Production Plant packed column design have been established and issued. Preliminary specifications for TBP Production Plant pulse columns are to be issued early in May. Redox "hot" pump testing has progressed satisfactorily to the point where specifications for the final design of Production Plant pumps have been established. A study of the corrosion characteristics of TBP wastes containing chloride ion (from the caustic used in the plants for metal waste neutralization) has indicated rates of penetration of stainless steels of 5 to 15 mils/yr., not significantly high.

In the research laboratory, a study of possible effects of the use of lead-dipped slugs as Redox feed material has revealed no complications. Continued study of Redox head-end scavenging has proceeded along the lines of reducing Filtrol weights required and of substituting $MnO_2$ in part or in whole for Filtrol. Redox coupling to metal fabrication by arsenate precipitation has been carried in laboratory test studies through fluorination and reduction with very encouraging results obtained in first trials. A pulse column perforated plate composited from stainless steel and Fluorothene has given preliminary indications of doubling throughput limits of pulse columns. Additional studies of physical properties of TBP diluents, metal precipitates of monobutyl phosphates, and fluoride complexing in the TBP process have been carried out. Selective dissolution of aluminum in uranium-aluminum alloys for "25" process application has continued to look better than other methods studied. Continuous dissolving of "25" alloy slugs also appears feasible.

In the 234-5 process development laboratory, considerable additional study of sulfate-free plutonium peroxide precipitation as a possible substitute for oxalate purification has been carried out. Although much work remains to be done, test fluorinations and reductions of sulfate-free peroxide have given yields as high as 96.8%. Arrangements have been made with Los Alamos to increase the neutron count specification for 090 assemblies, based on the need shown by Hanford studies. Radiography improvement studies are being continued. Careful comparison studies are being carried out with "Poppy," scintillation counter, and "Pee-Wee" survey instruments for use in core components surface and coating examination.

Monitoring studies of sand filter performance have revealed that the moisture-saturated T Plant sand filter has now dried out completely and its filtration efficiency has returned to the normal 99.3 - 99.5%. There are reasonable grounds for believing that the true efficiency of this filter may never have dropped, as compared to "apparent" efficiencies reported by iodine complications of the monitoring methods. An extensive pilot plant study of relative efficiencies and life expectancies of Fiberglas and sand filters is proceeding on a seven-day week continuous operation basis. Pilot studies of silver reactor removal of iodine are also still in progress.

Technical Services Division

Full effort was continued by the Analytical Section on the Rala laboratory program, with seventeen designers and draftsmen in the Design Unit (all working a 6-day week) and the equivalent of four full-time chemists engaged in methods development. Shielding calculations confirmed that the laboratory Cubicle should have 12-inch and 8-inch thick steel walls and top, respectively, and prints were issued for final approval on this basis. The Instrument Division outlined the optical systems of the five periscopes required in this Cubicle to the point where their formal drafting could be commenced. A feasibility report also was received from the Instrument Division, regarding the controls proposed for the Remote Control Transport system of the analytical line. It was concluded that this system could be made to perform the desired functions.

Shift coverage in the analytical control laboratory of Bldg. 234-5 was reduced from three to two, effective April 24, as allowed by increased proficiency of laboratory personnel coupled with sample rescheduling. No reduction in total analytical load was involved.

Good progress was made on designs for the Hanford Works Laboratory Area. Design project proposals for the Rediochemistry Bldg. and the Radiometallurgy Bldg. were submitted to the A & B Committee, and the former was cleared to the A.E.C. for approval. The related design project proposal covering Plot Plan & Utilities for the new area is in preparation by D & C, with inclusion of the Mechanical Development Laboratory as required to make its building shell available for initial use by the construction contractor(s).

The transfer of machine tools and shop supplies from Bldg. 3706 to Bldg. 101 was completed by Maintenance as the first step in the consolidation of these Technical Shops into the latter location. Sufficient equipment is being retained in Bldg. 3706 to continue a small, one-man machine shop in that building. Arrangements for expanding the Bldg. 3706 Glass Shop into the larger room being vacated by this machine shop consolidation were made with the Maintenance Division.



ABG:dg

ABG

May 10, 1950

PILE TECHNOLOGY DIVISION

APRIL, 1950

VISITORS AND BUSINESS TRIPS

John Morfitt, Oak Ridge National Laboratory, was here April 3 - 14 for P-11 consultation.

H. B. Stewart, Knolls Atomic Power Laboratory, was here April 17 through May 5 for technical consultation.

H. Etherington, Argonne National Laboratory, was here April 25 and 26 for consultation on ANL-140.

Business trips of the Pile Technology Division personnel during April were as follows:

H. F. Zuhr and W. R. Feltc visited Knolls and General Engineering and Consulting Laboratory April 4 - 7 for consultation on P-10 extraction development program.

H. F. Zuhr visited Los Alamos Scientific Laboratory April 25, 26, and 27 for consultation on P-10 shipping and low temperature work on P-10.

Pile Technology Division

C. E. Lacy visited Lockport, N. Y. April 15 - 22 to serve as technical advisor on an experimental rolling test.

A. R. Matheson visited Knolls Atomic Power Laboratory April 17 through 21 for P-10 consultation.

W. W. Koenig visited Knolls and the West Milton Plant, Schenectady, N. Y. April 25 - 28 for metallurgical and corrosion consultation.

ORGANIZATION AND PERSONNEL



| | March | April |
|---|---|---|
| Physics Section | 40 | 40 |
| Engineering Section | 39 | 45 |
| Metallurgy Section | 31 | 31 |
| P-10 Project | 21 | 22 |
| Administrative | 3 | 3 |
| | 134 | 141 |

Two steno-typists were transferred into the Division to replace one who transferred out and one who is taking a three-month leave of absence.

Three engineers (assignment), two chemical engineers, and two technical graduates were hired for the Engineering Section.

An engineer in the Engineering Section transferred to the P-10 project.

PILE PHYSICS

Increased P-10 Production

The major event of the month in the program for increased P-10 production was the completion of the first experimental critical loading at DR Pile. This loading was done to determine the reactivity of a lattice containing only $U^{235}$-Al alloy slugs and Li-Al alloy slugs. The critical size was approximately twice the theoretical value calculated prior to the experiments. This discrepancy in size, however, indicates only a small discrepancy in the k of the lattice. The k indicated by the experiment was 1.15 compared to a calculated value of 1.20.

Prior to the beginning of the experiments the plans and procedures were reviewed by Dr. J. A. Wheeler representing the Reactor Safeguard Committee. His general approval and additional comments are given in document GEH-16,596.

Initial deliveries of $U^{235}$-Al alloy slugs were found to vary widely in uranium content by Test Pile measurements. Consequently, it became necessary to adopt a program of 100% testing of these slugs. Rejects on the first three shipments were 20-25% of the total. An improved method of casting the slugs was put into operation at Oak Ridge during the month and initial testing of a shipment received just prior to the month end indicated some improvement in uniformity.

Pile Technology Division

In considering expansion of P-10 production beyond the proposed H Pile loading it became evident that use of the H-10 type load in the central zone of a second pile had distinct advantages as compared to loading a pile exclusively for P-10 production. The situation was summarized in a memo to file "Expansion of H-10 Program," Doc. No. HW-17414.

Plutonium Critical Mass Experiments

The first experiment was run in the critical mass apparatus during the month. A plutonium solution at a concentration of 77.5 grams Pu/liter was introduced into an 8-inch diameter cylinder, completely surrounded by a water reflector. Neutron multiplication data were obtained with increasing amounts of solution up to 15-1/2 inches height (975 grams Pu). Extrapolation of the data indicated that the system would require at least 1300 grams to become critical and that it might not be possible to obtain a critical condition in an 8-inch cylinder of any length. Mr. John Morfitt of the K-25 critical mass laboratory assisted in carrying out this experiment.

Following the experiment it was necessary to shut down the equipment to correct faults discovered during the run. There were three major difficulties. Several small leaks in the process piping were discovered; although these leaks were small a large amount of time was required to decontaminate and repair them. Mechanical troubles developed with the motor driven leveling tanks and one bushing was replaced with a ball bearing type pillow block. Neutron counters immersed in the water reflector tank developed leaks and the water proofing arrangements had to be redesigned. The remainder of the month was required to effect the above changes.

Pile Physics Work

The new start up procedure mentioned in last month's report was tried at the B Pile during April with success equal to that obtained at D Pile in March. This procedure will now be adopted as standard at all piles.

The area physicists at D Area are assisting the Reactor Design Division in carrying out a test of the shielding properties of a new gun barrel design. The Physics Section personnel normally engaged in such work have been diverted to the experimental program at DR Pile.

Special Request Program

126 P-10-A slugs and ten other special requests were discharged from the piles during the month, while 115 P-10-A slugs and fifteen other special requests were being charged. There are fifteen additional special requests on hand awaiting irradiation.

Stoppage of the cooling water flow in the B Test Hole at the D Pile produced high temperatures in samples being irradiated there. Actual physical damage was done to some special request material of low melting point and the value of the graphite irradiations was considerably reduced. The cooling problem is being studied in an effort to improve the accuracy and reliability of temperature control.

Pile Technology Division

Reactivity

At month end the reactivity status of the four operating piles was as follows:

| | B Pile | D Pile | F Pile | H Pile |
|---|---|---|---|---|
| In rods | 65 ih | 76 ih | 80 ih | 225 ih |
| In xenon poison | 458 | 469 | 545 | 617 |
| In Special Requests | | | | |
| P-10 | 457 | 385 | 276 | 264 |
| Materials Testing Program | 13 | 5 | 27 | 0 |
| Other | 27 | 55 | 15 | 0 |
| In lead-cadmium columns | 0 | 0 | 0 | 55 |
| In bismuth | 118 | 104 | 116 | 0 |
| In plant assistance | 0 | 46 | 0 | 5 |
| In dummy columns | 0 | 11 | 27 | 0 |
| In overall coefficient | -240 | -275 | -263 | -130 |
| Total cold, clean reactivity | 898 | 876 | 823 | 1036 |

The overall coefficient allowances for the D and F piles have been adjusted for changes in circulating gas composition. The overall coefficient allowance of the H Pile was increased to conform with the 370 MW operating level.

B Pile lost 7 inhours and D pile 15 inhours during the month as a result of discharges of irradiated metal from the central regions. F Pile gained 29 inhours and H pile 65 inhours during the month as a result of product build up in the central regions of these piles.

PILE ENGINEERING

Graphite Expansion

The effect of the change from helium to carbon dioxide atmosphere in the B Pile is shown by the marked difference in graphite expansion between B Pile at present and the F Pile at the same exposure which was before any carbon dioxide had been added. The expansion at the center line was 3.2 inches at F as compared to 1.9 inches at B; at a point 3-1/2 feet into the graphite from the front face the expansion at F was 2.2 inches as compared to 1.5 inches at B.

The previously outlined plans to increase the carbon dioxide at all piles to 100% are in progress. The B and H Piles have been operating at 100% carbon dioxide. No further additions of helium will be made to the D Pile after May 1st. An increase from 60% to 80% was in progress at the F Pile at the end of the month and a further increase to 100% approved for two months later. It is expected that the power level of both the D and F Piles may have to be reduced from 305 MW to 290 MW or less in order to prevent vertical thimble temperatures above 400°C. An increase in power level of the B Pile to 290 or 305 MW appears feasible and is in process of approval. The H Pile power level was increased from 330 MW to 370 MW during the past month. A level of 400 MW appears to be about the maximum permitted by the present water temperature rise limits from boiling considerations.

Pile Technology Division

Measurements of the bore of graphite channel 1663-B indicates that the diameter is 4 to 16 mils over nominal. This represents an increase of 25 to 100% in the gas annulus between the process tube and graphite with a resulting increase in temperature differential between the tube and graphite. This explains the greater increases in graphite temperature, than had originally been calculated, with increases in concentrations of carbon dioxide in the pile atmospheres.

Graphite Monitoring

X-ray determinations of the Co-spacing of 19 graphite samples mined from the bore of process tube channel 2486-B on 4-19-50 have given the gradient of crystal expansion along the length of the channel. The expansion at the center of the pile is less than that near the front and back. At the front of the pile the expansion increases very rapidly with distance into the pile; for example, the expansion of the graphite at a position adjacent to the third slug is greater than the expansion at the center of the pile, although the flux at this point is only about 25% that at the center. At the back of the pile the gradient of damage is not as large. The expansion adjacent to the tenth slug from the rear is the same as the expansion at the centerline, although the flux at this point is only about 50% that at the center.

The shape of the damage vs. distance curve is qualitatively in agreement with overall pile distortion measurements which are the resultant of individual tube block and filler block distortions. These data demonstrate conclusively that the rate of damage in the hotter central zone of the piles, and even that in the bore of the tube blocks, has been reduced by the use of carbon dioxide.

Although the effective damaging flux should have approximately a cosine distribution from front to rear, these data show that the temperature of exposure is a more significant factor in controlling the rate of expansion. The effect of the cooling water in maintaining a lower temperature in the front region of the pile is demonstrated by the larger gradient of damage in this region.

The relative expansions, measured by the Co-spacing, for graphite samples mined from B Pile compared to those previously mined from the center of D and F Piles, is in excellent agreement with the relative displacements of the top center of the shields.

The information given by this type of data will be of particular value for monitoring the damage to the tube blocks at H Pile; these are undercut, and will not result in immediate shield displacement on expansion.

Thimble Replacement Program

Two bore thimble channels - 19F and 29D were inspected by borescoping and other viewing equipment. There are gaps up to three-quarters of an inch in width between the vertical concave blocks lining the VSR thimble channel. Small cracks were observed in the tube blocks but they are too small to offer any difficulty to the ball 3-X problem. A prototype step plug has been designed and shop sketches are in preparation for its construction.

Pile Technology Division



Slug Corrosion

P. T. 105-103-P, Supplement A, is progressing satisfactorily. Corrosion tubes are operating with exit temperatures as high as 89.5°C.

Nine Tube Mockup

Preliminary tests on the nine tube mockup showed up a number of minor faults particularly with the hydraulic system. These were corrected during the past month and the equipment is now in shape to run controlled tests.

Heat Transfer

The maximum pressure drop determined experimentally for water boiling in a 3/16" I.D., nine foot electrically heated aluminum tube has been found to be in agreement with the calculated maximum pressure drop for a 5 kilowatt heat input. Accurate flow rate measurements were prevented by violent pressure fluctuations in the tube.

The apparatus has been rebuilt to permit pressure drop and flow rate measurements on a 23 foot tube with an inside diameter equal to the "equivalent diameter" of a process tube annulus. A stainless steel test section has been installed to permit investigation of pressure drops and surface temperatures at heat loads comparable to those of a pile process tube. An outline of the proposed tests is contained in Document HW-17563, April 10, 1950 (J. T. Carleton to File).

Calculations indicate that a 20 mil (2 mils per month for 10 months exposure) diametrical expansion of a P-10 fuel slug would decrease the permissible power per H-10 tube by less than 5%.

P-10 Extraction

In P-10 extraction operations a total of 205 slugs were extracted. Five irradiated slugs covered with a black or bronzed sooty type material were encountered during the month. Analysis has indicated that this material contains sulfur 35. The can opening room has been contaminated with this radioactive sulfur and at month's end considerable difficulty was being experienced in decontamination attempts. The source of this black deposit is not known. One slug with high gas pressure was found. The appearance of this slug was normal.

A tube of slugs with an average exposure of 571 MWD/AT has been discharged. Twelve slugs from the center of the tube, estimated to have an average exposure of 673 MWD/AT, will be shipped to ANL for slug swelling experiments.

P-10-A Slug Manufacture

P-10-A slug manufacture and billet extrusion operations were suspended during the month pending results of the DR tests to determine the proper slug length. A total of 105 billets were cast.

Pile Technology Division

P-10 Construction and Development Progress

The P-10-A Expansion and P-10-B projects proceeded on schedule during the month. On the P-10-C project the General Engineering and Consulting Laboratory has prepared a proposal to cover the development, design and construction of a metal extraction line. This proposal will be reviewed at Hanford early in May.

The P-10-D project to provide hot facilities in 108-B to accommodate the metal extraction line is in the detailed design stage.

METALLURGY

Uranium Billet Casting

As a result of the following improvements in chip processing and Melt Plant procedures, a gain of approximately 4 per cent in billet yield has been realized: (a) Stopper rod breakage has been reduced by charging the furnace crucibles with TK briquettes at the top rather than at the bottom; (b) Improved rinsing following pickle, together with more rapid movement of pickled material to the Melt Plant has decreased the amount of oxide introduced with the chips; (c) Increased care in aligning molds and stopper rods with crucible pour holes has reduced losses due to spilled metal.

Stemming from efforts to improve the Melt Plant yield by reduction of oxide in TK briquettes, a general re-evaluation of the chip recovery operation has been initiated. Several low-cost improvements appear feasible, and if adopted, may be expected to result in a considerable saving. A report covering proposed improvements is in progress.

Uranium Rolling

Rolling of uranium at 300°C was attempted during the April run at Lockport. Five rods, which were rolled from billets at 600°C, were reduced from 2" diameter to standard rod size at 300°C without serious difficulties. There was much less oxidation at this temperature and the rods had a smooth surface finish. However, because the rods work hardened at this temperature, they were rather difficult to handle by the hand round rolling procedure used at Lockport. Curving of some of the pieces caused them to whip on entering and leaving the rolls. Since the operation was hazardous to the operating personnel, the test was halted and will be continued at a slightly higher temperature during a subsequent rolling period. It was the consensus of opinion, however, that rolling could be done at 300°C if full entrance and exit guides were used.

Uranium Slug Canning

A bronze-dip agitator mechanism, designed specifically for ready adaptation to time-cycle controlling equipment, was tried in production and found to work satisfactorily. The principal feature of this mechanism is its construction which permits the attachment of a pair of slugs (held in tongs) from opposite sides of the bronze furnace, thereby allowing each set of tongs

to be held in its guide for a predetermined time by a simple clock-controlled locking device. An operating schedule for use with this agitator mechanism was also developed.

A second trial of an Al-Si covered lead quench bath (supplanting the standard tin bath) was made, using a taller slug basket to prevent contacts of the bronze tongs with the Al-Si. The previously experienced accumulation of a mass of high-melting alloy on the tongs was not evident in the second trial, but the bond strength of the slugs canned by this method was extremely poor. The cause has not yet been determined.

Dilatometry

Dilatometric data were obtained on a number of canned slugs, but the data are not sufficiently complete to draw final conclusions on the suitability of the slug dilatometer as an inspection device for the degree of slug transformation. However, the method still appears promising for this inspection.

Radio-Metallurgy

The initial phase of the study of the attenuation of gamma rays by leaded glass has been completed and a report, Document HW-17288, was issued. Further investigations, with a more recently discharged piece of irradiated uranium, will continue as needed to satisfy questions of the proper design of the viewing plugs in the projected intermediate and high radiation level cells.

An attempt was made to polish vertical safety rod specimens, measuring 150 mr/hr at 3 inches in air, using conventional cloth laps with levigated alumina. Although a poor polish was obtained on the first try, it is felt that this type of polishing can be utilized for irradiated metals. Some coarse grinding was successfully done by using a rotating, horizontally mounted, cut-off wheel and an off-center rotating, three specimen, holder.

A hardness survey of some samples of process tubing from 1884-F revealed a direct relationship between the radiation from the sample and its hardness. Rockwell H values increased from an average 84.5 $R_H$ in the cold sections to 95.2 $R_H$ in the hot sections.

An unclassified report was written to explain the cause for the breaking of a coupling used in the loose joint construction of the vertical safety rods. Type 302 stainless steel was recommended for future use in this application.

P-10 Alloys

Two aluminum-enriched uranium alloy slugs which showed unusually high and low reactivity values in the test pile, slugs J-29 and J-69, respectively, were sectioned for chemical analysis and metallographic examination. Slug J-69 had an average uranium content of 7.1 per cent with a maximum variation of + 0.2 - 0.3 per cent based on nine samples. Slug J-29 had an average uranium content of 9.04 per cent based on nine samples, but there was considerable variation in the analyses indicating segregation of the uranium. Three samples from one end of the slug averaged 10.2 per cent uranium while the

remaining six samples from the center and opposite end of the slug averaged 8.4 per cent uranium. The metallographic structure of these two slugs was similar to that reported previously for aluminum-natural uranium cast slugs.

Two 4-1/4 inch diameter aluminum-7.5 per cent uranium 238 billets were cast in anticipation of possible extrusion experiments on this alloy. The uranium content of one of these billets was 9.5 per cent at the bottom and 6.4 per cent at the top center. If the alloy is to be extruded, a smaller billet may be required to prevent segregation of the uranium.

Further evaluation of the performance of the Frost Test equipment in inspecting canned aluminum-uranium slugs indicates that when adjusted as for testing standard uranium slugs, the machine rejects aluminum-uranium slugs having unbonded areas greater than approximately 3 sq. cm. According to information given in Document HW-17473, dated 4-6-50, unbonded areas of this size should cause no difficulty in pile operation.

The average diameter of 28 random aluminum-uranium slugs from the fourth shipment was 1.356" with a range of ± 0.002"; warp was less than 0.001" in eight inches. The surface condition on all slugs received to date has been excellent.

A process manual (Document HW-17470) was issued to cover the canning and testing of aluminum-uranium slugs.

Seven slugs of standard P-10-A composition were given a solution heat treatment in argon for tests to determine the effectiveness of this treatment in reducing pick-up of P-10 product contaminant. These slugs were paired with untreated slugs from the same billet, and the pairs are being exposed under controlled humidity conditions and analyzed for contaminant pick-up. Early data indicate that the heat treatment is beneficial.

Initial work on the time and temperature required for the solution heat treatment of the P-10-A alloy of normal composition was performed on material melted from impure aluminum. In studies of a 3.6 per cent alloy made with high purity aluminum, it was found that lower temperatures and shorter times would effect solution of the second phase. For this high purity material, a one hour hold at 550°C followed by water quenching was adequate. Lead bath heating was proven to be a satisfactory method of performing this heat treatment.

Metallographic and analytical work is proceeding on the series of alloys containing various amounts of the added element. By x-ray diffraction methods, second phase has been found in all "as cast" and "as extruded" alloys containing 3.5 per cent or greater lithium. No second phase diffraction lines were present in a 3.67 per cent high purity specimen which had been solution heat treated.

Detailed information covering P-10-A material produced and processed under the auspices of the Metallurgy Section is presented in Document HW-17533, dated 4-13-50.

As of April 14, the Metallurgy Section transferred to the P Division all P-10-A slugs carried on their inventory, and discontinued the keeping of all records and accounting pertaining to this material. The latter function is now being performed by several other agencies.

[redacted]



Pile Technology Division

Corrosion

Preparations are under way for a test program designed to indicate the relative merits of Carpenter 20, T-347, T-309 SCb, T-316 (or as alternate, T-318), and tantalum versus MJ-4 process streams containing chloride ion.

A report, Document HW-17626, has been issued on the results of tests of stainless steels T-304 ELC, T-309 SCb, T-347 and Carpenter 20 in DAW and RAW (concentrated) solutions made up with C.P. grade chemicals.

Al-Si coupons containing 2.0, 2.5, and 3.0 per cent tin have been added to the original test schedule and thirty day exposure periods will be completed May 1, 1950. Statistical analysis of weight losses currently available indicates that the downward trend of the weight loss curves at tin concentration over 0.5 per cent is not significant.

Three samples, one coated with Heresite #P-403 and #L-66, one coated with Heresite #P-403 only, and one having three coats of Bakelite varnish #17656, were autoclaved at 90 to 100 p.s.i. for a period of 40 hours. The Bakelite varnish failed by blistering, but both coupons coated with Heresite showed no change.

Two additional tests were started April 17 using sections of A.I.S.I. type 416 stainless steel rod guides and 2S aluminum thimbles. Potentials developed ranged from 0.30 to 0.75 volts with the steel positive relative to the aluminum. In one case, after 130 days exposure in a humid atmosphere, an unwelded thimble indicated a potential of 0.10 volt positive relative to the rod guide. The current test procedure is not well adapted to the measurement of potentials and a system of mounting samples of fixed area in Bakelite holders is under consideration.

Miscellaneous

Battelle reported that an extrapolation of the 0.5 per cent design curves for 400 and 450°C indicate that the stresses to produce 0.5 per cent total deformation in 10,000 hours would be approximately 250 and 200 p.s.i., respectively. The creep rate of the 2S-O specimen at 450°C and 60 p.s.i. was nil at 4660 hours. The design curves at 450 and 400°C will be completed about the first of June.

In a test to determine the thickness of the aluminum-silicon layer in slugs rejected for Al-Si "slop-over," nine slugs were found to have a 0.002" maximum layer of Al-Si on the surface but in the tenth slug the Al-Si had penetrated the can wall. Since there is no test to check for Al-Si penetration, all such slugs must be treated as having potential Al-Si penetration.

Hardness tests were made on Victor and Alcoa slug cans in an attempt to find a clue to the increased number of Al-Si rejects obtained with Victor cans as compared with Alcoa cans. Victor cans were softer than Alcoa cans both "as received" and after annealing in the canning bath.

The first inspection of Building 3730 was made on April 24, 1950. As soon as a few minor jobs are completed, the building will be ready for final inspection.



[redacted]

[redacted]

Pile Technology Division



INVENTIONS

All Pile Technology Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report, except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

| Inventor | Title |
|---|---|
| C. M. Hammack | Dynamic Pulse Register |

Signed W. K. Woods
W. K. Woods
Division Head

WK Woods:so



[redacted]

May 10, 1950

# SEPARATIONS TECHNOLOGY DIVISION

## APRIL, 1950

## MONTHLY REPORT

### VISITORS AND BUSINESS TRIPS

G. W. Watt, G.E. Consultant from the University of Texas, visited this site from April 3 through 7 for consultations on research and development problems of this Division.

B. Weidenbaum visited the Los Alamos Scientific Laboratory for 234-5 conferences from April 17 through 21.

O. F. Hill and W. H. McVey attended an ACS Meeting in Detroit, Mich., from April 17 through 19 and visited the Knolls Atomic Power Laboratory on April 20 and 21 for Redox consultations.

### ORGANIZATION AND PERSONNEL

Personnel totals in the Separations Technology Division are as follows:

| | March | April |
|---|---|---|
| Administration | 2 | 2 |
| Special Assignment | 2 | 2 |
| Process Section | 25 | 26 |
| Development Section | 92 | 94 |
| Research Section | 33 | 33 |
| | 154 | 157 |

Process Section: One Technical Graduate was added to the Section as a new hire.

Development Section: One Chemist, one Chemical Engineer, and one Draftsman were added to the Section as new hires. One Steno-Typist A was terminated.

Separations Technology Division



## 200 AREAS PLANT ASSISTANCE

### Canyon Buildings

Metal irradiated to a level of approximately 450 MWD/ton was processed at B Plant without incident. This was the first material processed in a program leading to a level of 600 MWD/ton.

The abnormally high product accumulation in the extraction sections at B Plant was traced to insufficient agitation at low slurry levels. Samples representative of the hold-up in the precipitator tank confirmed observations of agitator performance that approximately 20% of a charge was below the point of sufficient agitation to result in quantitative precipitate transfer. This situation was aggravated by the increase in enrichment level which resulted in smaller process volumes. Replacement of the agitators appears to have reduced the amount of hold-up to approximately 10% following centrifugation. This should allow approximately 5% of a run to remain in the section following a routine run instead of the 15% previously noted.

Uranium assays of coating wastes indicated total uranium content to be lower than that expected if the compound bonding layer were completely dissolved. The product content of these wastes was considerably higher (by a factor of 2-3 times average) than that expected from the uranium found. A chemical analysis of the compound bonding layer showed uranium and silica to be the major constituents. Copper was present to the extent of 0.22% while tin was not detectable. The investigation of the coating waste loss is being continued, since these facts are not concordant.

A survey of wastes containing uranium, other than metal waste, indicated that 0.04% of the metal charged may be contained in the coating waste solutions and 0.25 to 0.50% in the first-cycle wastes. These wastes are stored in the first-cycle storage tanks. The second-cycle waste and cell drainage were estimated to contain 0.001% and 0.003%, respectively.

The first-cycle product precipitator tank agitator in Section 17 at B Plant failed during the reduction of Run B-10-04-F-16. The sparger was used for agitation in completing the cycle. A waste assay of 0.75% resulted. This was reworked to 0.27% following the agitator replacement.

Through non-standard operation, approximately 400 lbs. of water were transferred from the first-cycle by-product oxidation tank to the waste tank in Section 13. Although this water was returned to the precipitator tank and oxidized, a loss of 10% resulted on the run following, T-10-04-F-27. This was reworked with a total loss of 1.18%.

### Concentration Buildings

Runs processed at both plants under Production Test 224-T-13, designed to shorten the Metathesis time cycle, continued to compare favorably with runs processed under standard conditions.

The lanthanum for the first lanthanum fluoride product precipitation of Run T-10-03-F-13 was inadvertently added before the hydrofluoric acid. A waste assay approximately four times greater than average resulted. The waste was reworked to an average level.

Two successive F Cell flushes at B Plant, following the Acid Wash Runs, recovered 6.7% and 1.8% of an average run, respectively. An F Cell flush at T Plant recovered 10.6%.

Isolation Building

A "clean-out" of Cell 4 prior to processing the 600 MWD/ton program material recovered 42% of an average run.

Three polystyrene and three Textolite adapter plugs were tested for use in the drying cycle. The polystyrene plugs failed in all cases. The Textolite appeared to be satisfactory.

Additional cans have been dried to conditions specified by Production Test 231-10. These have been transferred to the 234 Building for evaluation.

Purification and Fabrication Building

During April, 3.5% of the batches processed through Dry Chemistry required refluorination. The comparable figure for the first quarter of 1950 is 23%.

Sample cans containing 60 cubic centimeters greater volume than normal have been processed in the 234 Building as a part of Production Test 234-10. A wide variation in the amount of solids present in the cans has been found. The desired consistency and viscosity have not yet been obtained and the test will continue as written.

Ten buttons were temporarily held for chemical analyses during the month. Two of the ten were first reported to contain greater than 1000 ppm of iron; these were released when resampled and found to contain 500 ppm of iron. (A source of iron contamination was removed when some glass-lined valves in the purification hoods were replaced and found to be badly corroded due to lining failures.) Four buttons were held because the turnings used for them contained an unknown amount of aluminum inadvertently cut from the Hood 17 chuck adaptor. These were released when their analyses showed less than 10 ppm of aluminum. Four buttons were held (three of which were released by month's end) because impurities were suspected from observing the runs in the 234 Building.

Production Test 235-1 has been started in the 235 Building. This test will evaluate the effects of shortened outgassing times in the Melting and Casting operation. Two charges have been processed with an outgassing time.

High flash weights were obtained during Pressings made early in April. It is believed these resulted from high piece temperatures during the pressing operation. A calibrated valve in the cooling water line to the press can had been replaced with an uncalibrated valve during the latter part of March. A rotameter is to be installed in this line and, until this is done, the heater nest temperature will be used (instead of the punch temperature used in the past) to determine the temperature at which the pressing is made.

A survey of stored coated units with a new scintillation-type probe (not affected by gamma radiation) made it possible to detect alpha counts at tripod tip points not previously detected by the electrolytic test or the "Poppy". In the majority of cases, counts were obtained at more than three support points. It was found that the three tripod tips which should remain clean were being contaminated by a thermocouple checking procedure prior to the start of the coating operations. At month's end a new supporting mechanism made up of 3 sets of tripod supports was being fabricated in the 272-Z Shop. With this, the points that support the piece for the first coating cycle will not be needed for subsequent cycles and two sets of tripods should be kept clean. Prior to the completion of the new equipment, the sequence of tripod operation has been changed in the run books to require the use of the clean tripod supports during the last two coating cycles.

## REDOX AND METAL WASTE RECOVERY DEVELOPMENT

### Solvent Extraction Studies: General

During April, eighty solvent extraction studies were completed testing the performance of packed columns up to 16-in. diameter and pulse columns up to 8-in. diameter for the TBP Metal Waste Recovery process. New information from these studies is summarized below:

### Packed Column Studies

1. Using 1-1/2-in. by 1-1/2-in. stainless steel Raschig rings, there appears to be no significant scale-up factor in either the RA extraction section or the RC Column on going from an 8-in. to a 16-in. column diameter. Uranium waste losses of approximately 3% for RA and 1 to 3% for RC were realized with 19 ft. of 1-1/2-in. Raschig ring packing in a 16-in. diameter column, at uranium processing rates of 2.5 to 3.5 short tons/24 hr. for RA and 1.8 to 2.6 short tons/24 hr. for RC. The resulting H.T.U. values of approximately 5 ft. for RA extraction and 3.5 to 5 ft. for RC indicate that losses of approximately 0.5% or less should occur in TBP plant-size columns packed with 30 ft. of 1-1/2-in. rings. The above studies were made using Shell Oil Co. Deodorized Spray Base as a hydrocarbon diluent for the TBP. As reported last month, even better performance would be expected in the RA extraction section if a Stoddard-type petroleum solvent were used for the diluent.

2. In two RA extraction studies using 21 ft. of 1-in. by 1-in. stainless steel Raschig rings in a 3-in. diameter column, the use of 0.02 M ferrous sulfamate in the RAFS resulted in performance slightly superior to the use of .02 M ferric nitrate (prepared from the same iron powder used for manufacturing ferrous sulfamate). Performance data indicated a 3.6% uranium waste loss with ferrous sulfamate present compared to 5.1% with ferric nitrate, corresponding H.T.U. values being 5.3 ft. and 6.0 ft., respectively. Extraction performance of the above 1-in. rings in the 3-in. diameter column actually appears to be slightly inferior to the performance of 1-in. or 1-1/2-in. rings in 8-in. or 16-in. diameter columns.

Separations Technology Division [redacted]

Pulse-Column Studies

To scout the existence of any scale-up factor on going from a 3-in. diameter to an 8-in. diameter pulse column, TBP pulse-column studies were conducted in an 8-in. diameter column using both 28 and 50 pierced plates on 2-in. plate spacing (4.7-ft. and 8.4-ft. effective "packed" heights). These runs were made with 0.079-in. holes in the plates (approximately 23% perforated area), since plates with larger holes were not available. Although 3-in. pulse-column studies reported last month indicate that 0.125-in. holes would be preferred to 0.079-in. holes in TBP plant pulse-columns (because of significantly greater flooding capacity with equal or better extraction performance), the preliminary results summarized below indicate no significant scale-up factor using 0.079-in. holes:

1. Comparing RA extraction section and RC Column studies made under comparable conditions in 3-in. and 8-in. pulse-columns, there appears to be no significant scale-up factor affecting extraction performance. With a 4.7-ft. effective "packed" height in the 8-in. column, uranium waste losses ranging from 1% to 8% were obtained in both RA and RC operation, resulting in H.T.U. values of approximately 1 to 2 ft. for both columns.

2. Preliminary operation as an RA extraction section with an 8.4-ft. effective "packed" height indicated that the flooding capacity of the pulse-column was lowered by increasing the number of plates from 28 to 50 (estimated decrease in flooding capacity approximately 25%). Uranium waste losses using the 8.4-ft. effective "packed" height ranged from 0.2 to 5% with H.T.U. values of approximately 1.3 to 2.6 ft. Because of excessive entrainment of aqueous phase with RAU stream (5 to 20% aqueous phase entrained) during initial studies of the 8.4-ft. packed height, the 1-in. diameter top disengaging section was replaced with a new 16-in. diameter top. The effective height of organic phase for phase-separation was ca. 30 in. in both disengaging sections.

Continuing with the 3-in. pulse-column studies reported last month, twenty RA simple extraction section runs and thirty-six RC Column runs were carried out during April to evaluate the effect of changing place spacing from the previous 2-in. to 1-in. Flooding capacities were measured using 40 plates spaced 1-in. apart (3.4-ft. effective "packed" height), and with both 0.079-in. and 0.125-in. holes in the plates (both with approximately 23% perforated area). New information may be summarized as follows:

1. For both RA and RC operation, flooding capacities with 40 plates on 1-in. plate spacing were approximately 80 to 90% of corresponding flooding capacities determined at similar operating conditions except using 32 plates on 2-in. spacing. It is not yet known whether this decrease in capacity is due to the increase in number of plates, the decrease in plate spacing, or both.

2. Uranium transfer, using 0.079-in. holes in 40 plates spaced 1 in. apart (3.4-ft. effective "packed" height), was not significantly different from performance reported previously for 2-in. plate spacing. H.T.U. values ranged from 0.8 ft. to 1.2 ft. for the RA extraction section and from 1 ft. to 2 ft. for the RC Column. H.T.U's. as low as 1 ft. were obtained in the RA extraction section at 0.25, 0.5 and 1-in. amplitudes, and in the RC Column at 0.5, 1, and 1.5-in. amplitudes at products of frequency (in cycles/min.) times amplitude (in inches) ranging from approximately 40 to 60 in.-min.

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These pulsing conditions correspond to a "pulsed volume velocity" of 3,000 to 4,500 gal./(hr.)(sq.ft. of plate area).

3. The addition of 0.017 M ferrous sulfamate to the RAFS stream was found to have a significant, beneficial effect on extraction performance in a 3-in. column using 0.125-in. perforations and plates spaced 2 in. apart (waste losses decreased from 1.5% to 0.4%; H.T.U. decreased from 1.2 ft. to 0.9 ft.), while addition of 0.034 M sulfamic acid instead of the ferrous sulfamate was not beneficial. Results contradicting the above beneficial effect of ferrous sulfamate were observed in a 3-in. pulse column using 0.079-in. perforations in plates spaced 1 in. apart. In the latter test, no benefit was observed from adding either 0.017 M ferrous sulfamate or 0.068 M sulfamic acid to the RAFS.

Bldg. 321 Construction and Maintenance

A few of the items noted as exceptions when Project C-331 was closed out are still incomplete. Information has been received that the Power Division is activating a work order to supply well-water from two of the 300 Area wells to meet the heavy demand imposed by the Scale-Up tank farm for operation of tank cooling coils and the various condensers on the boil-down tanks and distilled water supply. Work is in progress on the installation of three additional water spray condensers for three aqueous tanks to permit partial boil-down in these tanks and to remove some of the load now carried by the AQ-8 concentrator.

Installation of the 16-in. packed column was completed and the column operated during the period. Operation of the pulse generator for the 8-in. column was satisfactory over the entire range of frequency and amplitude studied. During the period the packing on the pulse generator piston was changed from Teflon rings to R-4X, and it was discovered that the pressure relief disc had ruptured, presumably due to fatigue of the metal from the pulsing.

Equipment modifications were made in "A" and "B" Cells to permit studies on dissolving and off-gas evolution during dissolving of simulated combined sludge and supernate for the metal waste recovery program. An 8-in.-diameter de-entrainment stack was added to the B-1 concentrator to permit increase in capacity. Concentrating capacity was increased to 26 gal./hr. by the change.

Bldg. 321 Operations - Demonstration Unit

Three dissolver cuts were made during the month. During one of these cuts, the Stack Gas Group took flow measurements and samples of the evolved gas for a stack gas study. It was discovered during the month while sampling A-6 tank that entrained "Red Oil" (TBP and decomposition products combined with uranium) was separating out during concentration in B-1 and settling on top of stored concentrated aqueous uranium solutions. Sixteen liters of this "Red Oil" were decanted from A-6. Plans are underway to fabricate and install a continuous decanter between B-1 and B-3 to remove this "Red Oil". Fourteen batches of RCU were concentrated during the period. A new batch of incubated metal waste was prepared and placed in the B-Cell incubator to replace that used in various studies.

Column studies during the month were made in the 3-in. RA and RC Pulse-Columns and the 3-in. RA Packed Column. In general, operation was satisfactory over a wide range of conditions; i.e., pulse frequency from 40 to 150 cycles and pulse amplitude (in column) from 1/4 in. to 1-1/2 in. Three instances of pump failure occurred due to leaky pump packing and one pump failure due to a leaking flange gasket. Instrument difficulties included: (1) interface control trouble due to a leak in the line to the aneroid; (2) a few cases of plugged dip tubes; (3) necessity for using manual control at high flow rates because the rates were out of automatic control range; and (4) necessity for manual control of interface on RC runs because of low gravity differential between the phases. Information on the number, types, and performance of the runs made has been reported earlier in this report.

Bldg. 321 Operations - Scale-Up

As may be expected from the large volumes of solutions required for 8-in. and 16-in. column studies, much of the Scale-Up Unit operating time was concerned with feed make-up, solution concentration, solvent washing and wash decantation, and process waste disposal. Wherever possible, equipment alterations have been or are being made, and operating techniques are being studied and changed to cut down on these large time requirements. A minimum amount of waste was disposed of to the 300 Area pond via the sewer during this period. (This is permissible because the solutions contained no ANN.)

Several uranium de-entrainment studies were completed, using the revised hexone stripper as a de-entrainment column. Performance was satisfactory, although refinement of the steam control instrumentation is indicated, and flooding capacity with the 1-in. ceramic Raschig rings proved to be only about 60 to 80% of theoretical.

Tests of the various pumped streams to the columns for determining maximum capacity available for use in the 16-in. column indicated ACF (RAF or RCX) 23.3 gpm, ACR (RAW or RCU) 31.7 gpm, OCF (RAX or RCF) 29.1 gpm (two pumps in parallel on OCF).

During the 16-in. packed column runs, several difficulties were encountered because of the high flow rates required. Among these were: (1) inadequacy of the feed heat exchangers to cool the feed to 77°F. because of high flow rates; (2) difficulty with flow control because rotameter bobs stuck at top of rotameter tubes due to high rates, necessitating the use of by-passes; (3) necessity to by-pass organic stream Harmel-Dahl valves because of large pressure drops at the high flows required. Considering these difficulties, control during the runs was good and performance of the column was satisfactory. During the 8-in. pulse-column runs with 28 plates, column performance and instrument control was generally satisfactory. It became necessary to by-pass the organic effluent pump when the float control valve stuck. Operation was satisfactory without the float valve. Considerable difficulty was experienced during runs in the 8-in. pulse-column with 50 plates, due to entrainment of aqueous with the organic (up to 50% at high flow rates). This column had been originally installed without an enlarged top, and increasing the number of plates cut down on the disengagement space to such an extent that insufficient time was available for disengagement. Steps are being taken to install the enlarged top from the old 8-in. packed column to correct this condition.

Equipment Development

Submerged Pump No. 2 (G.E. & C.L. turbine pump driven through a two-ft. vertical drive shaft supported on carbon-filled fluorothene process fluid-lubricated guide bearings) has completed four months of operation in 1.8 M $Al(NO_3)_3$ solution at 3450 rev./min., discharge pressure 40 lbs./sq.in.ga. and flow rate of 1.35 gal./min. The capacity vs. head characteristics and shut-off head (54 to 56 lbs./sq.in.ga.) have remained essentially constant through this period.

Submerged Pump No. 3 (Roth Co. Model No. 147 turbine pump suspended from a ten-ft. torque tube containing two process fluid-lubricated graphitar guide bearings and external grease-lubricated thrust bearing) completed four months of continuous operation in 1.5 M $Al(NO_3)_3$ solution at 1750 rev./min., discharge pressure 86 lbs./sq.in.ga. and flow rate of 3.5 gal./min. Shut-off head remained unchanged at 95-97 lbs./sq.in.ga. Inspection of the component parts following dismantling revealed that no significant wear had occurred except in the graphitar bearings. The lower bearing was oval shaped but no damage to the shaft journal was measurable. It is believed that increasing the bearing length 200% will reduce or eliminate this problem. In order to obtain an independent check of the G.E. & C.L. findings relative to the use of Stellite journals, the pump will be reassembled with Stellite No. 6 applied by shielded arc deposition on the middle journal and acetylene torch on the lower journal.

Submerged Pump No. 4 (Roth Model No. 147 turbine suspended from a ten-ft. torque tube with rotary seals at either end and containing two graphitar bearings which will operate in flooded condition with water as lubricant.) The unit was completed but not operated.

Roth D-62, prototype Redox Production Plant turbine pump, completed 66 days of operation in 1.8 M $Al(NO_3)_3$ solution. As supplied, the unit was underpowered with a 2 H.P. motor, which was changed after 28 days of operation to a 5 H.P. motor. The last 38 days of operation were at 1750 rev./min. with a discharge pressure of 132 lbs./sq.in.ga. and flow rate of 2.5 gal./min. The condition of the pump, exclusive of the seal, was very good. The shaft journals had not worn and the maximum increase in bearing (graphite-filled fluorothene) diameter was 2.7 mils in the center guide bearing. The lower bearing decreased 1.5 to 2.5 mils in diameter. Some concentric score marks were observed on the impeller wear rings (graphite-filled fluorothene) but the average thickness of these rings was unchanged. The seal performance, although entirely adequate with respect to leakage (maximum of 10 ml./hr. and average of 5 ml./hr.), was not regarded as satisfactory on the basis of wear. The upper carbon element (static) decreased 0.054 to 0.058 inches and the lower carbon element (static) was deeply scored with a measured average loss of 0.011 to 0.015 inches. The rotating Stellite faces were scored but not significantly worn. Replacement seal parts will be installed and testing resumed, using hexone as the test fluid.

Peerless Double Volute, prototype Redox Production Plant turbine pump, completed 34 days of operation in 1.8 M $Al(NO_3)_3$ solution at 1750 rev./min. with discharge pressure of 102 lbs./sq.in.ga. and a flow rate of 3.3 gal./min. The head vs. flow characteristics decreased 15 lbs./sq.in. for all flows from shut-off to 12 gal./min. Inspection of the pump revealed this was due to

wear of the graphitar dam sections of the upper and lower pump heads, which allowed partial by-passing between the discharge and suction sides of the pump. The upper process fluid lubricated graphitar bearing was deeply scored and badly worn. The middle graphitar guide bearing and the upper and lower pump casing graphitar bearings showed a maximum wear of 0.007 inches. The water-lubricated double seal had a maximum leakage rate of 45 ml./hr. with a nominal rate of 11 ml./hr. The wear on the graphitar seal faces was determined to be 15 to 16 mils and 2 mils, respectively, for the upper and lower elements.

As a result of test data procured from the foregoing test and prototype pumps, it has been possible to establish specifications for the final design of Redox Production Plant "hot" service pumps. The important features are considered to be as follows: (1) flexible coupling between the drive motor and pump shafts; (2) remotely grease-lubricated thrust bearing to be mounted and aligned within upper flange assembly; (3) water-flooded seals to be fabricated from boron carbide; (4) process fluid-lubricated guide bearings to be fabricated from graphite- or carbon-filled fluorothene; (5) single transverse groove located on the unloaded side of the bearing for introduction of process fluid; (6) all elements of the pump dam to be of stainless steel. Further, it has been decided to employ Stellite No. 6 journals on this basis of observations made by G.E. & C.L. Testing will be initiated to confirm this feature. Inasmuch as Type 347 stainless steel journals have been found to be satisfactory for the testing completed, it is believed that this is a non-critical point.

G.E. & C.L. motor-pump unit (1/3 H.P. submerged electric motor and turbine pump) has completed 28 days' operation in RAF (TBP #3 Flow Sheet) at 1750 rev./min., discharge pressure 10 lbs./sq.in., flow rate 0.5 gal./min. Previously the unit had completed four months of continuous operation in 1.3 M $Al(NO_3)_3$ solution and 560 cycles of "on-off" operation. There is no evidence for mechanical changes as determined by hydraulic performance.

Ucilon (United Chromium Co.) has proven to be the most satisfactory all-purpose coating examined thus far for application to the TBP plant conditions. Further testing is continuing with emphasis on the feasibility of employing the present 221-U cell coating, Amercoat No. 23, in cells free of solvent and as a base coating for solvent-resistant coatings.

The effect of scaling in the RAW concentration step was under study in a small all-stainless steel unit (Type 347 body, 304 heating and condenser coils). The values of U (BTU/Hr./Sq.Ft./°F) decreased from 636 to 565 over a period of 80 hours. The $\Delta T$ (steam-to-liquid) was 45-46°F. The investigation was terminated by failure of the condenser by corrosion attributed to chlorine.

Preliminary corrosion testing of stainless steel Types 304, 347, 309 SCb, Carpenter 20, as well as tantalum, by exposure to both the liquid and vapor phases of a boiling RAW (concentrated) solution containing 2.3 g. of chloride ion/L indicated corrosion rates in the range of 5 to 15 mils/year for all material except tantalum, which showed a slight weight gain.

Process Chemistry

Preliminary batch evaporation studies on dilute RAF stream material containing chloride ion (1.0 gm/L) indicate that reduction to 60% of original RAF volume is necessary to evolve chloride. Based on the foregoing batch studies, a series of continuous concentration studies at 30, 40, and 50 per cent of the original RAF volume will be made with the objective of stripping all of the chloride from the RAF solution.

Dissolution of metal waste slurry by addition of the slurry to the acid (60% $HNO_3$) results in essentially instantaneous dissolution of the solid phase components. The limiting factor in the dissolution operation is foaming. A layer of foam less than 0.5 inches deep was maintained at slurry (HW #3 composition) rates of 0.40 gal./min./sq.ft. of dissolver cross sectional area.

The effect on disengaging time for the system RAFS-RAX of increasing sulfate, phosphate, or nitrate, as well as the addition of coating removal waste, was found to be non-critical; departures of ±10 seconds from average time of 45 seconds were noted.

The stability of ferrous sulfamate (RA system reductant) has been found to vary between laboratory and semi-works prepared solutions. This is attributed to variations in the nitrite concentration. A half-life for the ferrous ion of 13 to 35 hours appears reasonable for the RA system. In view of the high tolerance for sulfate in the TBP process streams, there is a possibility of employing ferrous ammonium sulfate and sulfamic acid, which are commercially available, vs. ferrous sulfamate, which must be manufactured at the Works. The half-life of ferrous ion added as ferrous ammonium sulfate to an RAS solution containing .05 M sulfamic acid was 35 hours. This is an adequate value and makes the foregoing substitution attractive.

The "Red Oil" which has occurred in boiling down RCW and mixtures of RCU and RAW carries with it large amounts (up to 200 g./l.) of uranium. It has been demonstrated that 50% $H_3PO_4$ solution is a satisfactory means for removing the uranium from the organic phase, believed to consist of high-boiling hydrocarbons and mono, di, and tributyl phosphates.

SEPARATIONS PROCESSES RESEARCH

Ruthenium Tetroxide Distillation

Immersion of stainless steel in the dissolver solution during distillation does not appear to affect adversely ruthenium distillation or decontamination obtainable in subsequent solvent extraction steps.

The presence of 0.0002 M $Pb^{++}$ (the concentration to be expected with the use of lead-dipped slugs) does not interfere with the ruthenium volatilization step nor the subsequent solvent extraction. However, 0.0027 M $Pb^{++}$ results in the precipitation of a lead chromate when the feed solution is made acid-deficient.

Filtrol Scavenging

Earlier conclusions that maximum zirconium and columbium adsorption at 100°C. are reached in one hour's contact time have been verified. Reduction of the Filtrol concentration from 20 g/l to 15 g/l results in less than a factor of two decrease in the decontamination factors for zirconium and columbium, whereas a sharp decrease in decontamination was obtained when the Filtrol was reduced to 10 g/l. Two 10 g/l contacts were only slightly superior to one 20 g/l contact.

Preheating the dissolver solution for six hours with 0.1 M $Na_2Cr_2O_7$ followed by scavenging with 20 g. Filtrol/liter increased the zirconium adsorption from 93.2 to 95.2% and the columbium adsorption from 66.2 to 80.8%.

Washing of a Filtrol cake obtained from scavenging of Hanford dissolver solution with 0.01 M $HNO_3$ solution indicated that plutonium and uranium elution follow closely that anticipated from calculations based on dilution only. Zirconium and columbium desorptions were negligible.

Alternate Redox Head-End Treatments

There has been considerable speculation in some quarters that $MnO_2$ scavenging may be preferable to Filtrol scavenging for the head-end removal of zirconium and columbium. A head-end scheme incorporating this feature might be as follows: ozonize with $KMnO_4$ present, add an excess of $Mn^{++}$, separate $MnO_2$ ppt., dissolve the ppt. in $HNO_3$-$H_2O_2$ solution. Sufficient experimental data to establish the feasibility of this scheme are not available but a limited amount of scouting work that is of interest has been performed.

Use of $KMnO_4$ with ozone does appreciably improve ruthenium distillation. The addition of 0.03 M $KMnO_4$ during the ozonization step eliminated the long induction period (ca. 1-1/2 hours) found for one sample of dissolver solution. (The normal induction period without $KMnO_4$ has usually been 20 to 24 minutes.) Consequently, the decontamination obtained was materially increased such that the decontamination factor after three hours' ozonization, an extraction and two scrub steps was $5 \times 10^4$, whereas under similar conditions, with 0.03 M $Co(NO_3)_2$ catalyst and six hours' ozonization, the decontamination factor obtained for this particular dissolver solution has been about $1 \times 10^4$. Addition of 0.1 M $Mn(NO_3)_2$ to the permanganate distillation residues to precipitate $MnO_2$ resulted in > 75% zirconium and > 90% columbium adsorption. These results must be regarded as a qualitative indication only, since material balances were poor. Plutonium and uranium adsorption on the $MnO_2$ was < 0.1%.

Recovery of Plutonium from Crucible and Slag Wastes

Slag and crucible wastes from a production run were employed in two leaching tests, employing either a mixture of the slag and crucible or the crucible only. Approximately 85% of the plutonium was removed in two one-hour leachings. In the latter case, it was determined that 12% of the crucible material was dissolved. It is estimated that ca. 12% was also dissolved in the two leachings of the slag-crucible mixture. Further recovery was accomplished by treating the residue with larger portions of nitric acid, which also dissolved considerable amounts of the remaining slag or crucible.

## Plutonium (IV) Arsenate and Metal Production

Thermal decomposition of plutonium (IV) arsenate proceeds slowly at temperatures as high as 900°C. Nevertheless, material which had been ignited at 600°C. for one hour and then 750°C. for an additional 40 minutes was converted to the fluoride in >95% yield. The bulk density of the fluoride was somewhat lower than that normally obtained from the ignition and hydrofluorination of plutonium (III) oxalate. About 6.85 grams of $PuF_4$ prepared in the above manner was reduced to metal with a yield of 83.7%. These yields are regarded as encouraging, since this was the first metal production run with arsenate as starting material and no basis was available for the selection of optimum conditions.

## Chloride Content of Uranium Waste

Two samples of sludge from 101-U tank analyzed 0.05 and 0.007% by weight total chloride. A sample of 103-U supernate analyzed 0.5 to 0.8 g/l chloride. An over-all analysis on supernate - sludge composite of 0.6 g/l chloride can be accounted for by the average chloride content of the caustic used in neutralizing the waste. The behavior of chlorides in the uranium recovery process is being investigated.

## Pulse-Column Studies

Two major features of pulse-column design and application were investigated: (1) the use of perforated composite plates made with a stainless surface on one side and a fluorethene plastic surface on the opposite side, and (2) the use of carbon tetrachloride as a diluent of TBP in the metal waste recovery process.

The double-faced plates were designed to permit dispersion and coalescence between each plate (mixer-settler type operation) by having each dispersed phase impinge on a surface readily wetted by that phase. This eliminates the large number of fines and resulting flooding conditions found at high pumping rates and enables greater throughput capacities. With $CCl_4$ as diluent in the RA Column, the flooding velocity with composite plates was doubled over that with all-stainless steel plates and with the same good uranium extractability.

The 1-in. diameter x 69-in. simple pulse-column with an organic/aqueous flow ratio of 4/3 (RA Column, TBP #3 Flow Sheet), 0.046-inch diameter holes in double-faced plates, one-inch spacing, one-inch pulse displacement and a pulse frequency of 50 cycles/minute showed a flooding velocity of 925 gal./sq.ft./hr. and a uranium loss of 0.04 to 0.14% from 74 to 97% of flooding velocity. A similar run with 0.076-inch diameter double-faced plates at 0.5-inch displacement gave a flooding velocity at 1620 gal./sq.ft./hr. and a uranium loss of 3.3% at 1420 gal./sq.ft./hr. The RC Column with 15% TBP in $CCl_4$ gave flooding velocities in excess of 2500 gal./sq.ft./hr., but the stripping losses for the 69-inch column were of the order of 2 to 3% at flows of 1800 gal./sq.ft./hr. with one-half-inch displacement and 140 cycles/minute. Further work is being done to compare carbon tetrachloride with Shell Spray Base under identical or optimum conditions.

Physical Properties of TBP Diluents

Under certain conditions of column operation, the flooding velocity or throughput of the column should be directly proportional to the difference in density between the two phases and inversely proportional to the viscosity of the continuous phase. The physical properties of the various diluents vary sufficiently to provide a basis of comparison. The density of the diluents vary according to the following order: $CCl_4 \gg$ Shell Spray Base > Deo Base $\cong$ Stoddard Solvent > Varsol (Gulf B.T.) = AMSCO 125-90W > hexane. Viscosity values place the diluents as Shell Spray Base > Deo Base > AMSCO 125-90W > $CCl_4$ $\cong$ Varsol $\cong$ Stoddard Solvent > hexane. The Stokes factor, $\frac{\Delta d}{visc.}$, was calculated for the RA Column for the various diluents with the organic as the continuous phase to give the order: hexane > Varsol $\cong$ Stoddard Solvent > AMSCO 125-90W > Deo Base > Shell Spray Base > $CCl_4$. Thus, in the RA Column $CCl_4$ should give the lowest throughput. On the other hand in the RC Column, where the density of the aqueous phase is low, the Stokes factor for $CCl_4$ becomes high.

With a continuous aqueous phase the velocities are nearly constant for all diluents except for hexane, where it is higher in both RA and RC systems, and for $CCl_4$ spheres it is much lower in RA and higher in RC. The observations have been verified in pulse-column operation, $CCl_4$ giving high RC and fair RA throughputs, while Shell Spray Base shows high RA and fair RC throughputs.

The absolute increase in density on adding uranium to the organic phases is nearly equivalent for all diluents except $CCl_4$ and hexane. The relative increase in viscosity is roughly constant and amounts to about 20% for a uranium content of 0.2 M.

Plutonium (IV)-Monobutyl Phosphate Studies

It was noted last month that a precipitate had been observed at the interface in extraction studies of Pu(IV) with purified monobutyl phosphate (a hydrolysis product of TBP) in benzene. Subsequent investigation has shown that a precipitate is also formed from an aqueous nitric acid solution in the absence of an organic phase. The precipitate forms immediately upon mixing the reactants and is of surprisingly low solubility. Addition of 1 vol. % MBP to a 3 M $HNO_3$ solution of Pu(IV) precipitated 99% or more of the plutonium when the initial Pu concentration ranged from 30 micrograms/ml to 0.5 g/l. Chemical analysis indicates a 2:1 mole ratio of MBP to Pu in the washed precipitate which suggests the formula $Pu(C_4H_9PO_4)_2 \cdot xH_2O$, which is analogous to the known compound $Pu(HPO_4)_2 \cdot xH_2O$.

The solubility at room temperature of the compound in solutions containing 1 vol. % MBP ranges from 0.3 $\mu$g Pu/ml in 0.6 M $HNO_3$ to 3.9 $\mu$g Pu/ml in 10 M $HNO_3$. In 3 M $HNO_3$ - 1 vol. % MBP the solubility is 0.45 $\mu$g Pu/ml. This value is attained in less than half an hour of stirring. The solubility in 3 M $HNO_3$ as a function of MBP concentration appears to go through a minimum in the neighborhood of 1%. At MBP concentrations of 0.05% and less, no precipitate was observed from solutions containing 20 $\mu$g Pu/ml.

## Application of Fluoride Complexing to the Purex Process

The idea of using a low concentration of fluoride ion in a IB "Purex" Column to strip the plutonium into the IBP solution followed by addition of a fluoride complexing agent to restore the Pu(IV) extraction coefficient prior to a IIA operation was further investigated at the higher fluoride concentrations which would result from evaporation concentration of the IBP solution. If a IBP solution containing 3 M $HNO_3$, 0.01 M NaF, and ca. 0.1 g/l Pu were concentrated 100-fold and then diluted to a $HNO_3$ concentration of 5 M, the fluoride would be 0.33 M. Making this solution 1 M with ANN was found to give a distribution ratio, $E_a^o$, for Pu(IV) into 15% TBP-$CCl_4$ of 33. This value should be more than satisfactory for IIA operation.

## Plutonium Decontamination of Crib Wastes

Using sodium hydroxide or sodium carbonate for neutralization, scavenging of 231 laboratory waste with tannic acid at pH 10 produced the unexpected result that increasing the scavenging agent concentration from $10^{-4}$ M decreased the volume of precipitate obtained and, more important, also decreased the plutonium decontamination. However, on substitution of calcium hydroxide for neutralization, the residual plutonium concentration was reduced to $4 \times 10^{-5}$ $\mu$g/cc with $10^{-3}$ M tannic acid suggesting the tentative conclusion that an excess of some appropriate cation; e.g., $Ca^{++}$, is required for precipitation of and effective scavenging with tannic acid.

Scavenging of a sample of 221-5-6 with $10^{-3}$ M ferric hydroxide at pH 10 reduced its plutonium concentration from $6 \times 10^{-3}$ to $2 \times 10^{-6}$ $\mu$g/cc. Impurities in this waste form a small amount of precipitate at this pH resulting in a reduction of the plutonium concentration to $1 \times 10^{-5}$ $\mu$g/cc without added scavenger.

## Continuous Dissolving of U-Al Slugs

Investigation of the rate of dissolution of U-Al alloy has been extended to a dynamic system; vis., a jacketed glass column (2-in. diameter, 18-in. length) packed with 32-1/2-in. alloy wafers, down which is passed the dissolving solution. Successive passes were made with four liters of a solution initially containing 6 M $HNO_3$ and 0.002 M $Hg(NO_3)_2$ at a rate of 9 l/hr, equivalent to the flow per unit area required to deliver 3500 g U/day in a 1.5 M ANN solution using a 5-in. column. After five passes at ca. 80°C., in which the total length of column containing continuous liquid phase was ca. 4.5 ft., the effluent ANN concentration had risen to 1.4 M. Correcting for the relative surface areas per unit column length, this corresponds to a requirement of but ca. 6 ft. of 5-in. column packed with vertically-oriented slugs. Such an arrangement would no doubt have many engineering complications, but it may be worth noting that this length of column would be acceptable from critical mass considerations; i.e., would contain less than 7.5 kg $U^{235}$ in a 5-in. column. At least, such is the case, provided aluminum is not selectively dissolved permitting an accumulation of uranium, a point under investigation.

Uranium - Aluminum Dissolution and Separation in Alkaline Medium - "25" Process

Uranium loss to supernate following NaOH - $NaNO_3$ dissolution of U-Al alloy was investigated as a function of aluminum and caustic concentrations. In the presence of barium nitrate a minimum uranium loss of 0.02% was found for 4 M Al(III) at a NaOH/Al ratio of 1.5; of 0.08%, for 2 M Al(III) at a NaOH/Al ratio of 2.25. In a demonstration run, U-Al, Al-Si, and Al in slug proportions were dissolved using a NaOH/$NaNO_3$/Al mole ratio of 1.5/0.5/1 to give a 4 M Al(III) solution. Although 0.01 M $Ba(NO_3)_2$ was present during dissolution, the uranium loss was 0.17%. However, on adding another 0.01 M $Ba(NO_3)_2$ following dissolution, the uranium loss was reduced to 0.035%. The uranium separated from caustic slurries is tentatively referred to as $UO_x$, since it may be washed relatively free of aluminum; i.e., to Al/U mole ratio of $<0.5$. The residue obtained on caustic dissolution of Al-Si is completely soluble in acid, suggesting that it is due to an impurity in the aluminum and not to the silicon which presumably has dissolved in the caustic to give silicate as desired.

The rate of dissolution of U-Al in NaOH - $NaNO_3$ at 100 °C. ranges from an initial 2200 to a terminal 700 mg/cm$^2$/hr, rates which are much larger than for $HNO_3$ - $Hg(NO_3)_2$ dissolution. A 0.6-in. thick wafer of U-Al dissolves in ca. 100 minutes, corresponding to an estimated 4 hours for dissolving 1-3/8-in. diameter slugs.

Other Uranium - Aluminum Separation Methods for Use in a "25" Process

Determination of uranium losses and peroxide decomposition on precipitation of uranium peroxide from U Al-Si systems differing only in origin of the materials indicated the source of the high uranium losses to be the Al and/or Al-Si used locally for canning, not the U-Al furnished by Oak Ridge. Use of higher peroxide concentrations decreased the uranium losses but not to a useful level.

Preliminary attempts to produce an anionic U(VI) and separate it from aluminum with anion exchange resins have shown little promise. Passage of a UNH-ANN-glycolic acid solution through IRA 400 gave a minimum UNH concentration in the effluent corresponding to a 0.6% uranium loss, and this for but a small volume of flow. Investigation of a range of glycolic acid concentrations and pH's on a batch basis indicated no appreciably more favorable conditions for operation of this system. Attempts to prepare stable alkaline solutions of Al(III) and U(VI) using carbonate or peroxide to produce anionic U(VI) have proved unsuccessful to date.

Attempted electrolysis of uranium from UNH-ANN solutions containing oxalate, glycolate, or fluoride merely confirmed the pessimistic observations reported in the literature. The uranium yields were low, rates of deposition were slow at best, and the deposited uranium was neither adherent nor of useful thickness.

234-5 PROCESS DEVELOPMENT

STACK GAS DISPOSAL

A study of the ventilation air humidity data at T Plant has revealed that the water in the sand filter was removed by evaporation over the period of March 8 to April 15. The filter is now dry and the pressure drop across the bed has returned to the original value of 4.6 to 4.7 inches of water under two-fan operation. The pressure drop across the filter had increased approximately 0.3 of an inch of water during the period it was wetted. Coincident with the return of dry operation the indicated filtration efficiency, based upon the original monitoring positions, rose to a value of 99.3 to 99.5%. This is the normal range for the T Plant sand filter. It is believed that the low efficiencies recorded during the period of water hold-up in the ductwork and filter bed might have been caused by the high moisture content of the downstream ventilation air and consequent humidification of the CWS monitoring filter. This would result in an increased pick-up of gaseous $I^{131}$ on the monitor and lead to an erroneous indication of lowered filtration efficiency. The filter, of course, is designed solely for the removal of particulate matter. A study is in progress to determine if this hypothesis is correct.

Equipment has been placed in operation to permit the evaluation of relative life expectancies of Fiberglas and sand filters. The apparatus is comprised of eight filter units in parallel arrangement. Seven are packed with various grades of Fiberglas media and the eighth contains aggregate duplicating a portion of the filtration bed of the present plant sand filters. A methylene blue smoke generator has been installed in the system to control the dust loading passed to the filters and to accelerate the test period. The generator output as regards to quantity and particle size distribution will be determined by spectrophotometric analysis of solutions obtained from CWS monitors and a cascade impactor. An air stream, laden with this smoke, is passed through the units. The useful life of the filters is determined by the pressure drop increase in relation to the quantity of dust deposited.

The experimental two-inch i.d. silver reactor, packed with a one-inch depth of silver nitrate-coated Berl saddles, was operated on the dissolver off-gas stream at a superficial velocity of approximately 140 ft./min. at temperatures of 300 and 425°C. The respective $I^{131}$ removal efficiencies were 96.7 and 97.3%.

The study of the efficiency and pressure drop characteristics of the Owens-Corning number 450, 600, and 900 Fiberglas has been continued.

## INVENTION AND DISCOVERY STATEMENT

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

| Name | Title |
|---|---|
| R. L. Moore | The Application of Fluoride Complexing to the Purex Process. |

R.H. Beaton

R. H. Beaton
Separations Technology Division

Date: May 1, 1950

# TECHNICAL SERVICES DIVISION

## APRIL 1950

### VISITORS & BUSINESS TRIPS

5-8-50

There were no offsite visitors to this Division during the month.

Business trips of Technical Services personnel were as follows:

H. R. Schmidt spent April 6 and 7 at the University of Washington, in Seattle, meeting with the Chemistry Department staff to discuss matters pertaining to the Hanford School of Nuclear Engineering.

G. B. Barton spent April 17 through 21 at Detroit, Mich., attending the Meeting of the American Chemical Society. On April 26-28 he was in Schenectady discussing analytical research problems with KAPL and Research Laboratory personnel.

D. W. Pearce spent April 9-12 at Philadelphia attending the American Chemical Society meeting, and recruiting technical personnel. He spent April 13 at Pennsylvania State College recruiting technical personnel, and April 14 at Irvington, N. J. discussing remote control equipment with the Lionel Corporation. On April 17-18 he was at KAPL and the General Engineering & Consulting Laboratory in Schenectady observing and discussing recent developments in analytical chemistry and remote control equipment. He spent April 19 at the Argonne National Laboratory for the same purpose. On April 21 he attended a meeting of the A.E.C. SF Materials Standards Committee which was held at Oak Ridge.

J. K. Figenshau spent April 13 and 14 at the Lionel Corporation main factory in Irvington, N. J., discussing remote control equipment for the Rala laboratory. On April 17 and 18 he visited KAPL, the General Engineering & Consulting Laboratory, and the Project Hermes Test Station in Schenectady to observe developments in remote control equipment there. He spent April 19-20 at the Argonne National Laboratory and April 21 at the Oak Ridge National Laboratory for the same purpose.

O. P. Amacker visited the University of California at Los Angeles on April 17-18, and the University of Nevada at Reno on April 19 recruiting technical personnel.

M. G. Freidank spent April 27 and 28 at KAPL attending an A.E.C. sponsored meeting of document librarians from all project sites.



### ORGANIZATION AND PERSONNEL

Personnel totals in the several subdivisions are summarized below:

| | March 31 | April 30 |
|---|---|---|
| Analytical Section | 327 | 322 |
| Engineering Section | 57 | 59 |
| Information Group | 61 | 64 |
| Statistics Group | 13 | 13 |
| Administrative | 3 | 3 |
| Division Totals | 461 | 461 |

The Analytical Section employed two Technical Graduates, and one laboratory assistant returned from leave of absence. One Unit Leader and three laboratory assistants resigned, and three laboratory assistants went on leave of absence. One steno-typist was transferred from Analytical to the Engineering Section.

The Information Group employed six general clerks and lost three (two by transfer and one by resignation). Two personnel were transferred into the Engineering Section, the one from Analytical and one from the Information Group.

## ANALYTICAL CONTROL

### Work Volume Statistics

The following tabulation shows the source and volume statistics for samples on which analyses were completed:

| | March | | April | |
|---|---|---|---|---|
| | Samples | Determinations | Samples | Determinations |
| Process Control - 200 | 3,471 | 9,173 | 3,726 | 9,415 |
| Process Control - 300 | 553 | 1,107 | 689 | 2,289 |
| Water Control - 100, 700 | 1,204 | 3,495 | 1,346 | 3,470 |
| Redox & TBP Programs | 2,444 | 5,180 | 2,716 | 4,819 |
| Process Reagents | 1,359 | 1,622 | 1,465 | 1,821 |
| Essential Materials | 145 | 796 | 148 | 828 |
| Special Samples | 3,916 | 12,050 | 3,583 | 12,724 |
| Stack Gas Filters | 34 | 97 | 33 | 59 |
| Totals | 13,106 | 33,520 | 13,706 | 35,425 |

### 100 Areas Water Control

All operations continued on a routine basis.

### 200 Areas Control

The precision of the results of the analysis of the canyon starting solution (6-3-MR), the Isolation Bldg. starting and final solutions (P-1 and AT, respectively) and the 234-5 Bldg. starting solution (P-4) may be summarized as follows:

| Sample | Precision (± %) Expected | March Average | April Average* |
|---|---|---|---|
| 6-3-MR | 1.58 | 1.36 | 1.52 |
| P-1 | 2.39 | 2.94 | 3.26 |
| AT | 1.98 | 1.86 | 2.42 |
| P-4 | 2.51 | 2.32 | 2.96 |

* A Revised method of statistical evaluation was employed whereby all analytical data were used instead of deleting those above random limits. The result was an increase in the precision figures.

At the request of the Separations Technology Division, the iron content was determined on three A-3-OS samples and six D-1-O samples (supernates from first and second by-product precipitations, respectively) from 224-T Bldg. as part of the investigation into the possible attack of process vessels by process solutions.

On April 17, the wet chemical analysis for silicon on B-1 and MC samples in the 234-5 Laboratory was discontinued in favor of the carrier concentration spectrochemical method. Up to the date of change, duplicate silicon analyses had been run routinely by both methods with no significant variation in results. It is estimated that an effective saving of 80 man-hours per month will result.

The 234-5 Laboratory began receiving process samples from the critical mass experimental project (P-11) on April 14.

Due to increased efficiency and versatility of the laboratory personnel, the 234-5 Process Control Laboratory reverted on April 24 from a three-shift to a two-shift operation. The work volume did not decrease, but is being carried by means of additional equipment set-ups and personnel of lower job classification thus freeing a few technical personnel for reassignment.

Ten pounds of Versene salt were received, and this material was tested as a decontaminating agent in the 222-T Laboratory. Results of the test indicated that this salt would not be acceptable for routine use on contaminated laboratory equipment. Water solutions adjusted to a pH of 6 with nitric acid showed results which were comparable with chromic acid cleaning solution for plutonium but not for fission product decontamination. Control of the pH was critical, and the ability of Versene to decontaminate decreased as the pH was raised; when the pH dropped below 6, a gummy precipitate settled out on the equipment and was difficult to remove.

## 300 Area Control

A spectrographic method has been investigated for the determination of U-235 in aluminum-silicon alloy. The method consists of visually comparing standards, prepared by the Metallurgy Section, with unknowns as submitted by the P Division.

Changes in the chip recovery system of Bldg. 313 have resulted in increased requests for oil, uranium and uranium oxide determinations.

Miscellaneous Service Analyses

The following special service work was noteworthy in the 300 Area General Chemical Laboratory:

(1) A complete wet and spectrochemical analysis was performed on boron glass balls submitted by the D & C Reactor Division. Analysis of metal alloys of Fe-Gd, Ti-Gd and Ti-B also submitted by the Reactor Division were completed. The Fe-Gd sample was found to contain no Gd, a fact which was verified by spectrographic analysis. Numerous Al-Zn alloys were analyzed by the gravimetric sulfide method without difficulty.

(2) Several samples of food pellets submitted by the H. I. Divisions are being analyzed for iodine by a standard distillation method.

(3) A study of the precision of the Orsat versus the Burrell gas analysis equipment was completed for the Pile Technology Division. The portable Orsat apparatus was set up in the 100-H Area by a representative of the General Chemical Laboratory.

Chemical Research Service Laboratory

Analytical operations continued on a routine basis. A lead determination on dissolver solution was completed by use of the dithizone colorimetric method.

Chemical Development Service Laboratory

In cooperation with the Analytical Research Groups, a training program was completed whereby full shift coverage is now available for the determination of TBP concentrations by the infrared spectrophotometric method. Training has begun on the volumetric sulfate method and on the polarographic UNH method for TBP process streams.

Counting Standards

Three sets of electroplated pie plates have now been tested in the coincidence study; no improvement was apparent in the uniformity of results over those obtained from thin films formed by solution evaporation techniques. The last electroplated set tested showed great variation attributed to loss of sample in sectioning the disc.

A program has been outlined whereby the nature of absorption effects in the A.S.V.P. instruments can be studied; the thickness of the mica window will be varied, and the effects on plateaus and counting rates of standards will be determined. Results of this study may shed some light on the behavior of pie plate sets used for geometry calibrations.

A method of determining the total uranium content in samples of the Al-Si baths has been set up at the request of the Metallurgy Section. Using a special sample holder, standard samples containing known amounts of uranium are beta-counted on the B.G.O. instrument to establish a reference curve. Beta counts from the Al-Si bath samples are compared against this standard and, from these results, the amount of U-235 may be calculated. On bath

samples this method has shown good agreement with results obtained from wet chemical and spectrographic methods, and with the results calculated from data obtained in the Test Pile.

The values obtained from the counting method have been more precise than those obtained by the other methods and in addition the determination may be completed in the short time of 30 minutes. At the upper allowable limit for uranium in the Al-Si bath, (0.300% U-235, or about 0.316% total uranium at 95% U-235) a 30 minute count yields a precision of ± 3.5% comparing favorably with the desired ± 5%. At lower values a poorer precision is obtained for the same time interval of counting, but the precision required is less critical.

Certain samples of Al-Si bath used for dipping P-10 fuel slugs have been found contaminated with short half-life beta activity, possibly as a result of testing in the Test Pile. Work is under way to determine if alpha activity due to contaminants is also present, and if not, if a method of evaluation of U-235 content by alpha determination may be used.

Methods Adaptation Group

The detailed analytical method for the volumetric determination of Chemical 40-8 by ferrocyanide titration has been issued and steps have been taken to procure the necessary equipment for the 234-5 Laboratory. Recent refinements of the method are the elimination of the blank required for standardization of ferrocyanide with zinc, simplification of the procedure with improved control of acidity in sample preparation, and decrease of the required sample size by a factor of two.

A buret type selsyn-controlled sampler has been developed and tested successfully on radioactive dissolver solutions. Two variations in applying selsyns to this type of samplerhas been studied. The first such application uses a motor-driven piston with selsyns to transmit the piston displacement to the operator, while the second controls piston displacement directly with the selsyns. The former system is best when the buret must be completely shielded from the operator. The second system is convenient when the sampler can be viewed, as through a periscope, so that displacement can be read from an attached dial micrometer.

An inexpensive end-point detection circuit employing a Weston "Sensitrol" Relay was devised and tested; it permits a titration to be stopped at a desired pH. A series of ten titrations of 5 micromoles of hydrochloric acid with 0.1N base gave an error of ± 7%.

For the titration of highly radioactive solutions, a Gilmont Ultra Micro Buret was modified to permit remotely controlled or automatic titrations. The volume of the solution to be titrated can vary from 50 microliters to 25 ml. The apparatus is currently being used to titrate 10 microliter samples of dissolver solution for free nitric acid using fluoride complexing of the uranium.

Technical Services Division

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DECLASSIFIED

## Analytical Manuals

Four new Redox methods, two solution descriptions and two Apparatus descriptions were received this month for inclusion in the Laboratory Manuals. There were 105 stencils proofread for the revised Standards Section of the manual; 3100 copies of new photostats and blueprints were received, coded and assembled according to areas for the Apparatus Section.

## Special Hazards Control

Construction activity in the vicinity of the T Plant Control Laboratory (Bldg. 222-T) necessitated the installation of a "Danger Zone" sign at the dry waste crib.

A training program in the operation of the alpha particle detection instrument, the Poppy, was initiated by the H. I. Operational Division for all Analytical Section non-exempt laboratory personnel. It is believed that better contamination control will be realized and that Poppy maintenance costs will be decreased when all personnel have become more thoroughly familiar with the operation of the instrument.

A work request has been issued to the Project Engineering Divisions for the design of a hood for liquid waste aspirators in the T and B Plant Laboratories, and for specifying exhaust equipment needed to provide a face velocity of 200 feet per minute through the decontamination sinks. It is believed that installation of such equipment will reduce the incidence of airborne contamination in these laboratories.

## Rala Laboratory Design

Specific progress on the design of the Rala Analytical Laboratory was detailed in documents HW-17580 and HW-17656.

The re-assignment of all of the required determinations to specific caves and gloved hoods has been accomplished. This was done to group similar types of work for better sample flow through the laboratory.

It was decided to use the Polarographic Method to determine uranium in high concentrations, since the equipment concerned is readily adapted to remote operation. The method also is fast and will give results of sufficient accuracy to meet accountability requirements.

The Standard Volumetric Method will be used to determine acid and base concentrations. This method was chosen because the apparatus required had been constructed and tested previously; it may be adapted with ease to operation in a shielded cave.

The Instrument Division has agreed to assume the responsibility for the drafting and design of the electronic control units for the RCT system. Reports on their study of the system were issued as documents HW-17567, "Feasibility Study of the Proposed Remote Control Transport System for the Radiolanthanum Analytical Laboratory," and HW-17582, "Appendices I and II to Document HW-17567."





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Specifications on the optical system for the periscopes were received from the Instrument Division. Design and drafting of this equipment was commenced.

## ANALYTICAL RESEARCH

### Bismuth Phosphate Process

Studies with the alpha pulse analyzer have shown that Am-241 and Pu-238 yield overlapping waves, but that this pair of waves is distinct from those of Pu-239 and Pu-240. In connection with this study, and in preparation for the control work to support the proposed recovery of Am from process solutions by the Separations Technology Division, it was observed that Pu and Am may be separated conveniently with the aid of cerium salts. Cerium (IV) is employed to oxidize Pu to the hexavalent state and Am is then coprecipitated with Ce (III and IV) as the fluoride. Preliminary studies of that separation indicate that it is essentially quantitative, and several tests with actual and simulated 8-3-WS solutions show that practically all the fission products follow the Am.

### 234-5 Process

Relating to the analytical part of the calcium use test, experiments have been undertaken to find a suitable method for recovering impurities from metallic uranium. It has been shown that extractions with TBP will serve to reduce the uranium content of a solution sample sufficiently to permit spectrographic evaluation of the impurities.

### Redox Process

A direct evaporation procedure for the determination of Pu in LAF streams is indicated to be feasible. Use of this technique would serve to reduce materially the time required for this Pu determination.

Studies have been undertaken to develop improved methods for the determination of Cs and Ce in LAF, LAP, RAF and RAP streams since an improved Cs method is desirable to avoid the hazard involved in the present use of perchloric acid. Application of chloroplatinate as a precipitating agent has led to a shorter method with a precision of ± 15% in the analysis of feed solution and a precision of ± 100% in the analysis of product solution. An improved Ce method is desirable because of the excessive time consumed in application of the present method. Use of precipitations with oxalate and iodate has led to an appreciably shorter procedure having a precision of ± 20%.

Reports issued during the month include HW-17543, "The Determination of Uranyl Nitrate in Pretreated Hexone by Infrared Absorption Measurement," and HW-17378, "Analysis of Gas From Hexone-Nitric Acid Decomposition."

### Metal Recovery Process

Investigations with the infrared spectrophotometer have been undertaken in an attempt to develop a method suitable for the simultaneous determination of monobutyl phosphate, dibutyl phosphate, and tributyl phosphate. A preliminary absorption spectrum study indicates that the former has broad and

rather non-specific absorption characteristics.

Continued work on the polarographic determination of UNH in RAW samples has shown that the iron interferences, previously reported, may be eliminated by reducing of the iron with hydrazine and complexing it with o-phenanthroline. Precision and accuracy studies are in progress.

Chemical studies have been undertaken to determine if the presently available methods for Zr, Ce, Cs, and Ru are applicable to the analysis of phosphate-containing sludge. It is indicated that the Zr-TTA procedure is not applicable in these cases, but that the Zr-mandelic acid and the Zr-cupferron methods yield compatible results. Document HW-17052, "The Mandelic Acid Method for the Determination of Zr-95 in Redox Solutions," was issued.

## Rala Process

Experimentation has been completed on a study designed to determine the rate of heat transfer from a plastic sample pipet similar to that proposed for containing certain Rala primary samples. The data obtained are expected to provide information regarding the extent of heating of 1 ml. Rala samples as a result of the radioactivity present.

The investigation of an ion-exchange method for the determination of active barium involving the coprecipitation of radiobarium on either barium or lead sulfate impregnated in filter paper through which the sample solution was passed was discontinued since repeated trials under varying conditions failed to give complete recovery of the active barium.

## Pile Technology

The spectrographic procedure for the determination of trace impurities in water used in the water pilot channel test (P-13) has been improved so as to permit the determination of one part per billion of Zr, Fe, Cr, and Ni in a 10 ml. sample. Results can be obtained to within ± 20% of the true values.

The literature survey undertaken to determine the most suitable method for the assay of P-10 product was essentially complete by month end. The report on this survey will indicate that mass spectroscopy should provide the most suitable method of approach to the problem.

Document HW-17538, "The Analysis of Pile Irradiated Hydrocarbons with the Infrared Spectrometer," has been issued to summarize the experimental work carried out to date on the indicated subject.

## ENGINEERING SERVICES

### Technical Shops

#### General

Estimation and study by the Maintenance Division showed that they could handle the Glass Shop enlargement move, and the Bldg. 3706 Machine Shop move to and consolidation at Bldg. 101, with suitable simplification. Work Orders were then written to cover (1) moving most of the Bldg. 3706 Machine Shop facilities to Bldg. 101; (2) relocating the remaining machine

shop facilities within Bldg. 3706 to provide a small one-man shop to serve the continuing needs of the laboratories in that building; and (3) relocating and expanding the Glass Shop into the largest room liberated by steps (1) and (2). The moving of all machinery from Bldg. 3706 had been completed by month end.

Bldg. 101 Shops

The work load in the Bldg. 101 and 3706 Shops may be summarized as follows:

| | No. of Jobs | | Man Hours | |
|---|---|---|---|---|
| | March* | April | March* | April |
| Work Completed | 71 | 129 | 1,349 | 2,332 |
| Work Incomplete | 28 | 28** | 1,336 | 1,228** |
| Work Backlog | 47 | 61*** | 2,384 | 640*** |

* Did not include Bldg. 3706 Shop work
** Exclusive of exponential pile project (P-12)
*** Exclusive of P-12.

Since it was decided by Pile Technology to take more than one sample with the graphite cutter and retriever, additional work was done to provide for this extension in the original scope. Lead casks were also being fabricated for receiving and transporting the samples to be obtained.

Fabrication continued on an 8" warp gage for use by the Pile Engineering Section in work scheduled for May 15. An underwater can opener was being manufactured for the Pile Technology Division for use in the field on the scheduled shut-down.

A number of specialty items were fabricated for use in connection with P-10 tests at the DR pile. These included special graphite plug tape holders and foil holders.

Fabrication was completed on the Ball 3-X graphite machining job for the Design and Construction Divisions, and the material was delivered to the field for test purposes.

The fabrication of graphite for multiple purpose bases for the P-12 project was completed, and a portion of the tube blocks for the first exponential pile were fabricated.

Work progressed on a ply-wood mock-up of a research cubicle.

Additional testing and fabrication work was done on the automatic 1 ml. experimental sampler planned for use in the Rala project. Plans call for a duplicate of this sampler to be fabricated from polythene.

Bldg. 3706 Machine Shop

There were a total of 58 jobs received in this shop and 61 jobs completed.

The present backlog consists of 22 jobs estimated to total 600 manhours.

Fabrication work was completed on a constant temperature water bath. The bath consisted of a stainless steel tank with a rotary sample holder chain-driven by a gear reduction motor.

Two stopper removers were fabricated for removing stuck ground-glass stoppers in 1 ml. and 2 ml. volumetric flasks.

A portable pipetter was completed for the Health Instrument Divisions according to standard blueprints.

Special fabrication for the Chemical Research Section included the following:

(1) A pulse pump; this unit embodied certain modifications from the standard model previously built.

(2) A small-scale pump and pulser were built. Both units utilized glass syringes for the pumping sections and variable speed motors for the drive.

(3) Two extractor units were assembled and installed in a Junior Cave. Necessary tubing connections were also fabricated and revisions made were required.

A double gloved box was completed for the Analytical Methods Adaptation Group.

Work continued on a rotary sample holder being fabricated for the Metallurgy Section. This unit involved extremely close tolerances and all dimensions are critical.

Initial work on a remote control ultramicroburet was started. This unit will be similar to the one completed in February, but will be so constructed that it may be operated from a considerable distance.

Glass Shop - Bldg. 3706

The Glass Shop completed 90 job requests, which could be classified as follows: New jobs, 55; repairs, 13; revisions, 22.

Fabrication and assembly work on the gas analyzer for P-10 was completed. While this unit was similar to those in use at 108-B, a number of improvements were incorporated to protect the equipment and the operator against failure.

One glass blower was loaned to the Pile Technology Division for work on the P-10 project.

300 Area Services

Normal Bldg. 3706 services continued routinely. Stockroom and work order

activity is reflected by the following work volume statistics:

| | March | April |
|---|---|---|
| Purchase requisitions | | |
| Total processed | 67 | 62 |
| Requisitions requiring special expediting | 3 | 18 |
| Requisitions requiring emergency handling | 15 | 0 |
| Stores Stock Requests processed | 2 | 1 |
| Store Orders | | |
| Total processed | 1,098 | 1,010 |
| Emergency pick-ups and deliveries | 9 | 10 |
| Work Orders Processed | 60 | 66 |

Work orders covering the installation of additional exhaust fans, and the installation of automatically closing louvers for existing and new exhaust fans, were issued and approved. These installations are to improve ventilation of the Bldg. 3706 attic, and to eliminate dirt and winter air from blowing back into this attic in the event of exhaust fan outage. A work order for replacement of faulty steam coils in the ventilating units of Bldg. 3706 was issued to the Maintenance Division for cost estimation.

Drawings for a suitable liquid waste transfer can were completed, and procurement was in progress.

New Laboratory Planning

Redox Laboratory (Bldg. 222-S)

Scope drawings of the waste disposal system for this new laboratory were approved by the A.E.C. on April 3. The capacity of the crib disposal system for certain liquid wastes was increased in order to accommodate also the Hanford Works Laboratory wastes of the same types. A dry waste disposal crib was included in the overall scheme for these laboratories.

Radiochemistry Bldg.

The Project Proposal covering the design of the Radiochemistry Bldg. was approved by the A & B Committee and submitted to the A.E.C.

The floor plan for this laboratory building is being revised to include some new concepts, such as: (1) The incorporation of down-draft hoods, resulting in the addition of a full basement and the elimination of the second floor equipment room; (2) the distribution of cold pipe services from first floor galleries located between room modules; and (3) the physical separation of space by two categories; namely, direct laboratory space and auxiliary space.

Radiometallurgy Bldg.

The Project Proposal for the design of the Radiometallurgy Bldg. was submitted to the A & B Committee.

Pile Technology Bldg.

The information required for the preliminary design of the Pile Technology Bldg. has been submitted by the metallurgical and the pile engineers.



[redacted]

While complete information has not yet been submitted by all of the ultimate users of this facility, present indications are that a large increase in the number of square feet of laboratory space will be required.

Miscellaneous

The Purchasing Division has made a further survey of the glass vendors, and again has been unable to get any but the Penberthy Instrument Co. to bid on making lead glass to meet Hanford specifications. The contract for building the 10-1/2" thick viewing plug required for experimental use in multi-curie cells was awarded to Penberthy.

Equipment Design Unit

Room 17, Bldg. 3706, was made ready for radiochemical use by the Chemical Research Section with the exception of the Junior Cave. The radiation recorder for this Junior Cave was completed, except for testing. Junior Cave outfitting in this and other rooms was continued with the services of two men.

Several minor design services were rendered, such as design of filter boxes for hoods, supplying strip coat materials, and redesign of lead sample carriers.

Design of the twelve-place magnetic stirrer was completed and given to the shops for fabrication. A new Kimwipe holder was designed for use in laboratory hoods.

A pair of tongs was designed for handling hot waste from 3706 Bldg. Scoping drawings for some Hanford Works Laboratory equipment were made.

Designs continued on manipulators and casks for cell operation of the Rockwell hardness tester.

Gloved box designing was continued. Plywood partial mock-ups were made for a six-foot and a five-foot hood, for study. Equipment was being assembled for fabrication and testing of glass-fiber filters for hoods. Facilities were arranged for gloved box outfitting and electronic gadgeteering in the 101 Bldg. Progress was made on 222-S Bldg. cubicle mock-ups.

STATISTICAL STUDIES

300 Area Operations

Charts of P-10 fuel slug reactivity, as determined in the Test Pile, are being maintained daily for the Pile Technology Division. By analysis of variance, significant differences were found to exist between heats. The within-heat variation was significantly lower in the latest shipment of these alloy slugs. A significant correlation exists between the reactivity of bare and canned slugs. No consistent relationship was found between the order in which slugs were cast and their reactivity. Sampling plans for testing bare and canned slugs are under investigation. Several equations pertaining to this fuel slug program were solved and plotted for Pile Technology.





[redacted]

A statistical study indicated that the slug dilatometric test on bare uranium slugs is satisfactory for determining the degree of transformation achieved in the bronze dip bath. Canned slug data are being gathered to determine whether a similar pattern will be followed.

Work was begun on calculations of angles between planes, of angles between directions, and of angles between planes and directions for subsequent crystallographic studies of uranium by the Metallurgy Section.

Evaluation of analytical results to date this year on MD-6 uranium oxide was made to determine the average experience factor to be used for composite samples.

Statistically designed experiments were recommended for: (1) Studying marred surface reject tolerances for canned slugs at Bldg. 313 final inspection; (2) determining the increase in uranium slug yield to be expected from rods not cut in half; (3) determining the effect of source of can supply on slug canning rejects in Bldg. 313; (4) studying differences in impurities at the top and bottom of cast uranium billets; and (5) determining the effect of microscopes and operators on the precision of badge readings in the Health Instrument Divisions.

Daily, weekly, and monthly statistical controls were reported on P Division operational results at Machining, Pickling, Canning, Test Pile, Autoclave, and Melt Plant (for monthly report, see Document HW-17572). A statistically significant increase in acceptable uranium slugs resulted in the highest canning yield on record during the month of April. A monthly statistical report (Document HW-17662) was issued covering the quality of Mallinckrodt and Electro-Met virgin uranium, and Hanford recast uranium. Control charts were prepared covering uranium quality by months since January 1946.

## 200 Area Operations

Further analyses of stress due to thermal expansion in proposed piping layouts in Redox design were performed for the Design and Construction Divisions.

Data from the test to study material balance discrepancies between F-10P (Bldg. 224) and P-1 (Bldg. 231) exhibited variation of ± 8.7%. Appreciable (± 3.0%) error due to plant sampling of F-10P solutions was shown, but plant sampling error at P-1 was negligible. Analytical errors of F-10P radio-assays and P-1 chemical assays were estimated at ± 1.7% and ± 2.9%, respectively, leaving alarge part of the ± 8.7% variation in material balance yet to be explained. Study is currently underway of radio vs chemical assay data on P-1 samples, to explore possible effects of the conversion from radio to chemical assay.

In connection with the Health Instrument Divisions air sampling program in 200 Areas, tables giving "confidence limits" for air sample results were computed for various time intervals between initial and final counting.

An analysis was begun of experimental data obtained by the H.I. Biology Division on the absorption of plutonium by rats.

In order to reduce the mounting computational labor involved in the 200 Areas statistical accuracy and precision program, a plan to sample the analytical data has been adopted. This procedure will give adequate information concerning precision and accuracy, and do so at lower cost.

Weekly and monthly statistical controls were reported on analytical precision and accuracy of metal solutions, product solutions, and wastes as analyzed in the 222-B, 222-T, 231, and 234 Building Control Laboratories. The monthly report (Document HW-17412) also includes AT and P-4 Specific Gravity Relationships; 231-234 product differences; and Hanford - Los Alamos product differences. Control charts were prepared showing these monthly averages since January 1948.

## 100 Area Operations

A program is being established that will permit the issuance of a monthly report on dimensional stability of all regular Group V canned uranium slugs, the data to be obtained from samples from each regular discharge at the piles.

Final analysis of the data of PT-105-216, duplexed slugs, disclosed significant differences between the dimensional stability of lead dipped slugs and slugs not lead dipped.

At the request of the Pile Technology Division, estimates were made of the error to be expected from an alpha counter of modified design.

## LIBRARY AND FILES

### Plant Library

Library work volume and book statistics were as follows:

| | March | April |
|---|---|---|
| Number of books on order received | 165 | 160 |
| Number of books fully cataloged | 220 | 226 |
| Number of bound periodicals processed but not fully cataloged | 50 | 81 |
| Pamphlets added to the pamphlet file | 43 | 62 |
| Miscellaneous material received, processed, and routed (Including maps, photostats, patents, etc.) | 12 | 31 |
| Books and periodicals circulated | 1,827 | 2,190 |
| Unclassified reports processed | 285 | 178 |
| Unclassified reports circulated | 159 | 146 |
| Reference services rendered | 854 | 699 |

| | Main Library | W-10 Branch | Total |
|---|---|---|---|
| Number of books | 5,865 | 2,318 | 8,183 |
| Number of bound periodicals | 4,137 | 100 | 4,237 |





[redacted]

The use of the Plant Library, reflected in the volume of books and periodicals loaned to Plant personnel, continued to increase. A new high in circulations was achieved, reflecting an increase of approximately 300 over the total for March, which had also represented an increase of about 300 over the February volume.

Application of the Library's technical reference resources to the problems of the Plant continued on a routine basis. Following is a representative sampling from the many literature searches made:

Determination of the aniline point of petroleum.
Prevention of fading of standard methylene blue solutions.
Standards for exposure to carbon monoxide.
High temperature heat transfer liquids other than Dowtherm.
Heat of solution of aluminum in sodium hydroxide.
Specifications for welding electrodes.
Surface active agents which are effective in acid solutions.
Electrical conductivity of diamonds.
Solubility of NO in nitric acid.

## Classified Files

Work volume statistics for the Classified Files and the Central Report Publications Unit were as follows:

| Classified Files | March | April |
|---|---|---|
| Documents routed | 20,365 | 17,399 |
| Documents issued | 8,197 | 7,379 |
| Reference services rendered | 3,865 | 3,889 |
| Reports abstracted | 368 | 190 |
| Registered packages prepared for offsite | 562 | 558 |
| Inter-area mail sent via transmittal | 22,049 | 22,630 |
| Holders of classified documents whose files were inventoried: | | |
| a. Because of normal perpetual inventory procedure | 35 | 36 |
| b. Because of transfer of work assignment | 4 | 4 |
| c. Because of termination | - | 1 |
| Copies of documents destroyed in inventory reduction | - | 308 |
| Volume of unclassified mail handled by 300 Area Mail Room | 24,857 | 20,369 |

| Central Report Publications Unit | | |
|---|---|---|
| Ditto masters run | 1,149 | 701 |
| Mimeograph stencils run | 1,056 | 1,076 |
| Ditto master copies prepared | 33,813 | 26,844 |
| Mimeograph copies prepared | 71,835 | 79,979 |
| Formal Research and Development Reports issued | 15 | 26 |



[redacted]

The 26 formal reports processed by the Central Reporting Unit during April represented a new high in the volume of this work. Among those issued was a "Bibliography on Dimensional Instability of Uranium Fuel Elements Resulting from Pile Irradiation and Thermal Treatment," document HW-17195, compiled by a member of the Technical Abstracting Unit.

The Classified Files Supervisor attended a meeting of Document Librarians held at the Knolls Atomic Power Laboratory on April 27 and 28. The meeting, called by the AEC, dealt with classified document accountability, control, and related problems of Classified Files administration.

A meeting with representatives of the local A.E.C. Operations Division was held on April 17 to discuss the offsite distribution of certain Hanford periodic program reports which are of an informal nature. It was agreed that expedited offsite distribution of such reports is essential to the maintenance of close working liaison with the specific Sections at other sites which are concerned with the same or related problems. It was agreed that these reports should issue under a special distribution of the category "Technology - Hanford Processes," and that the local A.E.C. would handle the authorization of such special distributions.

The procedure being developed to centralize the control of code designations, as described in last month's report, was completed and incorporated in a final draft of an Instructions Letter which is to be issued by the Security Division as a Section of Instructions Letter #135.

A set of headings for the subject analysis and indexing of technical reports on the P-10 Process was developed by the Technical Abstracting Unit, reviewed by the Pile Technology Division, and submitted to the Technical Information Division at Oak Ridge for inclusion into CA-1927 (List of Current Subject Headings for the Indexing of Reports). These subject headings will receive extremely limited distribution at this time. In addition, a set of form headings to be used in analyzing and indexing subject material applicable to individual piles was developed submitted to the Technical personnel involved, and transmitted to the Technical Information Division at Oak Ridge.

A proposed Instructions Letter covering the accountability and control of rough draft classified documents was drafted and routed to a number of technical personnel for comment and review. Suggestions received were incorporated into a final draft submitted to the Security Division for issuance as a Section of H. W. Instructions Letter #135.

A small "office model" addressograph machine was received for use in conjunction with a snap-out receipt form recently developed to expedite offsite transmittal of classified reports. Ordering of the necessary addressograph plates was postponed pending arrival of the revised address list in the new edition of M-3679 (received late in the month). In connection with the offsite transmittal of reports, the use of prefabricated cardboard folders was instituted to insure the safe packaging of classified documents transmitted.

Since establishment of the principle that transfer of document accountability takes place only between recognized A.E.C. document transfer points, it

[redacted]



has been necessary to establish local accountability records on classified documents which had previously been transmitted by receipt to consultants under contract, and to members of the Nucleonics Department staff at Schenectady, on the assumption that accountability was being similarly transferred. These local records have now been brought up to date and put on a current basis.

A meeting attended by representatives of the A.E.C. Security, G.E. Security, and Classified Files supervision was held on April 5 for the purpose of discussing the reduction of document inventory through declassification of non-technical classified documents. Bulletin HA-29, issued by the Office of Hanford Directed Operations, and which sets forth the procedures used by the local A.E.C. in this connection, was discussed. It appears that a "Non-Technical Document Review Board" might be helpful.

The reduction of document inventory by the destruction of classified documents was also begun, and 308 such documents were destroyed during the month. A basic minimum of 4 or 5 copies has been decided upon as necessary to meet record reference, and circulation needs. A list of types of documents and document series, for which the Classified Files holdings could be reduced to the minimum by destruction, is being developed to insure that the destruction may proceed in an orderly manner and in those areas where the procedure is most applicable. In this connection, the destruction policy with regard to recalled documents was clarified.

INVENTIONS

All Technical Services Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

| Inventor | Item |
|---|---|
| H. W. Miller | The Electrodeposition of Plutonium |

Signed T. W. Hauff
Division Head

TWH:mcs



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MEDICAL DIVISIONS

APRIL 1950

Summary

## Personnel Changes

The Medical Divisions' roll dropped from 362 to 357.

## General

Much time was spent in preparation for change to private practice by the clinic physicians and dentists on May 1st.

Rental of space in the clinic and other buildings to physicians and dentists is to be handled by the Community Commercial Facilities Division. The dentists will operate as a partnership group, while the clinic physicians will function as a loose association sharing certain common expenses.

## Visits

Thirteen Kadlec Hospital employees attended various general and sectional meetings of the annual convention of the Western Hospital Association in Seattle.

Dr. B. C. Scudder attended the annual meeting of the American Association of Industrial Physicians & Surgeons in Chicago.

Dr. Charles F. Branch, Assistant Director of the American College of Surgeons, inspected Kadlec Hospital and the Industrial Medical Program to determine their acceptability for college approval.

## Industrial

Employee physical examinations decreased from 2726 to 2108. First aid treatments dropped by 346 (5.5%) to 5987. Eight major and six sub-major injuries were treated. One of the major injuries and none of the sub-major injuries were sustained by G. E. employees.

"Alcoholism" was the monthly health topic.

Sickness absenteeism was practically unchanged at 1.94% while total absenteeism declined slightly from 2.57% to 2.48%.

## Communities - Hospital and Clinics

The hospital average daily census declined slightly from 86.4 to 83.8. Clinic visits dropped by 6.5% from 6914 to 6462. Dental visits were down from 3217 to 2444.

MEDICAL DIVISIONS

APRIL 1950

## Public Health

The status of communicable disease remains about the same with Chickenpox and German Measles showing the highest incidence.

## Costs (March)

The net costs of operating the Medical Divisions (before assessments to other divisions and Workmen's Compensation costs) was $79,593.00, a decrease of $5,936.00. The improvement resulted from increased revenue from clinic and hospital, which more than offset increased costs due to the longer work month and some increase in supply and other costs. The net cost was $32,581.00 below the budget figure due to revenue exceeding expectations.

Kadlec Hospital operated at a net profit of $4,657.00, as compared with $810.00 for February, and a budget figure of $14,750.00 loss. An increase in hospital revenue of $9,414.00 was responsible for the improvement.

The clinic showed a profit of $6,045.00, as compared to a loss of $5,277.00 for February, and a budget figure of $8,548.00 loss. There was an increase of $11,487.00 in clinic revenue due to a marked increase in clinic visits, and this accounted for the profit, which was the first for this year.

MEDICAL DIVISIONS

APRIL 1950

## Industrial Medical Division

### General

The number of examinations decreased from 2726 in March to 2108 in April. The number of first aid treatments also decreased from 6333 to 5987. General Electric employees sustained one major injury and no sub-majors, and construction employees sustained seven major injuries and six sub-major injuries.

Two construction first aid stations opened during the month, one in 100-DR and one in 200-W.

The Industrial Medical Division was officially surveyed on April 13th by Dr. Charles F. Branch, Assistant Director of the American College of Surgeons. Facilities were inspected, and the overall program was discussed. The survey was for the purpose of determining if the American College of Surgeons will officially approve the type of industrial medical service provided on this plant.

An inspection of the construction first aid facilities was made on April 17th by a representative labor group composed of painters, carpenters, boiler-makers, and sheet metal workers. They made a tour of Kadlec Hospital, North Richland Industrial Medical Section, and area first aid stations, which included ambulance coverage. After the tour, all comments were favorable, and as yet no adverse comment has been received.

The industrial physicians' scientific meeting dealt with the scope of the biology program at Hanford Works, and was presented by Dr. H. A. Kornberg.

One industrial physician attended the national meeting of the American Association of Industrial Physicians & Surgeons held in Chicago, April 24th thru the 27th.

The Health Activities Committee met on April 20th. The subject of "Alcoholism" was presented and dealt with entirely on its medical aspects. Material was prepared for distribution throughout the plant. It was pointed out to the committee that the Bureau of Labor Statistics for 1949 showed that the average manufacturing employee in the U. S. lost 9.6 days from work for all causes. Hanford Works employees lost 5.9 days during 1949, and since most of this absenteeism is due to illness, health education has been and will continue to be one of the best means to further reduce this time loss. The sickness absenteeism was 1.94% as compared to 1.93% in March, while absenteeism due to all causes was 2.48% as compared to 2.57% in March.

The Chemical Hazards Committee met during the month and established standing membership and objectives for this committee. Since several divisions are involved in the responsibility of the control of chemical hazards, the objective is to correlate and promote all functions and activities involved in the control and protection of all employees of Hanford Works as a result of potential and/or real chemical health hazards which may be or are anticipated to be present in any and all plant operations.

MEDICAL DIVISIONS

APRIL 1950

General (continued)

There were no findings attributable to radiation exposure by any employee during the month.

| Physical Examinations | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| Operations | | | |
| Pre-employment | 103 | 179 | 430 |
| Rehire | 85 | 56 | 233 |
| Annual | 425 | 290 | 1639 |
| Interval | 487 | 413 | 1964 |
| A. E. C | 21 | 9 | 51 |
| Recheck | 156 | 112 | 566 |
| Termination | 56 | 108 | 248 |
| Total | 1333 | 1167 | 5131 |
| Subcontractors | | | |
| Pre-employment | 1068 | 706 | 2028 |
| Rehire | 0 | 0 | 935 |
| Recheck | 168 | 92 | 393 |
| Termination | 157 | 143 | 436 |
| Transfers | 0 | 0 | 0 |
| Total | 1393 | 941 | 3792 |
| Total Physical Examinations | 2726 | 2108 | 8923 |
| **Laboratory Examinations** | | | |
| Clinical Laboratory | | | |
| Government | 185 | 84 | 353 |
| Pre-employment, termination, transfer | 7597 | 5971 | 22367 |
| Annual | 2217 | 1501 | 8515 |
| Rechecks (Area) | 2535 | 2170 | 10298 |
| First Aid | 27 | 6 | 72 |
| Clinic | 3522 | 3053 | 11900 |
| Hospital | 3226 | 2626 | 11722 |
| Public Health | 75 | 30 | 168 |
| Total | 19384 | 15441 | 65395 |
| X-Ray | | | |
| Government | 19 | 27 | 55 |
| Pre-employment, termination, transfer | 1324 | 996 | 3794 |
| Annual | 437 | 285 | 1689 |
| First Aid | 103 | 114 | 394 |
| Clinic | 270 | 210 | 908 |
| Hospital | 207 | 173 | 771 |
| Public Health | 5 | 8 | 31 |
| Total | 2365 | 1813 | 7642 |
| Electrocardiographs | | | |
| Industrial | 38 | 12 | 177 |
| Clinic | 7 | 12 | 23 |
| Hospital | 24 | 28 | 108 |
| Total | 69 | 52 | 308 |

MEDICAL DIVISIONS

APRIL 1950

| | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| **Allergy** | | | |
| Skin Tests | 55 | 28 | 125 |
| **First Aid Treatments** | | | |
| **Operations** | | | |
| Occupational Treatments | 361 | 342 | 1424 |
| Occupational Retreatments | 1361 | 1138 | 5126 |
| Non-occupational Treatments | 3645 | 3318 | 13418 |
| Total | 5367 | 4798 | 19968 |
| **Construction** | | | |
| Occupational Treatments | 216 | 284 | 632 |
| Occupational Retreatments | 613 | 749 | 1735 |
| Non-occupational Treatments | 137 | 156 | 423 |
| Total | 966 | 1189 | 2790 |
| Total First Aid Treatments | 6333 | 5987 | 22758 |
| **Major Injuries** | | | |
| General Electric | 0 | 1 | 2 |
| Sub-contractors | 1 | 7 | 11 |
| Total | 1 | 8 | 13 |
| **Sub-major Injuries** | | | |
| General Electric | 2 | 0 | 11 |
| Sub-contractors | 13 | 6 | 22 |
| Total | 15 | 6 | 33 |
| **Absenteeism** | | | |
| Weekly employees, all causes | 2.57% | 2.48% | 2.58% |
| Weekly employees, sickness only | 1.93% | 1.94% | 2.02% |
| Total days lost by males due to sickness | 1879 | 1574 | 7087 |
| Total days lost by females due to sickness | 946 | 698 | 3516 |
| Total days lost due to sickness | 2825 | 2272 | 10603 |
| Investigation: | | | |
| Total calls requested | 26 | 15 | 84 |
| Total calls made | 26 | 15 | 84 |
| No. absent due to illness in family | 1 | 1 | 2 |
| No. not at home when call was made | 0 | 2 | 5 |

## Village Medical Division

General

Medical Divisions' roll decreased from 362 to 357. The average daily adult hospital census decreased from 76.6 to 71.7, as compared to 76.4 a year ago.

Ratio of hospital employees to patients for the current month is 2.3.

Nursing hours per patient day:

| | |
|---|---|
| Medical, Surgical, Pediatrics | 3.77 |
| Obstetrical | 5.00 |

MEDICAL DIVISIONS

APRIL 1950

General (continued)
Clinic visits decreased from 6914 to 6462, which is a 6.5% decrease as compared to the previous month, and 19.9% below a year ago. North Richland Medical Center accounted for 3.6% of the total clinic visits this month.

The net expense of the Richland community medical program for March, 1950 was ($10,702.)* as compared to $4,467. for February. Breakdown is as follows:

Kadlec Hospital net expense ($4,657.00)*
This is a decrease of $3847. as compared to February, due primarily to an increase in revenue as a result of a higher patient census.

Clinic net expense ($6,045.00)*
This is a decrease of $11,322. as compared to February, due primarily to a substantial increase in clinic visits during the month of March.

* Net gain.

| Clinic Visits | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| Medical | 1462 | 1462 | 5080 |
| Pediatrics | 858 | 695 | 2951 |
| Surgical | 787 | 634 | 2706 |
| Gynecological | 518 | 455 | 1783 |
| Obstetrical (new) | 92 | 64 | 290 |
| Obstetrical (recheck) | 771 | 682 | 2831 |
| Venereal Disease | 71 | 34 | 163 |
| Ear, Nose, Throat | 374 | 414 | 1389 |
| Eye | 305 | 136 | 900 |
| Visits handled by nurses | 942 | 1010 | 3249 |
| Night clinic visits | 734 | 876 | 3022 |
| Total | 6914 | 6462 | 24364 |
| Average clinic visits per day | 266 | 249 | 234 |
| **Source of Richland Clinic Visits** | | | |
| Richland | 90.5% | 88.7% | 90.7% |
| North Richland | 4.2% | 6.1% | 4.2% |
| Other | 5.3% | 5.2% | 5.1% |
| **Home Visits (Pay Cases)** | | | |
| Doctors | 335 | 237 | 1529 |
| Nurses | 275 | 191 | 1253 |
| Total | 610 | 428 | 1782 |

MEDICAL DIVISIONS

APRIL 1950

| Kadlec Hospital | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| **Census** | | | |
| Admissions - Adults | 476 | 398 | 1692 |
| Patient Days: Adults | 2372 | 2153 | 8941 |
| Infants | 305 | 364 | 1359 |
| Total patient days | 2677 | 2517 | 10300 |
| Average stay: Adults | 5.0 | 5.4 | 5.3 |
| Infants | 4.9 | 5.3 | 5.3 |
| Average daily census: Adults | 76.6 | 71.7 | 74.3 |
| Infants | 9.8 | 12.1 | 11.3 |
| Total average daily census | 86.4 | 83.8 | 85.7 |
| Discharged against advice | 2 | 0 | 7 |
| One-day cases | 92 | 68 | 262 |
| Occupancy Percentage: Adults | 86.0% | 80.5% | 83.7% |
| Infants | 123.0% | 151.2% | 141.7% |
| Admission Source: Richland | 83.3% | 82.6% | 83.1% |
| North Richland | 5.7% | 8.7% | 6.6% |
| Other | 11.0% | 8.7% | 10.4% |
| Admissions by employment: | | | |
| General Electric | 80.9% | 78.7% | |
| Government | 2.5% | 3.0% | |
| Facility | 3.4% | 4.8% | |
| Sub-contractor | 7.5% | 8.0% | |
| Schools | 1.1% | 1.3% | |
| Military | 0.1% | 0.7% | |
| Other | 4.5% | 3.5% | |
| **Surgery** | | | |
| Majors | 66 | 36 | 248 |
| Minors | 85 | 42 | 260 |
| Eye, Ear, Nose, Throat | 69 | 61 | 219 |
| Transfusions | 68 | 39 | 208 |
| Dental | 2 | 0 | 5 |
| **Vital Statistics** | | | |
| Deaths | 4 | 2 | 12 |
| Live Births | 62 | 68 | 253 |
| Still Births | 0 | 3 | 5 |
| **Physiotherapy Treatments** | | | |
| Clinic | 81 | 145 | 334 |
| Hospital | 68 | 52 | 240 |
| Industrial: Plant | 173 | 152 | 751 |
| Personal | 7 | 20 | 90 |
| Total | 327 | 369 | 1415 |
| **Pharmacy** | | | |
| No. of prescriptions filled | 3141 | 2803 | 11346 |

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MEDICAL DIVISIONS

APRIL 1950

| Patient Meals | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| Regulars | 3162 | 2984 | 12289 |
| Specials | 1168 | 979 | 3985 |
| Lights | 103 | 234 | 448 |
| Softs | 1561 | 1661 | 6998 |
| Tonsils & Adenoids | 169 | 145 | 528 |
| Liquids | 300 | 147 | 746 |
| Surgical Liquids | 61 | 83 | 276 |
| Total | 6524 | 6233 | 25270 |

| Cafeteria Meals | | | |
|---|---|---|---|
| Noon | 1502 | 1345 | 6261 |
| Night | 289 | 285 | 1111 |
| Total | 1791 | 1630 | 7372 |

## Public Health Division

### General

The status of communicable disease remains about the same with Chickenpox and German Measles showing the highest incidence. Field nursing visits declined by approximately 10% due to reduction in morbidity.

A public health nurse is holding home nursing classes for the Red Cross. A new series of mothers' classes was started. A seminar on mental health was completed. A new film discussion series will begin next month.

Mosquito control activities were curtailed because of inclement weather. It is anticipated that the program will be re-instituted the first of the month.

| Education | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| Pamphlets distributed | ND | 1998 | ND |
| News releases | 1 | 6 | 28 |
| Classes | 0 | 6 | 13 |
| Attendance | 0 | 69 | 121 |
| Staff meetings | 8 | 6 | 22 |
| Lectures & Talks | 6 | 7 | 29 |
| Attendance | 148 | 277 | 1453 |
| Conferences | 80 | 70 | 200 |
| Attendance | 166 | 134 | 471 |
| Films shown | 0 | 4 | 4 |
| Attendance | ND | 134 | ND |

| Immunizations | | | |
|---|---|---|---|
| Diphtheria | 384 | 412 | 1277 |
| Influenza | 0 | 0 | 1 |
| Rocky Mt. Spotted Fever | 0 | 13 | 13 |
| Smallpox | 119 | 323 | 556 |
| Tetanus | 0 | 5 | 53 |
| Typhoid | 0 | 5 | 6 |
| Tuberculin Test | 10 | 0 | 16 |
| Total | 513 | 758 | 1922 |

MEDICAL DIVISIONS

APRIL 1950

| Social Service | Mar. 1950 | Apr. 1950 | Year to date |
|---|---|---|---|
| Cases carried over | 98 | 87 | 370 |
| Cases admitted | 17 | 12 | 73 |
| Total | 115 | 99 | 443 |
| Cases closed | 28 | 10 | 72 |
| Remaining case load | 87 | 89 | 371 |
| Sources of referral: | | | |
| Public health | 1 | 4 | 11 |
| Doctors | 8 | 5 | 35 |
| Interested person | 2 | 1 | 8 |
| School | 0 | 0 | 3 |
| Personal application | 3 | 1 | 8 |
| Other agency | 0 | 0 | 3 |
| Miscellaneous | 3 | 1 | 5 |
| Total | 17 | 12 | 73 |
| **Sanitation** | | | |
| Inspections made | 167 | 190 | 733 |
| **Bacteriological Laboratory** | | | |
| Treated water samples | 175 | 194 | 695 |
| Milk samples (inc. cream & ice cream) | 112 | 22 | 269 |
| Other bacteriological tests | 276 | 226 | 979 |
| Total | 563 | 442 | 1943 |
| **Communicable Diseases** | | | |
| Amoebic Dysentery | 0 | 1 | 1 |
| Chickenpox | 27 | 36 | 97 |
| Erysipelas | 1 | 0 | 1 |
| German Measles | 35 | 27 | 92 |
| Gonorrhea | 0 | 0 | 1 |
| Impetigo | 1 | 0 | 1 |
| Influenza | 1 | 2 | 3 |
| Measles | 1 | 0 | 2 |
| Mumps | 1 | 1 | 3 |
| Pinkeye | 4 | 5 | 10 |
| Ringworm | 1 | 1 | 3 |
| Roseola | 0 | 0 | 1 |
| Scabies | 4 | 1 | 8 |
| Scarlet Fever | 12 | 5 | 38 |
| Syphilis | 0 | 1 | 7 |
| Tuberculosis | 1 | 1 | 3 |
| Whooping Cough | 0 | 1 | 3 |
| Total | 89 | 82 | 274 |
| Total No. Nursing Field Visits | 1581 | 1321 | 4697 |
| **Dental Division** | | | |
| Patients treated | 3217 | 2444 | 10517 |

MEDICAL DIVISIONS

PERSONNEL SUMMARY

April 30, 1950

| | 1100 Area | | | | | 3000 Area | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Division Administration | Industrial | Clinic | Hospital | Public Health | Industrial | Clinic | Public Health | Sub-total |
| Physicians | 2 | 2 | 16 | 1 | 1 | 2.8 | 1 | | 25.8 |
| Dentists | | | 9 | | | | 1 | | 10.0 |
| Nurses * | 2 | 7 | 10 | 53 | 10 | 1 | | 1 | 84.0 |
| Anesthetists | | | | 3 | | | | | 3.0 |
| Nurse Aides | | 1 | 2 | 25 | 1 | | | | 29.0 |
| Orderlies & Amb. Dr. | | | | 6 | | | | | 6.0 |
| Techn - Dent. Hyg. | | | 1 | | | | | | 1.0 |
| Techn - Clin. Lab. | | | | 8.4 | | 3 | | | 11.4 |
| Techn - X-Ray Lab. | | | | 3 | | 2 | | | 5.0 |
| Techn - Bact. Lab. | | | | 1 | | | | | 1.0 |
| Techn. - Phys. Ther. | | | | 1 | | | | | 1.0 |
| Secretary | 2 | | | | | | | | 2.0 |
| Cler. Work. Leader | 1 | | | 1 | | | | | 2.0 |
| Steno-Typist | 3 | 2 | | 2 | 2 | | | | 9.0 |
| Office Mach. Oper. | 2 | 1 | | | | | | | 3.0 |
| Telephone Operator | 4 | | | | | | | | 4.0 |
| General Clerk | 19 | 11 | 7 | 8 | 1 | 10 | | | 56.0 |
| Pharmacist | | | | 3 | | | | | 3.0 |
| Dietitian | | | | 2 | | | | | 2.0 |
| Cook | | | | 5 | | | | | 5.0 |
| Kitchen Worker | | | | 10 | | | | | 10.0 |
| Social Serv. Couns. | | | | | 3 | | | | 3.0 |
| Sanitarian | | | | | 3 | | | | 3.0 |
| Health Educator | | | | | 2 | | | | 2.0 |
| Dental Assistant | | | 9 | | | | 1 | | 10.0 |
| Bacteriologist | | | | 1 | | | | | 1.0 |
| Records Supv. | 2 | | | | | | | | 2.0 |
| Accounting Supv. | 3 | | | | | | | | 3.0 |
| Admin. & Asst. | 2 | | | | | | | | 2.0 |
| Janitors | | 4.6 | 2.6 | 6.2 | .6 | .5 | .4 | .1 | 15.0 |
| Others | | | 3 | 8 | | | | | 11.0 |
| Total | 42 | 28.6 | 59.6 | 147.6 | 23.6 | 19.3 | 3.4 | 1.1 | 325.2 |

* Includes 4 nurses working part time.

MEDICAL DIVISIONS

PERSONNEL SUMMARY

April 30, 1950

| | Sub-total | 234-5 | White Bluffs | 100-B | 100-D | 100-F | 100-H | 200-E | 200-W | 300 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Outlying Areas | | | | | | | | | |
| Physicians | 25.8 | | | .2 | .2 | .1 | .1 | .1 | .2 | .3 | 27 |
| Dentists | 10.0 | | | | | | | | | | 10 |
| Nurses | 84.0 | 1 | 1 | 1 | 4 | 4 | 1 | 4 | 5 | 2 | 107 |
| Anesthetists | 3.0 | | | | | | | | | | 3 |
| Nurse Aides | 29.0 | | | | | | | | | | 29 |
| Orderlies & Amb. Dr. | 6.0 | | | | | | | | | | 6 |
| Techn - Dent. Hyg. | 1.0 | | | | | | | | | | 1 |
| Techn - Clin. Lab. | 11.4 | | | .4 | .4 | .4 | .4 | .4 | .8 | .8 | 15 |
| Techn - X-Ray Lab. | 5.0 | | | | | | | | | | 5 |
| Techn - Bact. Lab. | 1.0 | | | | | | | | | | 1 |
| Techn - Phys. Ther. | 1.0 | | | | | | | | | | 1 |
| Secretary | 2.0 | | | | | | | | | | 2 |
| Clerical Work. Leader | 2.0 | | | | | | | | | | 2 |
| Steno-Typist | 9.0 | | | | | | | | | | 9 |
| Office Mach. Oper. | 3.0 | | | | | | | | | | 3 |
| Telephone Oper. | 4.0 | | | | | | | | | | 4 |
| General Clerks | 56.0 | | | .5 | .5 | .5 | .5 | .5 | .5 | 1 | 60 |
| Pharmacist | 3.0 | | | | | | | | | | 3 |
| Dietitian | 2.0 | | | | | | | | | | 2 |
| Cook | 5.0 | | | | | | | | | | 5 |
| Kitchen Worker | 10.0 | | | | | | | | | | 10 |
| Social Serv. Couns. | 3.0 | | | | | | | | | | 3 |
| Sanitarian | 3.0 | | | | | | | | | | 3 |
| Health Educator | 2.0 | | | | | | | | | | 2 |
| Dental Assistant | 10.0 | | | | | | | | | | 10 |
| Bacteriologist | 1.0 | | | | | | | | | | 1 |
| Records Supv. | 2.0 | | | | | | | | | | 2 |
| Acctg. Supv. | 3.0 | | | | | | | | | | 3 |
| Admin. & Asst. | 2.0 | | | | | | | | | | 2 |
| Janitors | 15.0 | | | | | | | | | | 15 |
| Others | 11.0 | | | | | | | | | | 11 |
| Total | 325.2 | 1 | 1 | 2.1 | 5.1 | 5 | 2 | 5 | 6.5 | 4.1 | 357 |

Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 362 |
| End of month | 357 |
| Net decrease | 5 |

[redacted]

HW-17660

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# HEALTH INSTRUMENT DIVISIONS

## APRIL, 1950


Summary

The force increased by eight. Four special hazards incidents were investigated.

In the Operational Division survey findings followed normal patterns. Control phases of the Biology and Development Divisions showed no unusual deviations from past results.

The main experiment on $I^{131}$ toxicology was initiated at the Experimental Animal Farm.


[redacted]

2

[redacted]

Health Instrument Divisions

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## HEALTH INSTRUMENT DIVISIONS

## APRIL, 1950

### Organization

The composition and distribution of the force as of 4/29/50 was as follows:

| | 100-B | 100-D | 100-F | 100-H | 200-E | 200-W | 300 | 700 | P.G. | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Supervisors | 1 | 1 | 5 | 2 | 2 | 11 | 13 | 5 | 0 | 40 |
| Engineers | 5 | 5 | 15 | 4 | 10 | 16 | 8 | 4 | 0 | 67 |
| Clerical | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 4 | 0 | 15 |
| Others | 10 | 14 | 40 | 12 | 30 | 69 | 59 | 11 | 8 | 253 |
| Total | 16 | 20 | 61 | 19 | 44 | 99 | 84 | 24 | 8 | 375 |

| Number of Employees on Payroll | April 1950 |
|---|---|
| Beginning of month | 367 |
| End of month | 375 |
| Net increase | 8 |

Additions to the roll included two technical graduates (one on rotational program), one inspector, two laboratory assistants, two general clerks, one engineer, one draftsman, two personnel meter clerks, and one stenotypist. Removed from the roll were two general clerks, one technical graduate, and one laboratory assistant.

### General

One Class II, one Class I, and two informal special hazards investigations were required. The Class II concerned accumulation of P-10 oxide in the body; the Class I involved clothing and skin contamination, and the informal investigations were concerned with contamination spread and inadvertent exposure to air contamination.

Feeding of $I^{131}$ to sheep at the Experimental Animal Farm began.

[redacted]

3

[redacted]

Health Instrument Divisions

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The following trips were reported:

1. Glenn R. Hilst and Frank E. Adley - Seminar on aerosols, Army Technical Command, Edgewood Arsenal, Maryland

2. Frank E. Adley - University of Rochester to attend conference on electron microscopy; American Industrial Hygiene Assoc. meeting in Chicago, Ill.

3. Dr. Joseph Katz - Brookhaven National Laboratory - inspection of facilities and discussion of endocrine effects of radiation.

Lt. (JG) R.K. Loeffler, San Francisco Naval Shipyard; Mr. L.J. Cherubin of Schenectady; and Mr. A.R. Hilliard of the AEC, Washington, D.C., were visitors of the H.I. Divisions during the month.

During the period covered by this report, all persons in the Health Instrument Divisions engaged in work which might reasonably be expected to result in inventions, or discoveries, advised that to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work, except as listed below. Such persons further advised that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

| Inventor | Title |
|---|---|
| none | none |

[redacted]

4

Health Instrument Divisions



## OPERATIONAL DIVISION

### 100 Areas

### General Statistics

| | March | | | | | April | | | | | 1950 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | D | F | H | Total | B | D | F | H | Total | To Date |
| Special Work Permits | 574 | 1006 | 642 | 472 | 2694 | 490 | 1003 | 782 | 472 | 2747 | 10,744 |
| Routine & Special Surveys | 449 | 444 | 401 | 356 | 1650 | 480 | 390 | 468 | 411 | 1749 | 6,717 |
| 107 Effluent Surveys | 86 | 113 | 91 | 124 | 414 | 87 | 123 | 97 | 185 | 492 | 1,614 |
| Air Monitoring Samples | 115 | 83 | 79 | 372 | 549 | 102 | 64 | 74 | 237 | 477 | 1,972 |

### Retention Basin Effluent

The activity of the water leaving the retention basin was as follows:

| | 100-B | 100-D | 100-F | 100-H |
|---|---|---|---|---|
| Power Level (MW) | 275 | 305 | 305 | 330-370 |
| Average beta dosage-rate (mrep/hr) | 1.4 | 1.4 | 1.8 | 1.9 |
| Average gamma dosage-rate (mr/hr) | 2.4 | 3.2 | 3.4 | 3.1 |
| Average total dosage-rate (mrep/hr) | 3.8 | 4.6 | 5.2 | 5.0 |
| Average integrated dose in 24 hrs. (mrep) | 91 | 110 | 125 | 120 |
| Maximum integrated dose in 24 hrs. (mrep) | 113 | 139 | 154 | 158 |
| Maximum integrated dose in 24 hrs. (mrep) 1950 | 113 | 139 | 154 | 158 |

### 100-B Area

### Pile and Associated Buildings

Contamination levels encountered during charge and discharge operations were higher than usual. Decontamination efforts on rear face nozzles and caps were fairly effective. Some of the contamination problems encountered in the discharge area are attributed to the practice of purging the pile at the conclusion of shutdown operations rather than before.

Graphite was mined from one of the process tubes under carefully controlled conditions and no contamination spread was observed. Process tubes were replaced under moderate exposure rates and one process tube, after removal from the pile, was cut into short sections for corrosion and metallurgical studies Routine and special air sample results indicated that airborne radioactivity contained in effluent water vapor is still a problem.

Health Instrument Divisions



P-10 Operations - 108 Building

Several irradiated pieces originally canned at ANL were found coated with a black, oily substance when decanned Analysis of a small sample of this material in the Health Instrument Methods Laboratory indicated sulpher$^{35}$ as the contaminate. Further investigation is in progress.

Extensive work was undertaken in an attempt to find a suitable decontaminating agent for P-10 oxide. To date, carbon tetrachloride, Ivory soap paste, ether, and Trend in water show promise. Air samples taken during the month showed the following results:

| Location | μc P-10 Oxide/liter |
|---|---|
| 1st floor at main door | $1.3 \times 10^{-5}$ |
| 3rd floor at double doors | $1.4 \times 10^{-4}$ |
| P-10 A air supply | not significant |

A total of seventy-eight urine samples was taken from P-10 personnel and one result was above the recommended level of 17 μc P-10 oxide/liter. The individual showing this result was removed from danger zone work. After two weeks the urine content was about 3.7 μc P-10 oxide/liter, and the employee returned to regular duties.

Metallurgical Laboratory - 111 Building

A sample of liquid collected from a can which had contained an irradiated uranium slug showed alpha activity, 97% of which was due to Pu and U. Of this, 82% was found to be free plutonium. Steps are being taken to set up proper controls to prevent contamination spread. Plutonium contamination was not expected in this building.

100-D Area

High levels of contamination in the discharge area continued to be a problem during shutdown operations. High radiation levels were encountered during the removal of a vertical safety rod, pressure testing of the "B" regulating rod thimble, and installation of a new type gun barrel assembly in the "A" experimental hole. Personnel exposure and contamination spread were well controlled in each instance.

The #1 and #2 purification rooms in the Gas Purification Building were released to construction for conversion to drier rooms for the 105-DR pile.

Low level contamination was found in several express cars and freight trucks returning empty casks and boxes to the site. All contamination was effectively cleaned up.

Health Instrument Divisions

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100-F Area

Pile and Associated Buildings

Continued decontamination efforts in the discharge area were partially successful. Six instances of hand contamination were reported and five were easily cleaned. The sixth instance occurred during work on condensate lines in one of the drier rooms of the Gas Purification Building and was removed with considerable difficulty. High readings due to radioactive gas were found on top of the pile following the replacement of a vertical safety rod thimble, and it was found that a leak existed at the gasket under the step plug The condition was corrected on the subsequent shutdown.

Animal Farm

Radioactive iodine feeding was continued without incident. Some contamination was found in the pen housing twelve sheep each receiving about 240 μc $I^{131}$ daily.

P-11 Operations

Plutonium was added to the system on April 10, 1950, and two experimental runs were made during the month. Four small leaks were found in the product solution transfer line during and after the runs. About 5 milligrams Pu was involved and cleaned without contamination spread. Twenty-three air samples were taken during the month and twelve were above $1 \times 10^{-12}$ μg Pu/cc. The maximum air contamination found was $7.3 \times 10^{-10}$ μg Pu/cc obtained in the test room during the cleaning and sealing of a product line valve. The maximum result found on exhaust air to the atmosphere through the fan duct was $5.4 \times 10^{-12}$ μg Pu/cc.

100-H Area

A "steam dome" was installed on top of the near effluent line expansion box vent pipe but did not appear to correct the difficulty as high backgrounds were still observed periodically on the five-fold counters in the Pile Building. Airborne contamination of $9 \times 10^{-5}$ μc/liter was attributed to effluent vapor backup through a drain line in a drier room Effluent vapors were also prevalent in the near sample room

An employee of the Health Instrument Operational Division was contaminated from the waist down when he slipped into the effluent end of the retention basin. The incident was investigated both from a safety and special hazards aspect.

Health Instrument Divisions

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## 200 Areas T and B Plants

### General Statistics

| | March | | | April | | | 1950 |
|---|---|---|---|---|---|---|---|
| | T | B | Total | T | B | Total | To Date |
| Special Work Permits | 568 | 356 | 924 | 569 | 382 | 951 | 3,034 |
| Routine & Special Surveys | 592 | 541 | 1,133 | 665 | 533 | 1,198 | 4,110 |
| Air Monitoring Samples | 628 | 1093 | 1,721 | 654 | 916 | 1,670 | 5,810 |
| Thyroid Checks | 111 | 106 | 217 | 58 | 58 | 116 | 645 |

### Air Sample Results

| Location | No. Taken | Number Above $10^{-12}$ µg Pu/cc | Number Above $10^{-7}$ µc f.p./liter | Maxima µg Pu/cc | Maxima µc f.p./liter | Remarks |
|---|---|---|---|---|---|---|
| **T Plant** | | | | | | |
| Canyon | 151 | *11 | 132 | $1.0 \times 10^{-10}$ | $6.0 \times 10^{-6}$ | Crane work. |
| 221 Galleries | 138 | 4 (*13) | 3 | $2.5 \times 10^{-12}$ | $1.2 \times 10^{-7}$ | Pipe Gallery Section 17. |
| R-13 Changehouse | 57 | 9 (*29) | 7 | $1.8 \times 10^{-11}$ | $1.6 \times 10^{-6}$ | Cleaning in R-13. |
| 222 | 192 | 22 (*135) | 7 | $1.0 \times 10^{-10}$ | $2.9 \times 10^{-7}$ | Room 7. |
| 224 | 105 | 1 (*17) | 1 | $6.4 \times 10^{-12}$ | $1.7 \times 10^{-7}$ | Operating Gallery Section E. |
| Others | 11 | *0 | 2 | $<10^{-11}$ | $3.4 \times 10^{-7}$ | Taking sample 101-U tank. |
| **B Plant** | | | | | | |
| Canyon | 97 | *20 | 52 | $3.4 \times 10^{-10}$ | $10^{-4}$ | Section 7, Power outage. |
| 221 Galleries | 256 | 7 | 8 | $1.1 \times 10^{-11}$ | $3.0 \times 10^{-6}$ | Section 8 P.G. Power outage. |
| R-13 Changehouse | 31 | 3 | 0 | $2.9 \times 10^{-12}$ | $<10^{-7}$ | |
| 222 | 200 | 98 | 8 | $3.3 \times 10^{-11}$ | $2.6 \times 10^{-7}$ | Decontam. Sink. |
| 224 | 187 | 11 | 0 | $2.7 \times 10^{-12}$ | $<10^{-7}$ | Sect. E. P.G. |
| Others | 145 | 90 | 0 | $1.9 \times 10^{-9}$ | $<10^{-7}$ | D Cell vent. |

* Sensitivity limit $10^{-11}$ µg Pu/cc.

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Health Instrument Divisions



Canyon Buildings

In the T Plant, considerable decontamination of canyon deck surfaces was accomplished. Maintenance repair work included installation of new skimmers in the 10-2 centrifuge, placement of the 9-2 centrifuge in 10-R pending decontamination, and installation of new skimmers and repairs to the A and D jets in Section 18. Monitoring assistance was required while taking two samples. Five instances of shoe contamination occurred during work on the crane bridge and in the craneway. One instance of hand contamination occurred during the removal of laundry hampers from the C-19 stairwell. Considerable decontamination of head end surfaces was accomplished but further cleaning of mezzanine wall and craneway surfaces was postponed until completion of the wood wall between the head end and canyon proper.

In the B Plant, the 6-1 and 8-1 agitators were interchanged, the 17-1 A jet was repaired, and work was continued on replacement of the plow in the 9-2 centrifuge under good contamination controls. Several process samples required monitoring assistance. The assault mask canisters of two samplers who were in the canyon during high air contamination were disassembled. The outside filter in the canister showed about 14,000 c/m and the inside filter less than 100 c/m. The high air condition resulted from partial failure of the steam fan during an electrical shutdown.

Concentration Buildings

In the T Plant, hand contamination led to the discovery of contamination on the G cell door handle. No further contamination spread was detected.

In the B Plant, considerable maintenance work was done in D cell and much loose contamination was present, but good job planning and papering confined the contamination well. Air samples taken at the cell roof vents indicated the following discharge of Pu during the period March 26, 1950, to April 25, 1950:

| Cell Vent | μg Pu/24 hours |
|---|---|
| A | 12 |
| B | 13 |
| D | 30* |

* Higher result attributed to extensive maintenance work in this cell.

Stack Areas

In the T Plant, the sand filter appeared to be dried out and efficiency measurements had returned to normal by month end.

[redacted]

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Health Instrument Divisions



Waste Disposal Areas

In the T Plant, underground waste lines for use in the TBP process were hydrostatically tested and it was necessary for some contaminated sludge-water mixture to run onto the floor of the 151-T diversion box. Flushing of diversion boxes 151-T and 152-T was partially effective as a means of decontamination. Low level contamination was detected up to 15 feet from these diversion boxes after they were left open over a weekend. Gravel was placed over the contaminated area. Sandblasting of well car casks was completed.

Plant Laundry

Twenty-one of sixty-eight spot and continuous air samples taken showed positive results with a maximum of $1.3 \times 10^{-11}$ µg Pu/cc obtained while washing T and B Plant rewash clothing.

General

All thyroid checks were below the warning level.

The Isolation Building

General Statistics

| | March | April | 1950 To Date |
|---|---|---|---|
| Special Work Permits | 31 | 20 | 115 |
| Routine & Special Surveys | 376 | 305 | 1027 |
| Air Monitoring Samples | 431 | 426 | 1256 |

Air Sample Results

| | Number Taken | Number Above $10^{-12}$ µgPu/cc | Maximum µg Pu/cc | Remarks |
|---|---|---|---|---|
| Operating Cells | 195 | 17 | $3.3 \times 10^{-10}$ | SWP - Cell 3. |
| Control Laboratory | 207 | 16 | $5.6 \times 10^{-10}$ | Drying furnace, Room 31. |
| Development Laboratory | 16 | 0 | -- | -- |
| Ducts | 8 | 3 | $8.4 \times 10^{-12}$ | As exhausted to the air. |

Operating Cells

Eleven unregulated items and seven floor locations were found contaminated. No instance of skin contamination was reported. Maximum levels of gamma radiation reported were 20 mr/hr on P.R. containers, 2 mr/hr at process hoods, and 6 mr/hr on SC.

Health Instrument Divisions

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## Purification Building

### General Statistics

| | March | April | 1950 To Date |
|---|---|---|---|
| Special Work Permits | 136 | 232 | 695 |
| Routine & Special Surveys | 371 | 691 | 1752 |
| Air Monitoring Samples | 1338 | 1415 | 5015 |

### Air Sample Results

| Location | Number Taken | Number Above $10^{-12}$ μgPu/cc | Maximum μgPu/cc | Remarks |
|---|---|---|---|---|
| 234 Operating | 234 | 79 | $2.8 \times 10^{-10}$ | Room 228, Glove ports installed. |
| 235 Operating | 398 | 27 | $3.3 \times 10^{-10}$ | Room 231, Hood 14 - SWP. |
| Technical Control | 280 | 26 | $7.5 \times 10^{-11}$ | Room 155 - Normal. |
| General | 332 | 10 | $1.8 \times 10^{-11}$ | Room 263 - unexplained. |
| Ducts after primary filtering | 79 | 51 | $1.5 \times 10^{-7}$ | Hoods 2, 4, 7 composite. |
| 26 inch Vacuum discharge | 22 | 22 | $6.1 \times 10^{-10}$ | --- |
| 10 inch Vacuum discharge | 22 | 1 | $2.1 \times 10^{-12}$ | --- |
| Stack Breech | 48 | 0 | $1.6 \times 10^{-13}$ | --- |

### 234 Building - Operating Section

One incident of contamination spread occurred in room 222 under the #31 hood air lock. An estimated total of 40 μg Pu was reported following an extensive survey of room 228. The average air contamination concentration for room 228 for the month was $3.4 \times 10^{-11}$ μg Pu/cc. Two instances of skin contamination were reported and successfully cleaned. Ten maintenance jobs involving gross contamination included the replacement of rotometers in hoods 29 and 30, and replacement of the cracked lid on the hood 29 evaporator.

### 235 Building - Operating Section

One incident of contamination spread in room 230 was discovered by follow-up surveys after a log book in room 164 and an employee's coveralls were found contaminated. File cards, desk and floor contamination was reported in this room. One instance of skin contamination was reported and successfully cleaned. Seven maintenance jobs involving gross contamination included replacement of the thermocouple wells in hood 14, and replacement of the lid to furnace #1 in hood 14. The bell jar in hood 26 was replaced without incident.

### General Building

One instance of skin contamination was successfully decontaminated. The

average concentration of the composite air sample from hoods 2 and 4 through 7 was $4 \times 10^{-9}$ µg Pu/cc, with a maximum result of $1.5 \times 10^{-7}$ µg Pu/cc/24 hours obtained. The replacement of the primary filters in hood 6 failed to improve air contamination at this sampling point. No change was noted in the air contamination of the 26 inch vacuum discharge.

200 Area Control Laboratories

| | T | B | 231 | 234-5 |
|---|---|---|---|---|
| Items contaminated - not regulated | 145 | 123 | 104 | 183 |
| Skin contamination - alpha | 0 | 2 | 0 | 5 |
| Skin contamination - beta | 0 | 3 | 0 | 0 |
| Contaminated floor locations | 37 | 67 | 13 | 52 |

In the T Plant, continued monitoring assistance was required during slurping of 300 Area waste shipments. Eight routine air samples taken along the west wall in room 7 showed product concentrations above $10^{-11}$ µg Pu/cc, with a maximum of $10^{-10}$ µg Pu/cc reported.

In the B Plant, unplugging of some hood vents appeared to improve ventilating conditions but air filter samples above $10^{-12}$ µg Pu/cc were still common. Preliminary investigations by the Industrial Hygiene Group of the Health Instrument Development Division indicated inadequate air flow at the decontamination sink hoods.

In the Isolation Building, approximately 4 µg Pu was discovered near the balance in room 34, after weighing a retain sample. The cause appeared to be a leaky vent in the sample container and taping of this vent during weighing is planned.

In the Purification Building, approximately 8.4 µg Pu was discovered in room 149 under a leaking sink trap. Eight positive air sample results were obtained in the room during this period and attributed to the faulty sink trap. An unusually high air sample result of $7.5 \times 10^{-11}$ µg Pu/cc was obtained on a 24 hour sample in room 153 where laboratory samples and traps are slurped. It appeared that the present slurping method may not be adequate for the levels of plutonium handled.

Health Instrument Divisions

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## The 300 Area

### General Statistics

| | March | April | 1950 To Date |
|---|---|---|---|
| Special Work Permits | 155 | 104 | 507 |
| Routine & Special Surveys | 179 | 139 | 728 |
| Air Samples | 149 | 165 | 621 |

### Metal Fabrication Plant

Twenty-eight of seventy-two air samples taken were above $5 \times 10^{-5}$ µg U/cc as follows:

| Location | Number Taken | Number Above $5 \times 10^{-5}$ µg U/cc | Maximum Conc. µg U/cc | Conditions |
|---|---|---|---|---|
| 314 Main Room | 20 | 7 | $2.4 \times 10^{-4}$ | Normal operation. |
| Sr. Supv. Office (314) | 7 | 1 | $9 \times 10^{-5}$ | Window open. |
| Rest Room (314) | 4 | 0 | $3 \times 10^{-5}$ | -- |
| Straightener | 4 | 3 | $2.3 \times 10^{-4}$ | Normal operation. |
| Chip Recovery | 30 | 16 | $2.1 \times 10^{-3}$ | Pressing briquets |
| Machining | 7 | 1 | $8.5 \times 10^{-5}$ | Unloading rods. |

A badge result of 360 mrep for a week for a Melt Plant employee led to the formation of a committee to study and effect further reduction of Melt Plant exposures. Correlation of GM counter readings with dosage-rates determined by film show that any shoe with a count above 5,000 c/m inside requires decontamination. A new burial ground in the northeast corner of the perimeter fence was completed and placed in operation this month.

### Test Pile Building

Special reactivity tests were continued. The addition of shields on handling tongs and stringers reduced exposures and lengthened the time limit allowed on various manipulations involved in this work.

### Technical Building

A total of fifty-eight air samples was taken and all were below $2 \times 10^{-11}$ µg Pu/cc. Twelve high hand scores and three high shoe counts were reported during the period and all successfully reduced.

### Cold Semi-Works Building

The removal of the contaminated dirt in the tank area was completed during this

period. A total of thirty-five air samples was taken and all were below $5 \times 10^{-5}$ µg U/cc. About 285 pounds of uranium have been discharged to the 300 N crib and about 1,642 pounds to the waste ponds.

Hand Score Summary

There were 42,365 alpha and 44,361 beta hand checks recorded. About 0.09% of the alpha and about 0.05% of the beta scores were high. About 35% of the high alpha scores were recorded in the T Plant Control Laboratory

[redacted]

Health Instrument Divisions

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PERSONNEL METERS

Pencils

| | 100-B | 100-D | 100-F | 100-H | E&N 200 | 200-W | 300 | Total | 1950 To Date |
|---|---|---|---|---|---|---|---|---|---|
| Pencils Read | 12,410 | 11,646 | 13,965 | 9,176 | 17,453 | 27,772 | 33,790 | 126,212 | 500,894 |
| Single Readings (100 to 280 mr) | 20 | 7 | 10 | 37 | 15 | 42 | 41 | 172 | 788 |
| Paired Readings (100 to 280 mr) | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 12 |
| Single Readings (Over 280 mr) | 20 | 18 | 16 | 29 | 20 | 37 | 29 | 169 | 790 |
| Paired Readings (Over 280 mr) | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 9 |
| Lost Readings | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20 |

None of the five significant pencil results were confirmed by the badge results. Investigation of lost readings indicated no possibility of an overexposure.

Badges

| | 100-B | 100-D | P-11 101-P 100-F | 100-H | 200-E | R.R.T. 200-N | 200-W | 300 | Total | 1950 To Date |
|---|---|---|---|---|---|---|---|---|---|---|
| Badges Processed | 1782 | 2073 | 2417 | 1786 | 2068 | 512 | 3730 | 5779 | 20,147 | 82,929 |
| Number Readings (100 to 300 mrep) | 12 | 7 | 15 | 9 | 35 | 0 | 42 | 126 | 246 | 996 |
| Number Readings (Over 300 mrep) | 4 | 0 | 0 | 1 | 1 | 0 | 4 | 4 | 14 | 30 |
| Lost Readings | 1 | 2 | 1 | 3 | 3 | 0 | 0 | 2 | 12 | 29 |

Investigation of badge readings over 300 mrep showed one in the 300 Area to be the only real exposure.

Lost readings were accounted for as follows:

| | |
|---|---|
| Light struck | 4 |
| Stuck film (recovered lost badge) | 2 |
| Lost in processing | 1 |
| Sensitive film not packaged (Insensitive read 0) | 4 |
| Open window exposed to X-ray | 1 |
| Total | 12 |

Investigation of the above lost readings revealed no possibility of an overexposure. Investigation of the four results in the 300 Area showed that three were due to fogged film. The other result, 360 mrep, occurred in the Melt Plant. (See 300 Area report) [redacted]

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Health Instrument Divisions

DECLASSIFIED

Badge Resume, Construction Areas

| | 200-W Redox | 100-DR | Total | 1950 To Date |
|---|---|---|---|---|
| Badges Processed | 348 | 2,703 | 3,051 | 9,938 |
| Number Readings (100 to 300 mrep) | 0 | 0 | 0 | 12 |
| Number Readings (Over 300 mrep) | 0 | 0 | 0 | 0 |
| Lost Readings | 0 | 0 | 0 | 7 |

| | | |
|---|---|---|
| Total badges processed 1950, | Operations | 82,929 |
| | Construction | 9,938 |
| | Total | 92,867 |

In addition to the badge program, a total of 1,235 items of non-routine nature were processed during the month. The 1950 total is 8,456.

Slow Neutron Pencil Summary

| | 100-B | 100-D | 100-F | 100-H | Total | 1950 To Date |
|---|---|---|---|---|---|---|
| Number of pairs issued | 59 | 137 | 146 | 558 | 900 | 2,501 |
| Number of significant readings | 0 | 16 | 4 | 21 | 41 | 168 |
| Number of significant readings (Above 100 mrem) | 0 | 1 | 0 | 1 | 2 | 3 |

The results above 100 mrem were 110 and 180+ mrem respectively, and could not be explained. In both cases exposures during the two week period involved as shown by regular badges and pencils and by neutron film totaled only 50 mrep and 5 mrep respectively.

Neutron Film

| | | 1950 To Date |
|---|---|---|
| Number of badges issued | 460 | 460 |
| Number of significant exposures to personnel | 0 | 0 |

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Health Instrument Divisions

DECLASSIFIED

CONTROL AND DEVELOPMENT DIVISION

Site Survey

Drinking water and sanitary water samples gave values similar to those reported in previous periods. The average activity in the Columbia River remained about the same because of an approximate balance between an increased power level in 100-H and an increased river flow. A depth survey at Hanford again indicated about constant activity at different depths as compared to the differences obtained on cross-river surveys.

The air monitoring results indicated little change with the number of active particles in the vicinity of the separations areas. The values returning to the average for January and February.

The $I^{131}$ on vegetation has decreased slightly in the areas due to a reduced amount in the metal dissolved. The maximum activity was 80 mμc/kg near the 200 West Gatehouse.

The 107 basin activities were not different from previous months except at the 100-H Area where the activity increased from 590 to 785 mμc/liter. A study of the decay of this activity has been started

Geology

Contamination levels in the ground water, as determined by samples from wells 361-B-1 and 361-B-9 in the 200 East Area and wells 361-T-12 and 241-T-361 in the West Area, were slightly less this month. Continued observation of the 200 West wells may confirm a suspected flow of the ground water in an eastward direction.

Wells 303-4 and 303-5 were completed to the water table near the 300 Area during the month. Unusually high contamination levels were found in well 303-4. The average alpha activity of several samples being 860 dis/min/liter. This activity was confirmed as being due to uranium by a fluorophotometer analysis. Other 300 Area wells gave values averaging about 20 dis/min/liter. This high activity in well 303-4 was certainly not expected as this well is about four times as far from the waste ponds as are the other wells with much lower contamination levels.

Meteorology

| Forecasts | Number Made | Percent Reliability |
|---|---|---|
| Production | 90 | 80.7 |
| 24-hour | 60 | 80.2 |
| Special | 16 | 75.0 |

[redacted]

Health Instrument Divisions



Below normal temperatures were again observed for April, continuing the trend set in the previous three months. The average was 33.8 degrees which is 7.7 degrees below normal. The minimum of 27 degrees is the lowest ever recorded in April during the five years of operation. Precipitation totaled 4.20 inches as compared to an average of 2.19 inches. There were two thunderstorms, both occurring on April 27.

Bioassay

There were 491 urine samples analyzed for plutonium during the month. The blank samples averaged 0.06 d/m and the average yield was 92%. Thirteen resamples were necessitated by values greater than 0.33 d/m. Five resamples from March have given less than 0.33 d/m. The results of thirteen samples at the end of March from personnel in 234-5 indicated an average of 0.117 d/m compared to the average of 105 routine samples of 0.053 d/m. Arrangements to sample certain of the personnel on the potentially more hazardous jobs on an increased schedule with more rigorous control are practically complete. Two feces samples from one man involved in a special incident gave values of 910 and 318 d/m on successive days. Urine samples collected at the time of the incident gave no positive activity. Urine resamples are in process.

Five hundred and ninety-three samples were analyzed for fission products with six values greater than the arbitrary resample limit of 10 c/m.

Ninety-five samples were analyzed for uranium on the fluorophotometer. The maximum result was 41 μg/liter.

A total of 263 measurements were made on 150 urine samples for P-10 oxide in the Control Laboratory. Sixty-one of these samples were positive including 20 samples from one man removed from the area until results dropped below 5 μc/liter. The remaining positive results occurred with 12 people. Preliminary estimation of the biological half-life from the one man removed from P-10 work is 9-10 days.

Methods Development

A study of the electrodeposition of plutonium on 2.4 mm discs has indicated that some losses are occurring due to deposition on the walls of the cell. In addition, the nature of the electrode has been shown to be changed after plating for awhile by using fresh plates with used electrolyte. This work will be continued using other oxidants.

Sources cut from 1-3/8 inches electroplated discs were exposed to NTA film for one and two weeks before reading. At levels of 0.0014 to 0.0059 d/m/mm$^2$ of source, the number of tracks found correspond closely to the theoretical number calculated from a 50% geometry. The backgrounds on these plates were

[redacted]

low, corresponding to about 0.7-0.8 tracks per $mm^2$ per week. A comparison of two operators reading the film indicated agreement within 10% except on several plates where the discrepancy was on the order of 30%.

Discouraging results were again obtained on the extraction of plutonium from air filters. Several ashing procedures followed by lanthanum fluoride precipitations were tested with yields on the order of 10-20% for most samples from 234-5.

Successful proportional counters were produced for P-10 oxide measurement by the reaction of aluminum carbide and water. The 150 ml tube may be filled in 5-15 minutes by boiling the water and aluminum carbide. For this tube, about 110-120 c/m are obtained per μc/liter in the solution over a background of 250-300 c/m. Equipment is being assembled to study the reproducibility.

Control Laboratory

The operation of the mica window counters has been poor this month due to unexplained variations. Some improvement was noted after the power shutdown of April 22. Tests on the Tracerlab GM tubes are continuing with the life of the tube, the chief difficulty at present.

A procedure for analysis of large river samples for $I^{131}$ is being developed. Work is continuing on the investigation of variables in the routine analyses.

A summation of the work performed is given below:

| Laboratory | No of Analyses |
|---|---|
| Vegetation | 1659 |
| Water | 1910 |
| Solids | 356 |
| Fluorophotometer | 614 |
| P-10 (other than urine) | 54 |
| Miscellaneous | 123 |
| Total | 4716 |
| **Counting Room** | |
| Beta Measurements | 5591 |
| Alpha Measurements | 3921 |
| Control Points | 2828 |
| Decay Curves (points) | 724 |
| Absorption Curves | 25 |
| Total | 13,089 |

Health Instrument Divisions



## Physics

A few measurements have been made using a paraffin moderated neutron source in an attempt to determine a provisional calibration for use with intermediate energy neutrons. Rough estimates indicate that a standard unenriched $BF_3$ tube in two inches of paraffin will have a sensitivity of about 5 c/m per $n/cm^2/sec$.

The nuclear track film, used for monitoring personnel for fast neutron exposure, is sensitive to slow neutrons because of the (n.p.) reaction in nitrogen. Samples of film exposed to tolerance fluxes of both fast and slow neutrons would have about 50% more tracks due to fast neutrons than due to slow neutrons. Considering these sensitivities it seems feasible to monitor both kinds of neutrons on one film by covering a part of the film with cadmium. The region under the cadmium would not have to be examined unless the uncovered portion showed a significant number of tracks.

An attempt has been made to compare data taken with C.P. and Juno ionization chambers placed at various distances from a disk source of uranium with the corresponding readings taken very close to the surface. This has been done by calculating the surface readings using constants evaluated from a theoretical fit of the distant readings. This work is not complete but preliminary results are encouraging.

## Industrial Hygiene

A study of air contamination in the 222-B laboratory is being made because of repeated high air monitoring results obtained by the H.I. Operational Division. Air flow measurements are being made of all hoods and the roof stacks including a plot of the air currents in Room 7. Work on uranium fume problems was temporarily discontinued because of this more urgent work.

Considerable information of value to the future operation of the proposed electron microscope was obtained during trips to various meetings during the month.

## Instrument Development

Pulse analyzer work consisted wholly of efforts to correct drift. The source of difficulty is apparently the ion chamber or gas. Experiments are now in progress to determine the feasibility of using the chamber as a flow counter. Gas purification will be tried only if other methods fail. The goal of the present work is to attain two hours of operation without appreciable drift.

The portable $BF_3$ counter was completed and has been in field service for three weeks. Correlation of results with a "standard" $BF_3$ has been poor probably

because of (1) short time constant of the portable instrument, and (2) size and construction of the detecting elements. The first item will be corrected after which more accurate comparison of detecting elements can be made under field conditions. Under calibration conditions, no difficulties were encountered.

The combination alpha-beta methane flow counter showed good stability during a month's testing in the Instrument Development laboratory. The counter will be turned over to the Methods Laboratory for further testing.

Design of an improved P-10 probe was completed and one unit is being built.

An instrument for testing pile shielding for voids has been designed. This will consist of a radium (approximately 25 mg) source and G.M. counter which will be passed through the shield simultaneously without change in relative positions. Collimators are included so that "resolving" power may be investigated.

Calibrations

| | Number of Routine Calibrations | | |
|---|---|---|---|
| RADIUM CALIBRATIONS | March | April | 1950 to Date |
| Fixed Instruments | | | |
| Gamma | 388 | 395 | 1,516 |
| Portable Instruments | | | |
| Alpha | 318 | 273 | 1,059 |
| Beta | 625 | 568 | 2,079 |
| Gamma (Radium) | 1,043 | 896 | 3,410 |
| X-ray Scanning | 2 | 4 | 12 |
| Neutron | 124 | 164 | 442 |
| Total | 2,112 | 1,905 | 7,002 |
| Personnel Meters | | | |
| Beta | 1,152 | 441 | 2,696 |
| Gamma (Radium) | 8,832 | 6,450 | 29,795 |
| X-ray | 8,184 | 6,439 | 24,341 |
| Neutron | -- | -- | -- |
| Total | 18,168 | 13,330 | 56,832 |
| GRAND TOTAL | 20,668 | 15,630 | 65,350 |

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Health Instrument Divisions

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BIOLOGY DIVISION

Analyses Group

1. Plutonium Analyses of Tissues

Carcasses, skins, and intestinal tracts of the 5 male and 5 female rats that had been chronically fed daily doses of Pu $(NO_3)_4$ have been analyzed.

2. Radioactivity in Carcasses

A method has been developed for separating Ra in a form suitable for counting from large volumes of salts. Yields averaged 96%. The method consists of fusion with $Na_2CO_3$ followed by coprecipitations with $PbSO_4$, $BaCl_2$, and $BaSO_4$. Ca carryover is removed by digestion in hot concentrated $H_2SO_4$ followed by cooling and dilution to recrystallize Ba and Ra sulfates.

3. Composition of Effluent Water

At the request of the Botany Group, a P-10 analysis on 107-F basin algae was run. Results were negative.

4. Miscellaneous

Services to other groups included calibrating shipments of $I^{131}$, preparation of spiked food pellets, and analyses for $I^{131}$ in about 400 samples of sheep blood and exudates.

Development and testing of an analytical method for determining Rn in water was completed. Yields of 96% were obtained from the method which consists of precipitation of the Rn daughters RaB and RaC as sulfides with Pb carrier, rapid filtration, and counting of the B particles.

Aquatic Biology Group

1. Effect of Pile Effluent on Aquatic Life

Juvenile chinook salmon fry show increased growth rate with prevailing warmer water temperatures. Mortality rates and specific activities remained constant.

Fertility among some control trout has been poorer than that of trout which have matured in 2% effluent. The cause has not been determined.

2. Biological Chains

Activity in yearling trout in 5% effluent feeding on 107 basin algae is starting to increase with warmer water temperatures.

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Health Instrument Divisions



A short term experiment was initiated to determine the rate of accumulation of radioactivity in caddis fly larvae held in 0, 5%, 10%, 25%, and 50% pile effluent and feeding on filamentous algae maintained under the same conditions. In the 10% dilution, the activity accumulated by nonfeeding and dead specimens is also being determined.

3. Radiobiological and Ecological Survey of the Columbia River

Because of the spring freshet, field collections have been suspended and quantitative samples collected during the past year are being processed and reports are being prepared.

Juvenile chinook salmon continue in abundance along the shore. Specific activities range from about $2 \times 10^{-5}$ μc/g above the pile areas to a maximum of about $7 \times 10^{-5}$ μc/g in the vicinity of Hanford, and then decreases downstream to about $3 \times 10^{-5}$ μc/g above McNary Dam.

The number of planktonic organisms counted in river water at 100-F declined to about one-half that found during March, probably due to increased turbidity of the water.

Mussels transplanted from Bonneville Dam to Hanford have increased slightly in activity to $1.5 \times 10^{-5}$ μc/g.

Biochemistry Group

1. Deposition in Lungs of Active Particles

After a total exposure time of 588 hours for the 5 rabbits, fresh air was substituted for separations building gas. They will be sacrificed early in May.

2. Gastro-intestinal Absorption of Plutonium

Results received from the Analyses Group on the Pu contents of carcasses, GI tracts, and skins of 10 dosed and 4 control rats were compiled and submitted to the Technical Division for statistical analyses.

3. P-10 Hazards, Biological Investigation

Since the recalibration of the tritium source, a recount of the water obtained from the rat as reported last month showed it had an activity of 4.2 μc/cc rather than 1.7. A second rat exposed for 10 process runs contained 22 μc tritium oxide per cc of carcass water (about 1400 x MPC).

Two rats have been placed in each of three locations in 108-B to obtain data concerning the hazard of breathing air in these places.

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Health Instrument Divisions



Equipment is being set up for determining whether tritium gas can be oxidized in animals inhaling it.

Botany Group

1. Separations Area Control Plot (200-E, R-3 Danger Zone)

Russian thistle and alfalfa plants were transplanted from the greenhouse to the zone.

2. Agricultural Field Station

Soil samples from treatment plots averaged about $2 \times 10^{-5}$ μc/g. Other activities for the month included discing and harrowing of the orchards, renovation and fertilization of the alfalfa plots, preparation of seed potatoes for planting, completion of pruning, and removal of debris from the orchards, fertilization of treatment and control plots, planting of fruit trees, and the starting of irrigation of the alfalfa.

3. Use of algae for the Removal of Radioactivity from Pile Effluent Water

Data required for closing this problem are being collected. Evidence was obtained indicating that E. Coli removes only $P^{32}$ from pile effluent in semi-solid media. The concentration factor* (fresh weight) was 0.5.

4. Translocation of Radioelements in Plants

Thirty-five day old Russian thistle plants were transplanted to sands containing $7 \times 10^{-3}$ μc and 0.1 μc per gm and then allowed to grow for 32 days. The radioactivity added to the sand was obtained by digesting active Russian thistles with nitric acid. Concentration factors (dry weight) varied from 5 for immature fruits to 30 for brachts.

Translocation studies of iodine and radioelements in pile effluent are in progress. In contrast to work reported in January, iodine was not translocated in the latest experiment. The uptake of pile effluent activity by river sand is being investigated.

Physiology Group

1. Setting up of photomicroscopy and autoradiography equipment in the Biology Laboratory continued during the month. Techniques have been developed adaptable to the requirements of other groups.

2. Sheep blood studies continue routinely.

[redacted]

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* Concentration factor = $\frac{\text{activity per unit wt. organism}}{\text{activity per unit wt. medium}}$

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Health Instrument Divisions



Zoology Group

1. Biological Monitoring

Very few specimens were assayed during the month due to other activities of the group. Those examined were receiving less than the maximum permissible radiation.

In order to determine the approximate number of Canada geese propagated on that section of the Columbia River within the Hanford Works, a survey of nesting was made. In a cooperative study with the Washington State Game Department, one hundred and twenty-three nests were found containing 580 eggs. Assuming that only about one-half the nests were found and that about 90% successful hatch will result, it may be estimated that about 1000 goslings will be propagated here this year. Part of these goslings along with some mature geese will be banded in June during their flightless period in an effort to trace migration pattern.

Mallard duck eggs have been purchased for artificial incubation to serve to supplement the monitoring colonies on the river at 100-F and at Hanford.

2. Toxicology of $I^{131}$

The main experiment commenced on Tuesday, April 18. The daily $I^{131}$ feeding levels are as follows:

| | No. of Sheep | μc fed per sheep per day |
|---|---|---|
| Group IA | 12 | 240 |
| IB | 12 | 5 |
| II | 24 | 0.150 |
| III | 24 | 0.005 |
| IV | 24 | Control |

The low level (0.005 μc/day) is estimated to approximate the maximum permissible daily intake as agreed in the Chalk River Conference. The uptake rate appears to be within the predicted rate as determined by previous pilot studies. Variation of thyroid activity of individual ewes within a group has proven to be quite great. The divergence seems to be associated with the stage of pregnancy and possibly the number of lambs borne by each.

Male lambs arriving after two to six weeks of prenatal exposure to radioiodine will be sacrificed at predetermined intervals.

Two ewes received one feeding of 7.5 μc each. The uptake rate in blood and thyroid together with excretion rates in feces and urine were studied in detail. Complete analysis of this data has not yet been made.

The H.I. Divisions report for this period was compiled by M. L. Mickelson in the absence of the Divisions Manager.

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GENERAL ACCOUNTING DIVISION

April 1950

DECLASSIFIED

GENERAL

Budget Estimates for Fiscal Year 1952 and revisions of Budget Estimates for Fiscal Year 1951 for General Divisions were completed and submitted for review by the Appropriations and Budget Committee. Additional information in connection with the Construction Budget, Equipment Budget, and Medical Budget as requested by the Atomic Energy Commission was compiled and submitted to A.E.C.

Further information was developed during the month pertaining to comparative and unit cost studies. Five unit cost reports which had not been previously prepared were issued, and arrangements were completed to secure information required for the issuance of additional reports next month.

Internal Auditors continued their review of records of the Surplus, Salvage, and Scrap Section, reviewed source and distribution of telephone toll and leased line costs, and reviewed proposed transactions in connection with the sale of equipment to doctors and dentists.

Accounting Personnel at Kadlec Hospital spent considerable time in connection with preparation of Medical Divisions Budget Estimates and in preparation for the change-over to private practice of clinic physicians and dentists. A force reduction of approximately ten accounting employees may be made due to the reduced volume of accounting work as a result of this change.

Insurance certificates for all employees participating in the New Group Health Insurance Plan which was made effective December 1, 1949 at Hanford Works, were forwarded to Employee and Community Relations Division for distribution to employees through supervision on April 5, 1950. These certificates were prepared by Payroll Divisions from Group Health Insurance Plan records.

Statements of Account for approximately 4 600 Hanford Works employees who are participating in the G. E. Employee Savings and Stock Bonus Plan were received from the Employees Savings Division, Schenectady. After checking the statements with payroll records and inserting copy of General Electric Annual Report for 1949 with each statement, they were delivered to Employee and Community Relations Division for delivery through supervision to active employees on April 15, 1950. Statements for approximately 200 employees who were not actively at work were mailed to employees' homes by Payroll Divisions.

The Finance Division, Atomic Energy Commission, informed General Electric on April 26 that deduction would be made from our April 1950 Request for Reimbursement in the amount of $4 000, an arbitrary sum, covering excess reimbursement in the case of payments to "Straight Day Workers" through the month of April 1950, and that a nominal deduction would be made monthly in the future until mutual determination is made of the excess amount due as a refund to the Commission. This notification is the result of denial by the Commission of a Reimbursement Authorization to cover

definition of a "Straight Day Worker" as set forth in H. W. Instructions Letter No. 122, Supplement No. 1, dated March 27, 1950. The Commission indicated denial of the Reimbursement Authorization was based on lack of sufficient justification.

Hanford Works cash disbursements and cash receipts, excluding advances from Atomic Energy Commission may be summarized as follows:

| | March | April |
|---|---|---|
| Disbursements | | |
| Material and Freight - GE | $ 779 692 | $1 403 334 |
| Payrolls - GE (Net) | 2 037 116 | 1 768 244 |
| Payments to Subcontractors | 1 805 822 | 1 670 276 |
| Other | 1 298 156 | 1 081 304 |
| Total | $5 920 786 | $5 923 158 |
| Receipts | | |
| House Rents | 104 320 | 107 005 |
| Hospital and Clinic | 82 858 | 79 415 |
| Telephone | 13 117 | 11 405 |
| Bus Fares | 11 556 | 9 743 |
| Other | 92 690 | 27 196 |
| Total | 304 541 | 234 764 |
| Net Disbursements | $5 616 245 | $5 688 394 |

General Accounting Division

STATISTICS

| Employees and Payroll | Total | Monthly Payroll | Weekly Payroll |
|---|---|---|---|
| Employees on Payroll at beginning of month | 7 558 | 1 729 | 5 829 |
| Additions and transfers in | 154 | 19 | 135 |
| Removals and transfers out | 111 | (39) | (72) |
| Transfers from Weekly to Monthly Payroll | -- | 21 | (21) |
| Transfers from Monthly to Weekly Payroll | -- | (1) | 1 |
| Employees on Payroll at end of month | 7 601 | 1 729 | 5 872 |

| Employees on Payroll at end of month | March | April |
|---|---|---|
| Manufacturing | 3 192 | 3 218 |
| Design and Construction | 593 | 604 |
| Community | 722 | 723 |
| Other | 3 051 | 3 056 |
| Total | 7 558 | 7 601 |

| Overtime Payments | | |
|---|---|---|
| Weekly Paid Employees | $43 074 | $46 187 |
| Monthly Paid Employees | 7 600 (1) | 12 376(2) |
| Total | $50 674 | $58 563 |

| Number of Changes in Salary Rates and Job Classifications | 626 | 687 |
|---|---|---|

| Gross Amount of Payroll | | |
|---|---|---|
| Manufacturing | $1 331 946 | $1 129 410 |
| Design and Construction | 232 687 | 216 421 |
| Community | 270 462 | 224 810 |
| Other | 1 116 524 | 979 450 |
| Total | $2 951 619 (3) | $2 550 091(4) |

| Annual Going Rate of Payroll | | |
|---|---|---|
| Manufacturing | $14 284 565 | $14 702 614 |
| Design and Construction | 2 637 358 | 2 649 359 |
| Community | 2 853 253 | 2 827 447 |
| Other | 12 199 925 | 12 204 339 |
| Total | $31 975 101 | $32 383 759 |

| Average Salary Rate Per Hour (5) | March | | | April | | |
|---|---|---|---|---|---|---|
| | Weekly | Monthly | Total | Weekly | Monthly | Total |
| Manufacturing | $2.014 | $2.651 | $2.126 | $2.017 | $2.652 | $2.127 |
| Design and Construction | 1.564 | 2.709 | 1.983 | 1.558 | 2.699 | 1.978 |
| Community | 1.760 | 2.152 | 1.876 | 1.746 | 2.157 | 1.868 |
| Other | 1.636 | 2.544 | 1.846 | 1.633 | 2.496 | 1.827 |
| Total | $1.810 | $2.552 | $1.977 | $1.810 | $2.533 | $1.970 |

(1) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period February 1, 1950 to February 28, 1950

(2) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period March 1, 1950 to March 31, 1950

(3) Includes 5 weeks in case of weekly paid employees

(4) Includes 4 weeks in case of weekly paid employees

(5) Includes shift differential and isolation pay. Excludes overtime premiums, commissions, Suggestion Awards, etc.

General Accounting Division

Employee Benefit Plans

| Pension Plan | March | April |
|---|---|---|
| Number participating at beginning of month | 6 718 | 6 681 |
| New participants and transfers in | 30 | 16 |
| Removals and transfers out | (67) | (91) |
| Number participating at end of month | 6 681 | 6 606 |
| % of eligible employees participating | 94.6% | 94.7% |

| Employees Retired | April | Total to Date |
|---|---|---|
| Number | 6 | 123 |
| Aggregate Annual Pensions Including Supplemental Payments | $1 648 | $30 374* |
| Amounts contributed by employees retired | $2 366 | $14 408 |

*Amount before commutation of pensions in those cases of employees who received lump sum settlement

| Group Life Insurance* | March | April |
|---|---|---|
| Number participating at beginning of month | 5 752 | 5 739 |
| New participants and transfers in | 53 | 40 |
| Cancellations | (10) | (15) |
| Removals and transfers out | (56) | (76) |
| Number participating at end of month | 5 739 | 5 688 |
| % of eligible employees participating | 77.2% | 77.1% |

*Statistics exclude 39 pensioners as of the end of March and 40 pensioners as of the end of April who were granted lump sum pension settlement and who are paying premiums at Hanford Works

| Group Life Insurance Claims | April | Total to Date |
|---|---|---|
| Number of claims | 2 | 40 |
| Amount of insurance | $11 700 | $203 647 |

Group Disability Insurance (1)

| Personal Coverage | March | April |
|---|---|---|
| Number participating at beginning of month | 22 | 12 |
| New participants and transfers in | -0- | -0- |
| Cancellations | (10) | (5) |
| Removals and transfers out | -0- | -0- |
| Number participating at end of month | 12 | 7 |

| Dependent Coverage | | |
|---|---|---|
| Number participating at beginning of month | 9 | 6 |
| Additions and transfers in | -0- | -0- |
| Cancellations | (3) | (3) |
| Removals and transfers out | -0- | -0- |
| Number participating at end of month | 6 | 3 |

General Accounting Division

Employee Benefit Plans (continued)

| U. S. Savings Bonds | Mfg. | D&C | Comm'y | Other | Total |
|---|---|---|---|---|---|
| Number participating at beginning of month | 1 712 | 252 | 337 | 1 458 | 3 759 |
| New authorizations | 26 | 7 | 8 | 41 | 82 |
| Voluntary cancellations | (38) | (4) | (7) | (33) | (82) |
| Removals and transfers out | (4) | (1) | (5) | (11) | (21) |
| Transfers in | 4 | -0- | 1 | 1 | 6 |
| Number participating at month end | 1 700 | 254 | 334 | 1 456 | 3 744 |
| % Participating | 52.8% | 42.1% | 46.2% | 47.6% | 49.3% |
| Bonds Issued | | | | | |
| Maturity Value | $105 025 | $15 600 | $19 425 | $81 475 | $221 525 |
| Number | 1 822 | 265 | 340 | 1 445 | 3 872 |
| Refunds Issued | 39 | 7 | 10 | 35 | 91 |
| Revisions in authorizations | 10 | 7 | 44 | 18 | 79 |
| Annual going rate of deductions | | | | | |
| G.E. Employees Savings and Stock Bonus Plan | $701 870 | $101 819 | $127 766 | $570 389 | $1 501 844 |
| General Electric Savings Plan | $223 180 | $ 31 801 | $ 41 784 | $153 806 | $ 450 571 |
| Total | $925 050 | $133 620 | $169 550 | $724 195 | $1 952 415 |

| Suggestion Awards | April | Total to Date |
|---|---|---|
| Number of awards | 16 | 530 |
| Total amount of awards | $1 200 | $8 645 |

Employee Sales Plan

| | April | | |
|---|---|---|---|
| | Major Appliances | Traffic Appliances | Total |
| Certificates Issued | 33 | 146 | 179 |
| Certificates Voided | 2 | 14 | 16 |

Salary Checks Deposited

| | March | | April | |
|---|---|---|---|---|
| | Weekly | Monthly | Weekly | Monthly |
| Richland Branch - Seattle First National Bank | 799 | 825 | 774 | 835 |
| North Richland Area Office - Seattle First National Bank | 11 | 6 | 10 | 6 |
| Richland Branch - National Bank of Commerce | 115 | 71 | 132 | 84 |
| Out of state banks (Schenectady staff) | -- | 3 | -- | 3 |
| Total | 925* | 905 | 916** | 928 |

*Week ended 3-26-50
**Week ended 4-23-50

| Special Absence Allowance Requests | March | April |
|---|---|---|
| Number submitted to Pension Board | 10 | 12 |

| Absenteeism (Weekly Paid Employees) | 1949 | 1950 |
|---|---|---|
| January 1 to April 23 | 2.74% | 2.63% |

General Accounting Division

Group Disability Insurance (1) (continued)

| Claims (2) | March | April |
|---|---|---|
| Number of claims paid by insurance company: | | |
| Employee Benefits | | |
| Weekly Sickness and Accident | 11 | 11 |
| Daily Hospital Expense Benefits | 23 | 3 |
| Special Hospital Services | 22 | 3 |
| Surgical Operations Benefits | 21 | 3 |
| Dependent Benefits Paid | | |
| Daily Hospital Expense Benefits | 5 | -0- |
| Special Hospital Services | 4 | -0- |
| Amount of claims paid by insurance company: | | |
| Employee Benefits | $3 297 | $1 400 |
| Dependent Benefits | 223 | -0- |
| Total | $3 520 | $1 400 |

| Premiums | | |
|---|---|---|
| Personal - Employee Portion | $ 20 | $ 12 |
| - Company Portion | 13 | 7 |
| - Total | $ 33 | $ 19 |
| Dependent- Employee Portion | $ 5 | $ 3 |
| - Company Portion | 1 | -0- |
| - Total | $ 6 | $ 3 |
| Grand Total | $ 39 | $ 22 |

(1) Group Disability Insurance Plan was discontinued November 30, 1949. March and April statistics cover employees absent with continuous service who are participating in the Group Disability Plan. They were not actively at work on December 1, 1949, and therefore were not eligible to participate in the new Group Health Insurance Plan.

(2) Statistics are for claims paid during the month and do not necessarily indicate that claims were incurred during the month.

Group Health Insurance (1)

| Personal Coverage | March | April |
|---|---|---|
| Number participating at beginning of month | 6 891 | 6 905 |
| New participants and transfers in | 75 | 101 |
| Cancellations | (12) | (2) |
| Removals and transfers out | (49) | (77) |
| Number participating at end of month | 6 905 | 6 927 |
| % of eligible employees participating | 94.3% | 94.4% |

| Dependent Coverage | | |
|---|---|---|
| Number participating at beginning of month | 4 595 | 4 619 |
| Additions and transfers in | 46 | 59 |
| Cancellations | (12) | (14) |
| Removals and transfers out | (10) | (42) |
| Number participating at end of month | 4 619 | 4 622 |

General Accounting Division

Group Health Insurance (1) (continued)

| Claims (2) | March | April |
|---|---|---|
| Number of claims paid by insurance company: | | |
| Employee Benefits | | |
| Weekly Sickness and Accident | 92 | 73 |
| Daily Hospital Expense Benefits | 156 | 139 |
| Special Hospital Services | 173 | 147 |
| Surgical Operations Benefits | 98 | 95 |
| Dependent Benefits Paid | | |
| Daily Hospital Expense Benefits | 264 | 207 |
| Special Hospital Services | 301 | 252 |
| Surgical Operations Benefits | 164 | 145 |
| Amount of claims paid by insurance company: | | |
| Employee Benefits | $21 199 | $18 547 |
| Dependent Benefits | 28 223 | 21 774 |
| Total | $49 422 | $40 321 |

| Premiums | | |
|---|---|---|
| Personal - Employee Portion | $14 848 | $14 895 |
| - Company Portion | 7 155 (3) | 7 177(3) |
| - Total | $22 003 | $22 072 |
| Dependent- Employee Portion | $12 936 | $12 942 |
| - Company Portion | 10 302 (3) | 10 307(3) |
| - Total | $23 238 | $23 249 |
| Grand Total | $45 241 | $45 321 |

(1) Group Health Insurance Plan was made effective December 1, 1949
(2) Statistics cover only claims paid and not all claims incurred during the month
(3) Gross company cost before dividend

Vacation Plan

Number of employees granted permission to defer one week of their 1950 vacation to 1951

| | April | | | Year to Date | | |
|---|---|---|---|---|---|---|
| | Weekly | Monthly | Total | Weekly | Monthly | Total |
| Manufacturing | 7 | 4 | 11 | 112* | 25 | 137* |
| Design and Construction | 5 | 1 | 6 | 5 | 2 | 7 |
| Community | 1 | 5 | 6 | 8 | 8 | 16 |
| Technical | 7 | 5 | 12 | 23 | 13 | 36 |
| Health Instrument | 0 | 0 | 0 | 3 | 2 | 5 |
| Plant Security and Services | 4 | 2 | 6 | 75 | 16** | 91** |
| Purchasing and Stores | 1 | 2 | 3 | 3 | 5 | 8 |
| Medical | 1 | 0 | 1 | 3 | 1 | 4 |
| General Accounting | 0 | 0 | 0 | 5 | 0 | 5 |
| Total | 26 | 19 | 45 | 237 | 72 | 309 |

*Total to Date reduced by one cancellation
**Total to Date reduced by six cancellations

| Annuity Certificates (For duPont Service) | April | Total to Date |
|---|---|---|
| Number issued | -0- | 69 |

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING

| Number of Employees | March | April |
|---|---|---|
| On Payroll at beginning of month | 175 | 172 |
| Removals and transfers out | (7) | (4) |
| Additions and transfers in | 4 | 6 |
| Number at end of month | 172 | 174 |
| Net increase (or decrease) during month | (3) | 2 |
| % of terminations and transfers out | 4.0% | 2.3% |
| % of absenteeism | 2.63% | 2.55% |

Changes by division in number of Accounting Division employees during April were as follows:

General: No Change

One transfer to Manufacturing - "S" Division
One transfer from Plant Security and Services Division

Accounts Payable: No Change

Cost: Increase of one employee

One new hire

General Accounts: Decrease of three employees

One transfer to Internal Audit
Two terminations

Plant Accounting: Increase of one employee

One new hire

Weekly Payroll: Increase of two employees

One transfer from Air Conditioning Dept., Fort Wayne
One new hire
One return from illness absence
One transfer to Purchasing and Stores

Monthly Payroll: No Change

Special Assignments: No Change

Budgets: No Change

Internal Audit: Increase of one employee

One transfer from General Accounts

| Injuries | March | April |
|---|---|---|
| Major | -0- | -0- |
| Sub-major | -0- | -0- |
| Minor | -0- | 2 |

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General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Number of Accounting Division employees as of April 30, 1950 were as follows:

| | Number of Employees | | |
|---|---|---|---|
| | Non-Exempt | Exempt | Total |
| General | 3 | 3 | 6 |
| Accounts Payable | 15 | 1 | 16 |
| Cost | 10 | 1 | 11 |
| General Accounts | 13 | 1 | 14 |
| Plant Accounting | 24 | 3 | 27 |
| Weekly Payroll | 67 | 6 | 73 |
| Monthly Payroll | 15 | 2 | 17 |
| Special Assignments | 1 | 1 | 2 |
| Budgets | 2 | 1 | 3 |
| Internal Audit | 0 | 5 | 5 |
| Total | 150 | 24 | 174 |

Non-exempt employees may be summarized as follows:

| | Number as of | |
|---|---|---|
| Classification | 3-31-50 | 4-30-50 |
| Accounting A | 3 | 2 |
| Accounting B | 1 | 1 |
| Accounting C | 2 | 2 |
| Accounting D | 6 | 6 |
| Business Graduate | 6 | 8 |
| Clerical Working Leader | 5 | 5 |
| Cost Clerk A | 1 | 1 |
| Cost Clerk B | 1 | 2 |
| Cost Clerk C | -0- | 1 |
| Cost Clerk D | 2 | 2 |
| Field Clerk B | 1 | 1 |
| Field Clerk C | 1 | 1 |
| General Clerk A | 23 | 22 |
| General Clerk B | 41 | 39 |
| General Clerk C | 19 | 18 |
| General Clerk D | 8 | 8 |
| General Clerk E | 1 | 1 |
| Office Machine Operator B | 16 | 16 |
| Secretary B | 1 | 1 |
| Steno-Typist A | 2 | 2 |
| Steno-Typist B | 6 | 6 |
| Steno-Typist C | 2 | 2 |
| Steno-Typist D | 2 | 3 |
| Total | 150 | 150 |

Open employment requests as of April 30, 1950 were as follows:

| | |
|---|---|
| Business Graduate | 5 |
| Steno-Typist C | 1 |
| Total | 6 |

## General Accounting Divisions

| | March | April |
|---|---|---|
| **Accounts Payable** * | | |
| Balance at Beginning of Month | $ 40 224 | $ 68 789 |
| Vouchers Entered | 1 312 642 | 1 080 331 |
| Cash Disbursements | 1 284 274 Dr. | 1 098 023 Dr. |
| Cash Receipts | 199 | 553 |
| Balance at end of month | $ 68 789 | $ 51 650 |
| Number of vouchers Entered | 1 939 | 1 660 |
| Number of Checks Issued | 1 230 | 1 141 |
| Number of Freight Bills Paid | 239 | 246 |
| Amount of Freight Bills Paid | 6 640 | 3 458 |
| Number of Purchase Orders Received | 1 281 | 1 151 |
| Value of Purchase Orders Received | 241 674 | 168 819 |

| **Cash Disbursements** | | April |
|---|---|---|
| Community | $ 35 833 | $ 42 170 |
| Design & Construction | 1 880 383 | 1 934 267 |
| General | 3 488 046 | 3 021 564 |
| Manufacturing | 516 524 | 925 157 |
| Total | $5 920 786 | $5 923 158 |
| Material and Freight | $ 779 692 | $1 403 334 |
| Lump Sum and Unit Price Subcontracts | 366 291 | 124 012 |
| CPFF Subcontracts | | |
| Labor | 1 094 320 | 1 366 372 |
| Others | 345 211 | 179 892 |
| Payrolls (Net) | 2 037 116 | 1 768 244 |
| Payrolls Taxes | 353 502 | 507 649 |
| U. S. Savings Bonds | 156 656 | 155 297 |
| General & Administrative Expenses | 200 000 | 200 000 |
| Stock Bonus Plan, 1949 (Employers) | 258 274 | -0- |
| Miscellaneous | 329 724 | 218 358 |
| Total | $5 920 786 | $5 923 158 |

| **Cash Receipts** | | |
|---|---|---|
| Community | $ 96 434 | $ 95 238 |
| Design & Construction | 26 682 | 27 075 |
| General | 4 863 435 | 6 206 483 |
| Manufacturing | 12 274 | 12 214 |
| Total | $4 998 825 | $6 341 010 |

* General Divisions Only.

General Accounting Divisions

| | March | April |
|---|---|---|
| **Detail of Cash Receipts** | | |
| Hospital | $ 82 858 | $ 79 415 |
| Scrap Sales | 17 840 | 15 841 |
| Miscellaneous Accounts Receivable | 3 288 | 4 713 |
| Educational Program | 930 | 138 |
| Employee Sales | 1 335 | 1 122 |
| Refunds from Vendors | 3 509 | 997 |
| Rents | 104 320 | 107 005 |
| Telephone | 13 117 | 11 405 |
| Bus Fares | 11 556 | 9 743 |
| Advances from A.E.C. | 4 694 284 | 6 106 246 |
| Income From Special Funds | 61 815 | -0- |
| All Other | 3 973 | 4 385 |
| | $4 998 825 | $6 341 010 |
| **Number of Checks Written** | | |
| Community | 187 | 188 |
| Design & Construction | 240 | 275 |
| General | 1 230 | 1 143 |
| Manufacturing | 559 | 582 |
| Total | 2 216 | 2 188 |
| **Bank Balances at End of Month** | | |
| Chemical Bank & Trust Company - New York | | |
| Contract Account | $ 450 548 | $ 359 514 |
| Seattle First National Bank - Richland | | |
| Contract Account | 1 585 563 | 2 309 418 |
| U. S. Savings Bond Account | 211 087 | 213 920 |
| Salary Account No. 1 | 20 000 | 20 000 |
| Salary Account No. 2 | 30 000 | 30 000 |
| Travel Advance Account | 28 135 | 21 777 |
| Seattle First National Bank - Seattle | | |
| Escrow Account | 57 496 | 57 496 |
| National Bank of Commerce - Richland | | |
| Contract Account - Manufacturing | 383 476 | 174 843 |
| Contract Account - Community | 64 167 | 57 830 |
| | $2 830 472 | $3 244 798 |
| **Travel Advances and Expense Accounts** | | |
| Cash Advance balance at end of month* | $ 14 747 | $ 16 988 |
| Cash Advance balance outstanding over one month* | 573 | 607 |
| Traveling and Living Expenses: | | |
| Paid Employees | 16 078 | 14 118 |
| Billed to Government | 15 281 | 12 434 |
| Balance in Variation Account at end of month | 5 153 Dr. | 6 814 Dr. |

* General Divisions Only.

General Accounting Divisions

| | March | April |
|---|---|---|
| **Hospital Accounting** | | |
| Accounts Receivable | | |
| Balance at Beginning of Month | $ 172 649 | $ 181 126 |
| Invoices Issued | 116 009 | 97 667 |
| Refunds | 2 309 | -0- |
| Cash Receipts | (82 857) | 79 415 |
| Payroll Deductions | (26 984) | 32 429 |
| Bad Debts Written Off | -0- | 269 |
| Balance at End of Month | $ 181 126 | $ 168 047 |

| | Total to Date | April |
|---|---|---|
| **Scrap Sales** | | |
| (a) Number of Sales | 176 | 9 |
| (b) Revenue (Not Including Sales Tax) | | |
| Revenue to G. E. | $ 164 196 | $ 14 015 |
| Revenue to A.E.C. (Sale of Tract Houses) | $ 32 185 | 1 826 |
| Total Revenue | $ 196 381 | $ 15 841 |

## General Accounting Divisions

### ACCOUNTS PAYABLE

Accounts payable vouchers booked this month numbered 1 660 and totaled $1 080 331. This was a slight decrease from the volume handled last month.

The 1 143 checks which were issued totaled $1 098 023 and paid 1 702 vouchers; an average of 1.49 vouchers per check as compared with last month's average of 1.46.

At the month end total vouchers on hand in the Accounts Payable Section numbered 1 152. These required additional supporting data or additional auditing work before they could be considered complete and transmitted to A.E.C. for their audit. Of this number, only 21 vouchers totaling $2 049 are over 60 days old.

The number of freight bills paid has steadily been increasing for the last four months. In April, 246 bills totaling $3 457 were paid. Journalization of paid freight to the proper general ledger accounts is current and general ledger balance in the Freight Account as of the end of the month was $212.41, the lowest since last September.

The Accounts Payable balance in the general ledger on April 30 was $51 650.18, most of which (98%) represents items recorded in April which are not due for payment until May. Details by months of this balance are as follows:

| | |
|---|---|
| November 1949 | $ 18.00 |
| December 1949 | 54.00 |
| January 1950 | 126.70 |
| February 1950 | 520.66 Dr. |
| March 1950 | 1 387.37 |
| April 1950 | 50 584.77 |
| Total | $51 650.18 |

### BUDGETARY CONTROL

Budget estimates from General Divisions for FY 1952 and revision of budget estimates for FY 1951 were completed and submitted for review by the Appropriations and Budget Committee.

During the first week of the month budget estimates for FY 1951 and FY 1952 covering Property in Service - Equipment were received from all Hanford Works divisions. This information was requested on March 6, 1950, in connection with the balance sheet budget. Upon receipt of this information, necessary schedules and summaries on which to submit the equipment budget were prepared and completed on April 24, 1950. A copy of the completed equipment budget was then sent to the respective division managers, division heads and/or accountants and narrative justifications of items $5 000 and over were requested.

General Accounting Divisions

BUDGETARY CONTROL (Continued)

On April 12, 1950, A.E.C. requested additional information in connection with the construction budget, equipment budget, and hospital budget. This request originated in the Washington A.E.C. offices and was passed on to G.E. by the Hanford Operations Office after the budgets were submitted to the Appropriations and Budget Committee on April 6, 1950. The information requested is briefly outlined below:

Construction Budget

Detailed construction data sheets were requested on all projects listed in the construction budget, the total cost of which amounted to $100 000 or more and for which construction data sheets were not provided in the FY 1951 budget submitted to Congress.

Equipment Budget

Detailed equipment estimates were requested together with explanatory justifications of equipment classified as to additions and/or replacements.

Hospital Budget

Statistical information was requested on the Hospital and Clinic operations and Public Health budgets. Letters requesting the above additional information together with the necessary instructions were prepared and forwarded to the divisions concerned.

COST

General Divisions Operating Reports were issued on April 17, 1950. Detailed report of Research and Development costs was issued on April 21, 1950. Summary of Costs Report was issued on April 25, 1950.

Letters were written to division managers summarizing operating costs of their respective divisions and explaining major differences between March costs and costs of the previous month.

Comparative and unit cost studies already in use were projected for the month of March. In addition, the following detailed studies were prepared:

200 W Laundry - Breakdown between laundering and monitoring costs.
Janitor Service - Cost per square foot by area.
Patrol - Cost per area by post and by patrolman.
Safety and Fire - Cost per area by station and by fireman.
Technical Research and Development - Cost per man-month by program.

Arrangements were made to secure necessary information in order that unit cost reports can be issued next month for the Print Shop and Office Machine Repair and Maintenance Shop.

As proposed by the Atomic Energy Commission, the method of reporting P-10 Project costs was revised and a new form of report was issued for the first time in March as part of the regular Operating Report.

General Accounting Divisions

GENERAL ACCOUNTS

General Ledger Trial Balances were received from all Accounting Divisions on April 17, 1950. Hanford Works Financial Statements were completed on April 18 and Consolidated Financial Statements on April 20, 1950.

Advances from A.E.C. were $3 500 000.00 at the months end as compared with $3 000 000.00 at the beginning of the month. These advances include:

| | April | March |
|---|---|---|
| Cash in Bank-Contract Accounts | $ 2 901 606 | $ 2 483 754 |
| Cash in Transit | 184 394 | 106 246 |
| Expenditures Disallowed by A.E.C. | 4 000 | -0- |
| Cash in Bank-Salary Accounts | 50 000 | 50 000 |
| Travel Advance Bank Account | 60 000 | 60 000 |
| Advances to Subcontractors | 300 000 | 300 000 |
| Total | $ 3 500 000 | $ 3 000 000 |

Net disbursements in the amount of $5 688 394 were applied against advances from Atomic Energy Commission. This amount included a reduction of $4 000 from total net disbursements which was an estimated amount covering premium payments to straight day workers disallowed by A.E.C.

The Accounts Receivable-Miscellaneous balance increased from $872.75 to $1 630.80 due principally to two claims against Milwaukee Railroad for damaged material and two billings to General Electric, Schenectady for Travel Advances to their employees. There are six accounts over 60 days old in the Accounts Receivable-Miscellaneous ledgers. Five of these are claims against carriers and are being followed by Traffic Section of the Purchasing Division. The sixth account is open pending receipt of credit on the next billing from Northwest Airlines Inc.

During the month 70 Expense Reports amounting to $7 355.07 were processed by this Section. The open cash advances at the end of the month were $16 987.78 compared with $14 747.47 the previous month. All open accounts over 30 days old have been followed with respective Division Managers and satisfactory explanation has been received for accounts appearing to be past due.

During April the following new General Ledger Accounts were authorized:

Account No. 3.40 Expenditures Disallowed by A.E.C.
Account No. 10.21 Inventories "U" Plant Equipment
Account No. 15.15 Deferred Charges and Sundry Items - Costs of Furniture Repairs - Prison Industries

Memorandum Billings were received from Knolls Atomic Power Laboratory covering General Engineering and Consulting Laboratory Assistance to Hanford in the amount of $169 298.32, Research Laboratory Assistance to Hanford in the amount of $1 998.86, and KAPL Assistance to Hanford in the amount of $9 289.02.

General Accounting Divisions

INTERNAL AUDITING

Two auditors are continuing the audit of Excess Material records at North Richland. Due to the necessity of performing a detailed audit of a large portion of the work, three clerks were borrowed from other Accounting Sections and assigned to this work. With the present knowledge of the remaining work to be done, it is anticipated that approximately six more weeks will be required to complete the job.

Review of the source and distribution of telephone toll and leased line charges was begun this month. Completion of this study is expected in about ten days.

One auditor has been assigned to review proposed financial transactions in connection with the sale of certain equipment and supplies to doctors and dentists who are going into private practice on May 1, 1950. While it may be some time before all details of this arrangement have been completed, an audit report will be issued covering an analysis of the proposed sale and internal control steps taken by the Medical Division.

The Internal Audit Procedure was completed during the month together with a proposed tentative audit program. After approval by management of these procedures and this program work will proceed accordingly.

MEDICAL ACCOUNTING

Considerable time was spent during the month in making preparations to divorce the Clinic Operation from the Medical Divisions. This change is to become effective May 1, 1950. Arrangements were made to have all property and expendable supplies inventoried and priced. Plant Accounting employees assisted with the inventory and the pricing of the inventory was handled by A.E.C. The Community Divisions have been designated to handle the actual sale to doctors and dentists. As a result of the Clinic being no longer a part of the Medical Divisions, a total of ten accounting employees are to be transferred or layed off due to the resulting decrease in volume of work.

Negotiations with the Washington Hospital Service Association to provide Blue Cross insurance were completed and a formal contract was approved by A.E.C. on April 7, 1950. Policies of the Washington Hospital Service Association have been reviewed and necessary procedures as to billings etc. have been installed.

The accounts receivable balance decreased from $181 126 as of March 31 to $168 047 at April 30, 1950. This decrease may be explained as follows:

(1) Value of invoices decreased $18 343 from last months record figure.
(2) Collection efforts were very successful during the month.
(3) Remittances from Metropolitan are being received more promptly than ever before, usually within three weeks after billing.

Out patient invoices numbered 10 268 and amounted to $42 919. These included 6 315 cash invoices totaling $20 601 and 3 953 charge invoices totaling

General Accounting Divisions

$22 318. In-patient sales decreased from $64 578 to $54 747. The Accounts Receivable ledger balance is expected to decrease considerably beginning next month due to doctors going into private practice on May 1, 1950.

Uncollectible accounts in the amount of $6 196 have been forwarded to the Yakima Adjustment Service for further collection action.

PLANT ACCOUNTING

Work continued during the month on the development of procedures and controls which will insure uniform and consistant treatment of costs incurred on work orders.

Thorough reviews were made of Construction Budget Estimates for fiscal years 1951 and 1952 and of projects entered in Construction Work in Progress to verify that items included as capital were correctly classified.

During the month two newly developed reports were issued:

(1) Reconciliation and Summary of Changes in Plant Accounts. This report lists in detail all charges in plant accounts and provides a reconciliation with Plant Account balances in the general ledger.

(2) Reconciliation of "Unclassified Property in Service." This report lists in detail all items in Unclassified Property in Service. Distribution is to be made to interested divisions and will inform them that certain items have not yet been classified.

Work is continuing on a third report which will show total costs incurred by divisions for equipment other than that which is covered by informal A.E.C. approval or by directive from A.E.C. This report will be of assistance in checking divisional equipment budgets.

General Accounting Divisions

PAYROLLS

During the month of April there were 111 Removals from Payroll, of which 12 were removals due to lack of work and 2 were transfers to another unit of the Company. In connection with the establishment of private practice in Richland for Physicians and Dentists, there were 42 Removals from Payroll of Clinic Physicians, Dentists, Nurses, clerical help, etc. There were 154 Additions to the Payroll, including 1 transfer from another unit of the Company, resulting in a net increase of 43 employees on the Payroll.

* * * * * * * *

Approximately 64,300 items were addressographed in Weekly Payroll Division during April for other divisions at Hanford Works in addition to regular routine addressograph work. Weekly Payroll Division is currently maintaining various addressograph files consisting of approximately 33,650 addressograph plates. Of this total, approximately 10,500 plates are used for preparation of Payrolls and approximately 23,150 plates are maintained for other divisions at Hanford Works. An average of approximately 210,000 plate impressions are made each month from the active files which represents a considerable increase in this work during the past year.

* * * * * * * *

Under the Group Health Insurance Plan, 516 claims for benefits by employees were forwarded to Metropolitan Life Insurance Company during April, and 809 checks were received from the Insurance Company covering 574 claims submitted by employees for benefits under the Plan. Payroll Division is continuing its efforts to expedite delivery of benefit checks to Hanford Works employees. During April, a study was made of claims filed at Kadlec Hospital by employees to determine the average elapsed time between presentation of claims by employees and receipt of such claims by Payroll Division. This study indicated that the elapsed time was excessive, and we have requested assistance of the Medical Division in expediting future claims filed at Kadlec Hospital.

* * * * * * * *

Under the General Electric Employee Savings and Stock Bonus Plan, 79 participating employees withdrew from the Plan 603 U. S. Savings Bonds having a maturity value of $28,050. U. S. Savings Bonds and Custody Receipts covering purchases by employees through Payroll Deductions in March were delivered to employees on April 28, 1950. There were 879 U. S. Savings Bonds and 3,273 Custody Receipts distributed to employees. As of April 30, 1950, percentage of Hanford Works employees participating in the G. E. Employees Savings and Stock Bonus Plan and G. E. Savings Plan was as follows:

| | Mfg. | D & C | Community | Other | Total |
|---|---|---|---|---|---|
| G. E. Employees Savings and Stock Bonus Plan | 48.4% | 37.9% | 40.7% | 42.6% | 44.5% |
| G. E. Savings Plan | 12.5% | 8.4% | 10.4% | 9.7% | 10.8% |
| Both Plans | 52.8% | 42.1% | 46.2% | 47.6% | 49.3% |



* * * * * * * *

PAYROLLS(CONT.)

Permission to defer one week of their 1950 vacations until 1951 was granted by Division Managers in April to 26 Weekly Paid employees and 19 Monthly Paid employees. To date, permission to defer one week of 1950 vacations until 1951 has been granted to 237 Weekly Paid employees and 72 Monthly Paid employees.

* * * * * * * *

There were 34 time cards received late in Weekly Payroll during the month of April. The greatest number of cards received late in any one week was 18.

* * * * * * * *

Sixty-one salary adjustments were made during the month of April to correct holiday payments as outlined in the monthly report for March.

* * * * * * * *

In connection with the "Security Slogan and Jingle Contest" which is being conducted by the Security Division, three checks of $10.00 each were prepared covering final awards to employees under this contest.

* * * * * * * *

During April, the Hanford Atomic Metal Trades Council presented 40 new authorization cards for deduction of Union Dues from salaries of employee members of six unions, as follows:

| Union | Number |
|---|---|
| Instrument Craftsmen's Guild | 1 |
| International Union of Operating Engineers, Local No. 370-C | 6 |
| International Chemical Workers Union, Local No. 369 | 12 |
| International Brotherhood of Electrical Workers, Local No. 77 | 2 |
| United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, Local No. 598 | 2 |
| International Brotherhood of Teamsters, Warehousemen, Garage Employees and Helpers, Local No. 839 | 17 |
| Total | 40 |

The total number of union members who have authorized payroll deductions of Union Dues as of April 30, 1950 was 356.

* * * * * * * *

G. E. Employees Savings and Stock Bonus Plan statements of accounts as of December 31, 1949 for approximately 4,600 employees were received from the Employees Savings Division, Schenectady, during April. Statements for employees currently on the Payroll, together with General Electric Company's Annual Report for the year 1949 were delivered to Employee and Community Relations Division for distribution to participating employees through supervision on April 15, 1950. Statements for approximately

PAYROLLS (CONT.)

200 employees who are not actively at work were mailed to the employees' homes.

* * * * * * * *

Reimbursement Authorization No. 94, approved March 27, 1950, effective August 15, 1949, provides that a Coal Handler may be up-graded to the classification of Miscellaneous Operator in accordance with the procedures governing up-grading "within" a seniority group, and as a result, Weekly Payroll Division received from Wage Rates Division 6 re-classifications retroactive to September 12, 1949 for five employees in the Manufacturing Divisions and for one employee in Community Divisions. Retroactive salary adjustments covering the re-classifications were included on the Payroll for week ended April 23, 1950.

* * * * * * * *

Under the Agreement between Hanford Atomic Metal Trades Council and General Electric Company which has been made applicable to all non-exempt employees, additional retroactive payments were made amounting to $190.81. These payments were the result of retroactive re-classifications made by Wage Rates Division in the case of two employees in the Bargaining Unit and one employee outside the Unit. As of April 30, 1950, the total amount of retroactive salary adjustments made under changes in payment practices resulting from the Union Agreement was $236,647.49 paid to 5,108 employees.

* * * * * * * *

Quarterly Wage and Salary Report, as of March 31, 1950, was prepared during April and was submitted to the Atomic Energy Commission. This report reflects the total number of employees by Divisions in each exempt and non-exempt job classification, and the weighted average of the salaries of employees in each classification.

Quarterly Wage and Salary Reports were required under Atomic Energy Commission Regulation Personnel No. 4. This regulation was rescinded in October 1948 and the superseding regulation, Bulletin GM-44, dated October 28, 1948 does not require such quarterly reports. However, the Office of Chief, Organization and Personnel, Hanford Operations, Atomic Energy Commission, requested that we continue to submit such information. Due to the revised rate structure made effective on the Weekly Payroll in July 1948 which included progression schedules up to eighteen months, it was impractical to prepare a quarterly report in the form required under Regulation Personnel No. 4, and the Commission agreed to accept lists of all employees on the Payroll, showing classification and rate of each employee. Such lists have been furnished to the Commission periodically since 1948. These lists were used by the Commission in lieu of the Quarterly Wage and Salary Report, and the semi-annual Organization Report which was similar in nature to the Quarterly Wage and Salary Report.

The Commission had indicated early in 1949 that new regulations would be issued covering a revised Quarterly Wage and Salary Report. However, such regulations have not yet been issued. In January of this year, representatives of the Atomic Energy Commission, Office of Organization and Personnel, and representatives of the General Accounting Division, met to discuss a revised form for Quarterly Wage and Salary Reports to eliminate the necessity of furnishing lists to the Commission as indicated

General Accounting Divisions

PAYROLLS (CONT.)

above. Agreement was reached, whereby General Electric would furnish a report quarterly indicating the number of employees in each job classification, segregated by divisions, and indicating the weighted average of the salaries of employees in each classification. Representatives of the Commission prepared a draft of proposed regulations which was reviewed by representatives of the General Accounting Division and was returned to the Commission on February 1, 1950. As yet these regulations have not been issued. However, we are furnishing the Quarterly Wage and Salary Report in accordance with our verbal agreement with the Commission.

* * * * * * * *

Preparation of insurance certificates for all employees participating in the New Group Health Insurance Plan was completed during the month of March. The certificates were forwarded to Employee and Community Relations Division for distribution to employees through supervision on April 5, 1950.

* * * * * * * *

Quarterly Federal and State Tax Reports were prepared and filed with the respective Government agencies during the month of April. Checks were issued covering the employee's and employers portion of such taxes.

Approximately 180 man hours were expended in Monthly Payroll in the preparation of special statistical reports covering number of employees, salary information, etc. with respect to selected groups of employees.

* * * * * * * *

The Finance Division, Office of Hanford Directed Operations, Atomic Energy Commission, transmitted to General Electric on March 10 1950, copy of General Accounting Office Informal Inquiry No. GE-37 dated March 9, 1950, which questioned authority for payment of time and one-half for work performed on Saturday by "Straight Day Workers" when the total weekly hours worked were not in excess of forty, and payment of double time for work performed on Sunday when such day was not the seventh day worked in the work week.

In answer to the Informal Inquiry, General Accounting Division pointed out to the Atomic Energy Commission the intent of the HAMTC Agreement with respect to definition of a "Straight Day Worker" and further pointed out that this was the subject of discussions between the Commission and General Electric since the date the HAMTC Agreement was executed. It was further pointed out that General Electric sought the advice of the Commission on several occasions during negotiations with HAMTC concerning the Commission's recommendations on various phases of the Agreement, and that the Commission advised General Electric to exercise its judgment and effect the best agreement possible.

Request for Reimbursement Authorization was presented to the Commission under date of March 22, 1950 for purpose of providing a uniform interpretation of the definition of a "Straight Day Worker". In his letter dated April 13, 1950, H. E. Thurston, Chief, Organization and Personnel, indicated the Request for Reimbursement was denied for lack of sufficient justification. Accordingly, the Finance Division, Office of Hanford Directed Operations, Atomic Energy Commission, advised the Company

PAYROLLS (CONT.)

on April 26 that they would deduct from our April 1950 Request for Reimbursement the arbitrary sum of $4,000 covering excess reimbursement in the case of payments to "Straight Day Workers" through the month of April 1950, and that a nominal deduction will be made monthly in the future until mutual determination is made of the excess amount due as a refund to the Commission.

General Accounting Division has repeatedly, since July 1949, requested the Union Relations Division to issue an instructions letter defining a "Straight Day Worker" and to obtain approval of the Atomic Energy Commission covering such definition. H. W. Instructions Letter defining a "Straight Day Worker", and Request for Reimbursement Authorization were issued by Union Relations Division subsequent to receipt by General Electric of the Informal Inquiry.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - APRIL 1950

SUMMARY

There was one major injury during the month making a total of two for the year to date. The major injury frequency rate for the year to date is 0.41.

There were two minor fires which resulted in no loss.

A contract for $141,900. for the construction of a new area laundry in the 200-West Area was awarded to E. P. Erwin, General Contractor, Yakima, Washington.

Mail volume continued to increase. April had the largest volume of mail ever handled in the Mail Room.

Printing and office machine repair work decreased slightly.

Effective April 24, centralized control of motor vehicle equipment was discontinued. In the future each area will be responsible for the proper maintenance of its own equipment.

Repair of the perimeter fence was begun on April 25.

The 105-DR Area was designated as an "exclusion area" and one man per shift assigned to control this post.

PLANT SECURITY AND SERVICES DIVISIONS
MONTHLY REPORT - APRIL 1950

ORGANIZATION AND PERSONNEL:

Number of employees on payroll:

| | Beginning of Month | End of Month | Increase | Decrease |
|---|---|---|---|---|
| Staff | 3 | 3 | | |
| Patrol and Security | 583 | 582 | | 1 (a) |
| Safety & Fire Protection | 146 | 145 | | 1 (b) |
| Office Services (General Services, Clerical Services, and Records Control) | 223 | 222 | | 1 (c) |
| TOTALS | 955 | 952 | | 3 |

NET DECREASE: 3

(a) - Patrol and Security

1 - New Hire (Patrol)
1 - Transferred from Stores (Patrol)
2 - Returned from Leave of Absence (Patrol)
3 - Removed from Roll due to Leave of Absence (Patrol)
2 - Terminations (Patrol)

(b) - Safety and Fire Protection

1 - New Hire
1 - Rehire
3 - Transferred to the [illegible] Division

(c) - General Services

2 - New Hires
1 - Transferred from North Richland Realty
1 - Removed from Roll due to Leave of Absence
3 - Transferred to other Divisions

Clerical Services

9 - New Hires
1 - Transferred from General Services
6 - Transferred to other Divisions
1 - Termination
2 - Removed from Roll due to Leave of Absence

Records Control

1 - New Hire
1 - Transferred to Stores
1 - Termination

Plant Security and Services Divisions

SAFETY AND FIRE PROTECTION

Injury Statistics

| | |
|---|---|
| Days since last major injury | 12 |
| Accumulated Exposure Hours since last major injury | 498,648 |
| Major injury Frequency Rate (start-up to date) | 0.83 |

| | March | April | Year to Date |
|---|---|---|---|
| Major Injuries | 0 | 1 | 2 |
| Sub-Major Injuries | 2 | 0 | 11 |
| Minor Injuries | 335 | 314 | 1,262 |
| Exposure Hours | 1,329,231 | 1,246,620 | 4,905,617 |
| Major Injury Frequency Rate | 0.0 | 0.80 | 0.41 |
| Major Injury Severity Rate | 0.0 | 0.002 | 0.003 |
| Minor Injury Frequency Rate | 2.52 | 2.52 | 2.57 |

Major Injury No. 69

On April 18, at approximately 12:30 A.M., a patrolman working in the 100-H Area sustained a deep laceration to the left middle finger with complete division of flexor tendon while attempting to hurriedly open a door at the badge house. His hand slipped off the door frame and struck against the glass, shattering it.

100 Areas Activities

A special study was made in the 100-B P-10 operation to determine effectiveness of respiratory protective equipment being used. Equipment was not found lacking when worn properly. However, it was noted that employees sometimes failed to use the equipment properly thus indicating a need for more rigid enforcement of existing procedures.

A special type guard was worked out and approved for use on small vacuum machines used by the P-10 Group.

The Safety Contest running in the 100-B Area was completed on April 17, 1950, winners selected and prized awarded.

The safety citation cards for the 100-D Area employees were completed and distributed the latter part of the month. A letter was sent to H. E. Callahan expressing appreciation for the cooperation and assistance that the Special Services Group rendered in presenting the 100-D Area Safety supplement. Word has been received through the Works News that the picture of a 100-D Area employee which was printed in this supplement was being reprinted in the "Candid Camera" section sent out from Schenectady.

On April 19, the railroad train operating crews completed three years without a lost time injury.

It was observed during the month that the Army had strung wires across the roadways below the standard minimum height. It was also reported by the railroad division that some low wires had been strung across the railroad. This was reported to the Richland Safety Office and action has been taken.

Plant Security and Services Divisions

100 Areas Activities (Contin.)

A crew of Atkinson-Jones laborers were reported handling ferrifloc in the G. E. warehouses without proper protective equipment. This was called to the attention of the Atkinson-Jones safety representative and recommended protective equipment suggested.

Discussions and inspection of the experimental work on the X1 and X2 level, 105-H, were continued with members of the Technical and Project Engineering Divisions. The safety factors involved in this experimental work are of great moment. Each step has been discussed.

The "Safety in Foremanship" series for Minor Construction foremen was continued.

Proper type compressed air filter and pressure reducting valve for air-supplied masks was recommended to the "P" Division for installation in the 105-H Building.

Substandard acid hoods in the 100-H Maintenance tool crib were recommended to be returned to Stores.

The "P" Division Chief Supervisor in charge of 100-F and 100-H Areas made personal contacts with supervisors in all Divisions in both Areas concerning the increased number of minor injuries. All supervisors were urged to stimulate a "Split Second Safety Thought" among all employees. The cause analysis of minor injuries incurred in March indicated inattention was predominate.

An inspection was made of the Security Patrol firing range across from Hanford. The entire procedure was thoroughly discussed with the Lieutenant in charge. Recommendations for some minor changes were made.

A design for a sight glass guard was submitted by 100 Area Maintenance supervision. The design was approved for 100-F and 100-H Areas.

A complete survey was made of cable storage facilities in the 100-F Area riggers' loft. A safe and convenient storage for cable has never been supplied. Recommendations were made and discussed with the 100-F Area Transportation foreman.

A pamphlet containing fifty-nine 5-minute safety talks for construction workers was received and given to the Area Engineer of Minor Construction. Pertinent information will be used in the weekly forecast.

The construction Area Engineer of Minor Construction issued a detailed procedure for control and inspection of chain falls.

The Area Engineer of Minor Construction Engineering issued a schedule and check sheet for monthly inspections by an engineer and a general foreman of all Minor Construction job sites. The Safety Engineer assisted in the schedule.

200 Areas Activities

The 200-East Area Maintenance Division won the Maintenance Safety Derby. The Safety Engineer was asked to attend the award presentation meeting and the dinner given by Maintenance supervision for 200-East Maintenance employees.

Plant Security and Services Divisions

200 Areas Activities (Contin.)

An inspection of a job site and study of problems arising from a special sand blast job were made with the assistance of Maintenance foreman involved and 200 Area Industrial Physician. Recommendations necessary to clear problems were submitted to "S" Division supervision in charge.

Photographs were taken of the Chemox unit redesigned for back wear and have been submitted to Mines Safety Appliance Company with request for information as to whether or not they can supply units ready for wear.

300 Area Activities

Investigated the use of carbon tetrachloride by the Technical Separations Research Group. They are familiar with its toxic possibilities.

The 300 Area completed 365 days without a lost time injury at 12:01 A.M. April 25, 1950. This represents approximately 1,905,000 exposure hours.

700-1100 Areas Activities

All 33 MM slide films and records are being reviewed and listed for the purpose of setting up a revised library on slide reels.

Efforts are being made to create new interest in the purchase of safety shoes as the records for 1949 show that only 1,599 pairs of safety shoes were sold, and 540 pairs of free-issue shoes delivered. It is estimated that there are on this plant 5,200 employees of the 7,500 who are subjected to foot injury from job assignments.

Safety plaques were presented to twelve groups in the Transportation Division for having finished with a perfect score in the Safety Quiz Contest.

The special quarterly report shows a big improvement over the first quarter of 1949 which consisted of four major injuries and 325 fewer minor injuries, also a reduction in frequency rate from 1.13 to 0.27.

- Fire Protection

Effective April 1, the job of Fire Inspector was eliminated and three Fire Protection Engineers were appointed.

Approximately 13,600 feet of 2½" hose, located in hose boxes and hose houses, was tested and boxes and houses cleaned.

A defective section of wire on the fire alarm system at Pasco that caused stray tape on the alarm system was replaced.

Fire Protection offices were established in the 100-D, 200-East and 300 Areas.

The first of the new type fire protection building surveys was made.

Surveys have been completed on Buildings 1701-B, 2704-E, 272-E, 3702, 3703 and the Riverland Railroad Yard water supply.

Plant Security and Services Divisions

Fire Protection (Contin.)

As a result of the Fire Protection surveys, a sprinkler system for the 272-E Building and the replacement of the wood structure high tank at Riverland Yards with a steel one were recommended.

A study of the methods and recommendations for handling and storing of "ditto" fluid is being conducted.

A rough draft of a Safety Bulletin to govern the installation and use of hot plates was submitted.

Minor Construction tar pot fire of April 14 was investigated and recommendations made to prevent recurrence.

The venting of underground gasoline tanks was checked. The flame checks in the 100-H Area were found to be defective.

The installation of 1½" inside fire hose lines were recommended for Building 2704-E.

Work has been started on building surveys of the 3701, 3705 and the 101 Buildings.

Routine fire prevention inspection was made in 132 Building during the month.

Industrial Investigations

| Division | Area | Number of Fires | Cause | Loss |
|---|---|---|---|---|
| Minor Construction | 100-F | 1 | Tar pot boiling over | None |
| Outer Area | | | | |
| Priest Rapids | | 1 | Railroad ties left burning | None |

OFFICE SERVICES DIVISIONS

General Services

Laundering Volumes were as follows:

Plant Laundry (Building 2723)

| | | March | April |
|---|---|---|---|
| Coveralls | - Pieces | 30,854 | 28,019 |
| Towels | - Pieces | 7,929 | 7,480 |
| Miscellaneous | - Pieces | 77,916 | 67,559 |
| Total Pieces | | 116,699 | 103,058 |
| Total Dry Weight - Lbs. | | 163,090 | 145,087 |

Plant Security and Services Divisions

General Services (Contin.)

Richland Laundry (Building 723)

| | March | April |
|---|---|---|
| Flatwork - Pieces | 69,258 | 57,839 |
| Rough Dry - Pieces | 32,599 | 30,056 |
| Finished - Pieces | 3,621 | 3,079 |
| Total Pieces | 105,478 | 90,974 |
| Total Dry Weight - Lbs. | 68,561 | 59,133 |

Monitoring Section (Building 2723-W)

| | | |
|---|---|---|
| Poppy Check - Pieces | 98,041 | 83,126 |
| Scaler Check - Pieces | 108,849 | 95,330 |
| Total Pieces | 206,890 | 178,456 |

Lower laundry volume this month is due to three less working days in the month of April than in March.

E. P. Erwin's, General Contractor of Yakima, Washington, bid of $141,900. was the low bid for construction of the new 2723-W Laundry. The contract is being prepared which awards the job to this firm.

Clerical Services

Mail Room

The volume of mail is continuing to increase and we handled the largest volume of mail ever handled in the Mail Room during the month.

| | March | April |
|---|---|---|
| Pieces of internal mail handled | 419,850 | 486,834 |
| Pieces of postal mail handled | 59,165 | 60,553 |
| Pieces of registered mail handled | 1,413 | 1,283 |
| Pieces of insured mail handled | 562 | 464 |
| Pieces of special delivery mail handled | 221 | 282 |
| Total Mail Handled | 481,211 | 549,416 |
| Total Amount of Postage Used | $1,719.08 | $2,160.15 |
| Teletypes Sent | 1,315 | 1,824 |
| Teletypes received | 1,527 | 1,321 |
| Total teletypes handled | 2,842 | 3,145 |
| Total number of Store Orders filled and delivered | 652 | 1,212 |

Plant Security and Services Divisions

Office Equipment Section

Warehouse No. 63 in North Richland was secured for this section and we are now in the process of moving out of the Pasco Base.

| | March | April |
|---|---|---|
| Office Machines repaired in Shop | 298 | 240 |
| Office Machine service calls | 388 | 347 |
| Total Machines Serviced | 686 | 587 |

Printing Section

| | March | April |
|---|---|---|
| Multilith orders received | 300 | 242 |
| Multilith orders completed | 372 | 218 |
| Multilith orders on hand at month end | 0 | 62 |
| Mimeograph orders received | 758 | 504 |
| Mimeograph orders completed | 758 | 504 |
| Mimeograph orders on hand at month end | 0 | 0 |
| Ditto orders received | 314 | 258 |
| Ditto orders completed | 314 | 258 |
| Ditto orders on hand at month end | 0 | 0 |

Stenographic Services Section

Due to a shortage of girls during the month, we were forced to turn down many requests from other divisions.

| | March | | April | |
|---|---|---|---|---|
| | Hours | Quantity | Hours | Quantity |
| Dictation and Transcription | 0 | 0 | 8:45 | 14 |
| Machine Transcription | 58:50 | 119 | 104:55 | 274 |
| Letters | 50:35 | 111 | 135:56 | 414 |
| Manual and Procedures | 84:30 | 148 | 170:05 | 308 |
| Duplicating--Stencils, Ditto | 219:00 | 379 | 313:50 | 555 |
| Special | 391:02 | 2,157 | 689:57 | 2,844 |
| Training | 545:24 | | 95:12 | |
| Unassigned time during month | 98:00 | | 42:48 | |
| Meeting time | 37:42 | | 50:00 | |
| Illness | 21:42 | | | |
| Total Hours | 1,506:45 | | 1,611:28 | |
| Employees loaned to Other Divisions | 840:12 | | 519:30 | |
| Total Hours Available | 2,346:57 | | 1,423:48 | |

Plant Security and Services Divisions

Records Control Division

Quantity of records received, processed and stored:

| | | |
|---|---|---|
| Community Divisions | 4 | Boxes |
| Design & Construction Divisions | 66 | " |
| Employee & Community Relations | 24 | " |
| General Accounting Division | 38 | " |
| Health Instrument Divisions | 134 | " |
| Instrument Division | 3 | " |
| Medical Division | 4 | " |
| Plant Security & Services | 7 | " |
| Power Division | 6 | " |
| "S" Division | 9 | " |
| Transportation Division | 29 | " |
| Total | 324 | Boxes |

Persons furnished records services: 275
Records cartons issued: 344

A review of all inventories is still in progress with the Transportation Division, "P" Division, Manufacturing Accounting, the balance of the Community Divisions, and part of Project Engineering completed this month. This review is over half completed.

The Special Programs section of Employee and Community Relations is preparing a draft of the introductory remarks section along with sketches of art work to be included in the Stenographic Manual.

A series of six new forms have been developed to combine thedoctors request for hospital laboratory analysis and the laboratories report to the doctor. These forms will eliminate duplicated effort in transcribing information, will speed up information to the doctor and will greatly improve present filing methods. These forms have been approved by the hospital medical staff and are being released for printing.

A new multiple form developed for the Telephone Section, combining their present "Application for Service" and "Service Order" has eliminated two typing operations and reduced the time required to get Service Orders to the Service Group from a day and one-half to two hours. A requisition for one extra clerk has been cancelled as a result of this new form and procedure.

Based on experience gained during the past eight months of operating a forms control program, standards for forms design have been developed, methods of control established and a new system of forms identification numbering has been set up.

PATROL AND SECURITY

General

The patrol post at the main gate, 200-East Area, was discontinued March 29, on the No. 1 and No. 3 shifts.

Plant Security and Services Divisions

Effective April 1, a 30-minute check of doors on the 303-K Building, 300 Area, was established.

The patrol posts at the 100-DR construction badge house and vehicle gate were discontinued April 1.

Two new posts were established on April 1, at the 100-Dr Area, and will be designated as limited area badge house clerk and vehicle gate

Beginning April 1, one 24-hour post at the 200-West Area badge house was discontined.

A new procedure was issued for the security control of the 702 Building, 700 Area, for the purpose of controlling access to the Telephone Building.

Effective April 7, the security file inspection of the McNeil Building was discontinued.

On April 8, at 7:30 A.M., the 105-DR Area was established as an "exclusion" area, and one man on a 24-hour basis was assigned to control this post. This exclusion area is in addition to the present 105-D Exclusion Area already in existence in the 100-D Area.

Relocation of the Administration Section, Security Patrol, into the 770-A Building was completed on April 18.

A temporary two-man post was created in the Redox Area on April 18. One man will be posted at the patrol house at the intersection of South patrol road and West corridor fence. One man will act as escort for construction workers who are erecting a new fence in the operations area.

On April 17, a new post was created at the 305 Exclusion Badge House, 300 Area, on the No. 3 shift.

Security Patrol Procedure Memorandum No. 31 was issued April 20 to promote safety conscientiousness on the employees' part and increase individual participation.

On April 21, the yellow Employee's Temporary One Day Pass was replaced by a salmon colored Temporary Pass.

Red and green Visitor Passes replaced the white Visitor Pass on April 21 with the red pass indicating that the bearer has only either a "P" or "FP" clearance and escort shall be required in certain areas. The green pass indicates that the bearer has sufficient clearance for access to "restricted data" in necessary cases and may not require escort. The Red Pass also replaced the Vendor's Truck Pass formerly used.

Beginning April 23, a procedure was created to inspect the Redox Area Buildings for open files, etc. on both the No.1 and No. 3 shifts.

The position of Motor Officer was abolished on April 24.

Repair of the perimeter fence was begun Tuesday, April 25.

On April 27, the No. 3 shift post in the Motor Equipment office was discontinued.

Plant Security and Services Divisions

Security Patrol Procedure Memorandum No. 32 was issued April 27, establishing a procedure for the operation and maintenance of Security Patrol motor vehicles.

Effective April 27, the 770-A Building security control procedure was set up.

The straight day post at the P-11 Badge House, P-11 Area, was discontinued on April 28.

The following sections were added to our H. W. Instructions Letter No. 135 concerning security procedures and regulations at Hanford Works:

XV "Operations Hazard Discussion Record"
XVI "Removal from Payroll - Cancellation of Area Clearance and Surrender of Photo Identification Passes"
XVII "Central File for Recording Combinations to Files and Procedures Concerning Reports and Inspections of Unlocked Files".
XVIII "Restrictions on Photographs Taken at Hanford Works"

Patrol

The 200 Areas handled 53 process escorts between the areas.

Requests handled totaled 409, consisting mainly of opening doors, buildings, gates and issuing keys for employees of other divisions.

A total of 104 Unusual Incident Reports were received, consisting mainly of Security Violations, lost badges, pencils, contraband picked up at barricades, traffic accidents and fires.

A total of 626 pat searches were made of employees leaving the operating areas during the month.

Classified escorts totaling 175 were handled during the month.

A total of 23 traffic escorts were handled during the month.

Patrol made 28 ambulance runs for the Medical Division during the month.

Patrol assisted in two fire calls during the month.

Practice evacuations were held as follows:

| | | |
|---|---|---|
| 100-B Area | 4-26-50 | 10:07 A.M. |
| 100-D Area | 4-10-50 | 10:40 A.M. |
| 100-F Area | 4-28-50 | 1:04 P.M. |
| 100-H Area | 4-26-50 | 9:49 A.M. |

Practice Mobilization Plan:

| | | | |
|---|---|---|---|
| 300 Area | Plan A | 4-22-50 | 10:37 P.M. |

Plant Security and Services Divisions

Arrest Summary

| | March | April |
|---|---|---|
| Warning tickets issued | 0 | 3 |
| Verbal warning given | 6 | 1 |
| Citation tickets issued (Traffic only) | 0 | 0 |

Accident Summary

| | | |
|---|---|---|
| Total accidents | 0 | 4 |
| Government permits suspended | 0 | 1 |

Training

Training courses held during the month were as follows:

| | Hours |
|---|---|
| Pistol | 1 1/2 |
| Small Bore Firing | 2 |
| Patrol Operations | 3 1/2 |
| Health | 1/4 |
| Safety | 1/2 |
| Security | 1/4 |

On April 4, targets were constructed on the machine gun range across the river.

Fire lanes were bladed out on the machine gun range across the river and targets completed on April 12.

Security

There were 180 Security Meetings held and attended by 2,512 General Electric employees during the month.

G. E. Security Bulletin No. 52 entitled "Visitor and Employee's Temporary Passes" was issued April 20, 1950 to all operations personnel.

Two "Burma Shave" type signs were replaced on April in the Plant Area bearing the following slogans:

| Coming In Sign | Going Out Sign |
|---|---|
| For SECURITY'S Sake | You like this place |
| Let's often repeat | Called U.S.A. |
| Be bold in LOYALTY | Then practice |
| But in talk be | SECURITY |
| DISCREET | Night and Day |

The poster "There's an Art to Destruction! Be Thorough! Destroy Classified Documents according to regulations -- Security - It's Up to You!" was posted in all the industrial area busses on April 10, 1950. There were one hundred posters used for this purpose.

Plant Security and Services Divisions

On April 10, a yellow card disc was installed by Security Patrolmen on all telephones throughout the plant bearing the inscription "Who Else is Listening?" with a large ear in the background, as a security reminder to project personnel.

There were 77 employees who received "Q" orientation talks duringthe month.

Employee Clearance

| | |
|---|---|
| Class "Q" clearances received on old employees this month | 0 |
| Class "Q" clearances received on old employees to date | 4,460 |
| Class "Q" clearances received on new employees this month | 64 |
| Class "Q" clearances received on new employees to date | 6,416 |
| Class "Q" clearances received on both old and new employees since February 17, 1947 | 10,876 |
| Formal "P" clearances awaiting change to "Q" | 47 |
| Authorization clearances issued this month | 64 |

Statistical Summary of Outstanding Area Badges

March

| | A | B | C | Total |
|---|---|---|---|---|
| 100-B | 1750 | 634 | 462 | 2846 |
| 100-D | 836 | 975 | 496 | 2307 |
| 100-F | 688 | 1136 | 399 | 2223 |
| 100-H | 1699 | 773 | 504 | 2976 |
| 200-E | 877 | 1805 | 341 | 3023* |
| 200-W | 1368 | 1754 | 333 | 3455 |
| 200-N | 26 | 849 | 128 | 1003 |
| 300 | 1325 | 1688 | 222 | 3235 |
| 100-DR | 1578 | 6 | | 1584 |
| Redox - declared open area 3-9-50 | | | | |
| P-11 | 48 | 24 | 4 | 76 |

*Includes 36 "A" badges at Riverland Yards

April

| | A | B | C | Total |
|---|---|---|---|---|
| 100-B | 1778 | 606 | 447 | 2831 |
| 100-D | 854 | 934 | 470 | 2258 |
| 100-F | 681 | 1124 | 398 | 2203 |
| 100-H | 1702 | 803 | 508 | 3013 |
| 200-E | 908 | 1830 | 335 | 3073* |
| 200-W | 1376 | 1764 | 334 | 3474 |
| 200-N | 25 | 840 | 126 | 991 |
| 300 | 1293 | 1701 | 220 | 3214 |
| 100-DR | 2072 | 6 | | 2078 |
| P-11 | 48 | 24 | 4 | 76 |

*Includes 36 "A" badges at Riverland Yards

Visitor or Temporary Badges

| Area | March | April |
|---|---|---|
| 100-B | 570 | 607 |
| 100-D | 1052 | 1093 |
| 100-F | 947 | 980 |
| 100-H | 453 | 533 |
| 200-E | 786 | 832 |
| 200-W | 1195 | 1315 |
| 200-N | 727 | 733 |
| 300 | 1623 | 1693 |
| 100-DR | - | 10 |
| P-11 | 3 | 5 |
| Total | 7356 | 7601 |

Plant Security and Services Divisions

Special Clearance Section

Following is a statistical summary of clearance status of vendor and consultant vendor companies.

| | | | |
|---|---|---|---|
| Total companies forwarded to AEC this month: | 16 | Personnel: | 47 |
| | | Consultant Personnel: | 1 |
| Total companies forwarded to AEC last month: | 12 | Personnel: | 65 |
| | | Consultant Personnel: | 4 |
| Total companies forwarded to AEC to date: | 246 | Personnel: | 2,494 |
| Total companies cleared for "Restricted data" this month: | 9 | Personnel: | 25 |
| | | Consultant Personnel: | 1 |
| Companies reinstated | 20 | Personnel reinstated: | 64 |
| Total companies cleared for "Restricted Data" last month: | 8 | Personnel: | 20 |
| | | Consultant personnel: | 3 |

New companies forwarded to Atomic Energy Commission this month:

W. B. Edmiston & Sons, Inc.
2512 S. First Street
Yakima, Washington

Farrel - Birmingham
Ansonis, Connecticut

Kinzer & Sons
Route 1
Walla Walla, Washington

Young's Lumber company, Inc.
702 S. First Street
Yakima, Washington

R. A. Pringle
Walla Walla, Washington

Atomic State Transfer
formerly Art Pasche "Pasco Transfer"
P. O. Box 502
Kennewick, Washington

Empire Electric Company
510 W. Clark Street
Pasco, Washington

Lewis A. Hopkins, General Contractor
P. O. Box 1101
Yakima, Washington

Lewis Foundry & Machine
P. O. Box 1586
Pittsburgh 30, Pennsylvania

Stranix & Ofner
Pendleton, Oregon

W. P. Payne or
Richland Plumbing and Heating
Box 684
Richland, Washington

John Morrison Southern
1728 W. Olive or P. O. Box 308
Pasco, Washington

Number and type of clearance granted by Atomic Energy Commission this month to vendors and consultants:

| | |
|---|---|
| Formal "Q" | 17 |
| Formal "P" | 8 |
| Emergency "Q" | 9 |
| "Q" Reinstatement | 64 |

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HANFORD WORKS
General Electric Company
Richland, Washington

REPORT OF VISITORS FOR PERIOD ENDING APRIL 30, 1950

| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| MEDICAL DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| C. F. Branch<br>American College of Surgeons<br>Chicago, Illinois | Consultation with Medical Division and inspection First Aid Bldgs. | W. D. Norwood, M.D.<br>P. A. Fuqua | 4-13-50 | 4-13-50 | | X | 300-XXX<br>100-H-XXX |
| DESIGN AND CONSTRUCTION DIVISIONS | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| A. H. Y. Hedner<br>Travelers Insurance Company<br>Seattle, Washington | Inspect boiler houses on order HW-58070-M | H. A. Hauser | 4-12-50 | 4-13-50 | | X | |
| G. P. White<br>Roberts Filter Company<br>Darby, Pennsylvania | Supervise installation of equipment on order HWC-8110 | H. A. Hauser | 4-10-50 | App. 6 months | | X | |
| II. Visits to other Installations | | | | | | | |
| C. C. Bragg<br>(on loan from Fluor Corporation)<br>Mallinckrodt Chemical Works<br>St. Louis, Missouri | Design problems | W. H. Keller | 4-10-50 | 4-13-50 | X | | |
| J. M. Frame<br>to: Mallinckrodt Chemical Works<br>St. Louis, Missouri | Consultation on design problems | W. H. Keller | 4-10-50 | 4-15-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| J. O. Ludlow to: Mallinckrodt Chemical Works St. Louis, Missouri | Consultation on design problems | W. H. Keller | 4-10-50 | 4-15-50 | X | | |
| G. Thayer to: Knolls Atomic Power Lab. Schenectady, New York | Consultation regarding design and installation of equipment for 432 Project | R. S. Neblett | 4-10-50 | 4-14-50 | X | | |
| G. Thayer to: Gen. Eng. & Con. Lab. Schenectady, New York | Consultation regarding design and installation of equipment for 432 Project | D. H. Marquis | 4-10-50 | 4-14-50 | X | | |
| E. F. Smith to: Knolls Atomic Power Lab. Schenectady, New York | Consultation regarding design and installation of equipment for 432 Project | R. S. Neblett | 4-10-50 | 4-14-50 | X | | |
| E. F. Smith to: Gen. Eng. & Con. Lab. Schenectady, New York | Consultation regarding design and installation of equipment for 432 Project | D. H. Marquis | 4-10-50 | 4-14-50 | X | | |
| Anna L. Peck to: Gen. Eng. & Con. Lab. Schenectady, New York | Preparation of index cross referencing all drawings, purchase orders, BPF's specification on 432 Project | D. H. Marquis | 4-10-50 | 1 month | X | | |
| A. L. Vosmer to: Gen. Eng. & Con. Lab. Schenectady, New York | Consultation regarding design and installation of equipment for 432 Project | D. H. Marquis | 4-17-50 | 6 weeks | X | | |
| H. S. Isbin to: Argonne National Lab. Chicago, Illinois | Discuss heat transfer development in boiling | W. T. Moore<br>W. P. Bigler | 4-10-50 | 4-11-50 | X | | |
| H. S. Isbin to: Gen. Eng. & Con. Lab. Schenectady, New York | Discuss and observe fabrication of heater unit at Schenectady | G. R. Rede<br>L. G. Gitzendanner | 4-13-50 | 4-14-50 | | X | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| R. S. Perry to: Fansteel Metallurgical Co. Chicago, Illinois | Coordination of procurement and design on Project C-343 | L. R. Scribner | 4-10-50 | 4-13-50 | | X | |
| J. S. Parker to: Kellex Corporation New York, New York | Consultations relative to Project C-187-D and TBP | B. R. Prentice G. White | 4-20-50 | 4-22-50 | X | | |
| J. S. Parker to: Atomic Energy Commission Washington, D. C. | Consultations relative to Project C-187-D | W. J. Williams | 4-20-50 | 4-22-50 | X | | |
| H. M. Parker to: Gen. Eng. & Con. Lab. Schenectady, New York | Consultation on 432 Project | D. H. Marquis D. E. Garr | 4-20-50 | 4-21-50 | X | | |
| H. M. Parker to: Kellox Corporation New York, New York | Hot pump design, specifications and preparation of data sheets | G. White, Jr. | 4-18-50 | 4-26-50 | X | | |
| D. E. Irons to: Kellex Corporation New York, New York | Engineering consultation on MJ-1 Project | G. White, Jr. | 4-20-50 | 4-21-50 | X | | |
| Dorothy J. DeYoung to; Knolls Atomic Power Lab. Schenectady, New York | Attend conference called by AEC on proglems of classification and document accountability and control | Jane S. Tucker | 4-26-50 | 4-29-50 | X | | |
| G. S. Cochrane to: Gen. Eng. & Con. Lab. Schenectady, New York | Engineering consultation | D. H. Marquis B. R. Prentice R. S. Neblett | 4-29-50 | Still gone | X | | |
| H. E. Grantz to: Gen. Eng. & Con. Lab. Schenectady, New York | Review mechanical design for RM Line for Separations Design Division | D. H. Marquis | 4-10-50 | 4-14-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| J. R. Kelly to: Ralph M. Parsons Company Los Angeles, California | Discuss proposed Architect-Engineer contract | R. M. Parsons, Jr. | 4-19-50 | 4-19-50 | | X | |
| J. R. Kelly to: Leland S. Rosener Company San Francisco, California | Discuss proposed Architect-Engineer contract | L. S. Rosener, Sr.<br>L. S. Rosener, Jr.<br>R. MacHenry | 4-20-50 | 4-21-50 | | X | |
| ELECTRICAL DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| L. C. Ford<br>Apparatus Department<br>General Electric Company<br>Pasco, Washington | Inspection of equipment furnished by Apparatus Department | F. J. Mollerus<br>F. J. Mollerus | 4-5-50<br>4-10-50 | 4-28-50<br>4-10-50 | | X<br>X | 100-DR<br>300-303 XXX |
| II. Visits to other Installations | | | | | | | |
| F. J. Mollerus to: General Electric Company Schenectady, New York | Attend meeting of Subcommittee on equipment and plant grounding | J. M. Schmidt | 4-25-50 | 4-28-50 | X | | |
| EMPLOYEE AND COMMUNITY RELATIONS DIVISION | | | | | | | |
| I. Visits to other Installations | | | | | | | |
| H. E. Callahan to: Knolls Atomic Power Lab. Schenectady, New York | Inspection trip in connection with AEC personnel Information Panel meeting | R. V. Larson | 4-5-50 | 4-5-50 | X | | |
| HEALTH INSTRUMENT DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| L. J. Cherubin<br>General Electric Company<br>Schenectady, New York | Inspect areas containing health instruments and data | C. M. Patterson | 4-17-50 | 4-21-50 | X | 100-B-105<br>100-F-105<br>100-H-105<br>300-303,3706 | 200-E<br>221-B<br>200-W<br>221-T<br>231<br>234 |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| A. R. Hilliard<br>Division of Biology & Medicine<br>Atomic Energy Commission<br>Washington, D. C. | Discussions on health physics for 8th semi-annual report to Congress | M. L. Mickelson | 4-17-50 | 4-19-50 | | X | |
| R. K. Loeffler<br>Naval Radiological Defense Lab.<br>San Francisco Navy Shipyard<br>San Francisco, California | Discuss wound decontamination | C. M. Patterson | 4-24-50 | 4-25-50 | X | | |
| II. Visits to other Installations | | | | | | | |
| F. E. Adley<br>to: School of Medicine & Dentistry<br>U. of Rochester<br>Rochester, New York | Conference on electron microscopy | H. Stokinger | 4-21-50 | 4-21-50 | X | | |
| F. E. Adley<br>to: Army Chemical Center<br>Chemical Corporation<br>Technical Company<br>Edgewood Arsenal, Maryland | Seminar on aerosols | R. Macy | 4-3-50 | 4-5-50 | X | | |
| G. R. Hilst<br>to: Army Chemical Center<br>Chemical Corporation<br>Technical Company<br>Edgewood Arsenal, Maryland | Seminar on aerosols | R. Macy | 4-3-50 | 4-5-50 | X | | |
| F. E. Adley<br>to: Chicago, Illinois | Attend American Industrial Hygiene Association meeting | - - | 4-25-50 | 4-25-50 | | X | |
| J. Katz<br>to: Brookhaven National Lab.<br>Upton, Long Island, New York | Inspection of facilities and discussion of endocrine effects on radiation | A. Edelmann<br>L. Nims | 4-24-50 | 4-25-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| M. H. Joffe to: Brookhaven National Lab. Upton, Long Island, New York | Inspection of facilities and discussion of endocrine effects of radiation | A. Edelmann L. Nims | 4-24-50 | 4-25-50 | X | | |
| M. H. Joffe to: Argonne National Lab. Chicago, Illinois | Choice of animals to be used for future experiments | R. E. Zirkle A. M. Brues | 4-27-50 | 4-28-50 | X | | |
| INSTRUMENT DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| A. F. Sperry Panellit, Incorporated Chicago, Illinois | Consultation on pressure monitor system | E. Hilgeman | 4-5-50 | 4-5-50 | X | | 100-H 105 |
| PROJECT ENGINEERING DIVISIONS | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| H. Etherington Argonne National Laboratory Chicago, Illinois | In connection with first Hanford Pilot Channel Test Rig | J. T. Lloyd | 4-25-50 | 4-27-50 | X | | 300-All 100-F-105 100-H-105 |
| II. Visits to other Installations | | | | | | | |
| J. M. Heffner to: Gen. Eng. & Con. Lab. Schenectady, New York | Review of project 432 | D. H. Marquis D. E. Garr | 4-10-50 | 4-13-50 | X | | |
| H. R. Hughes to: Simonds Saw & Steel Co. Lockport, New York | Observe tests at rolling mill | A. D. Potts | 4-18-50 | 4-20-50 | X | | |
| H. R. Hughes to: General Electric Company Schenectady, New York | Discuss electric power requirements for proposed rolling mill | R. E. Marrs | 4-17-50 | 4-21-50 | | X | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| H. P. Shaw to: Simonds Saw & Steel Co. Lockport, New York | Study rolling mill tests | R. Potts | 4-18-50 | 4-20-50 | X | | |
| H. P. Shaw to: General Electric Company Schenectady, New York | Consult with engineers of Steel Mill Division | R. E. Marrs | 4-17-50 | 4-21-50 | | X | |
| W. D. Martin to: Puget Sound Naval Shipyard Bremerton, Washington | Conference on soil sampler which they are fabricating | S. L. Allison | 4-2-50 | 4-3-50 | | X | |
| W. D. Richmond to: Central Brass & Foundry Co. Portland, Oregon | Conference to determine delay in production of nozzles for Project C-347 | Mr. Bryant | 4-19-50 | 4-20-50 | | X | |
| W. D. Richmond to: Iron Fireman Company Portland, Oregon | Conference to determine delay in production of nozzles for Project C-347 | Mr. Goehler | 4-19-50 | 4-20-50 | | X | |
| J. S. McMahon to: Gen. Eng. & Con. Lab. Schenectady, New York | Conference on 432 Project, inspection and fabrication | D. H. Marquis | 4-26-50 | 4-27-50 | X | | |
| MANAGEMENT | | | | | | | |
| I. Visits to other Installations | | | | | | | |
| W. I. Patnode to: Knolls Atomic Power Lab. Schenectady, New York | Inspection and consultation | R. S. Neblett | 4-17-50 | 4-21-50 | X | | |
| II. Visitors to this Works | | | | | | | |
| R. C. Robin General Electric Company Schenectady, New York | Consultation of Hanford Works assistance to Schenectady | G. R. Prout<br>G. G. Lail | 4-18-50 | 4-21-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| E. C. Gilbert<br>Oregon State College<br>Corvallis, Oregon | Education Program with that college | F. Ellis Johnson<br>D. W. McLenegan<br>P. F. Gast<br>D. W. Pearce | 4-19-50 | 4-20-50 | X | | 100-H-105<br>200-W<br>221-T<br>300-All |
| E. A. Yunker<br>Oregon State College<br>Corvallis, Oregon | Education Program with that college | D. W. McLenegan<br>F. Ellis Johnson<br>P.F. Gast<br>D. W. Pearce | 4-19-50 | 4-20-50 | X | | 100-H-105<br>200-W-<br>221-T<br>300-All |
| A. D. Hughes<br>Oregon State College<br>Corvallis, Oregon | Education Program with that college | F. Ellis Johnson<br>D. W. McLenegan<br>P. F. Gast<br>D. W. Pearce | 4-19-50 | 4-20-50 | X | | 100-H-105<br>200-W<br>221-T<br>300-All |
| J. S. Walton<br>Oregon State College<br>Corvallis, Oregon | Education Program with that college | F. Ellis Johnson<br>D. W. McLenegan<br>P. F. Gast<br>D. W. Pearce | 4-20-50 | 4-20-50 | X | | 100-H-105<br>200-W<br>221-T<br>300-All |
| R. O. Bullard<br>Knolls Atomic Power Laboratory<br>Schenectady, New York | Consultation and inspection of our facilities | J. R. Rue<br>C. N. Gross | 4-4-50 | 4-5-50 | X | | 300-All<br>100-D-<br>105-D<br>200-W<br>221-T,<br>231 |

MANUFACTURING DIVISION MANAGEMENT

I. Visits to other Installations

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| H. D. Middel<br>to: Knolls Atomic Power Lab.<br>Schenectady, New York | Consultation on process equipment for Hanford Works | R. S. Neblett<br>B. R. Prentice | 4-24-50 | 4-28-50 | X | | |

MAINTENANCE DIVISION

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| I. Visitors to other Installations | | | | | | | |
| T. K. Andrews<br>to: Knolls Atomic Power Lab.<br>Schenectady, New York | Consultation on process equipment for Hanford Works | R. S. Neblett<br>B. R. Prentice | 4-24-50 | 4-28-50 | X | | |
| "P" DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| D. A. Westermeyer<br>Consolidated Freightways<br>Pasco, Washington | Pick up a shipment (a cask) | E. P. Lee | 4-5-50 | 4-5-50 | | X | 100-F XXX |
| II. Visits to other Installations | | | | | | | |
| E. P. Lee<br>to: Iron Fireman Company<br>Portland, Oregon | Inspect articles manufactured for Hanford Works | - - | 4-20-50 | 4-20-50 | | X | |
| POWER DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| A. H. Y. Hedner<br>Traveler's Insurance Company<br>Seattle, Washington | Inspect boiler houses | A. Frew | 4-12-40 | 4-13-50 | 200-E-XXX<br>200-W-XXX<br>300-XXX<br>101 Shops | X | 100-B-XXX<br>100-D-XXX<br>100-F-XXX<br>100-H-XXX |
| G. P. White<br>Roberts Filter Company<br>Darby, Pennsylvania | Inspect filter plant | H. F. Measley<br>A. Frew | 4-20-50 | 4-20-50 | | X | 100-H-XXX |
| II. Visits to other Installations | | | | | | | |
| H. A. Kramer<br>to: Portland, Oregon | Attend Columbia River Water Forecast Committee | - - | 4-21-50 | 4-21-50 | | X | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| J. A. Todd to: Puget Sound Power & Light Seattle, Washington | Fuel oil studies | H. H. Waldorf | 4-25-50 | 4-25-50 | | X | |
| J. A. Todd to: Puget Sound Power & Light Renton, Washington | Fuel oil studies | G. L. Artus | 4-26-50 | 4-26-50 | | X | |
| H. C. Lee to: Puget Sound Power & Light Seattle, Washington | Fuel oil studies | H. H. Waldorf | 4-25-50 | 4-25-50 | | X | |
| H. C. Lee to: Puget Sound Power & Light Renton, Washington | Fuel oil studies | G. L. Artus | 4-26-50 | 4-26-50 | | X | |
| "S" DIVISION | | | | | | | |
| I. Visits to other Installations | | | | | | | |
| R. S. Bell to: Gen. Eng. & Con. Lab. Schenectady, New York | Conferences on 432 Project | D. H. Marquis | 4-10-50 | 4-21-50 | X | | |
| W. A. Brown to: Gen. Eng. & Con. Lab. Schenectady, New York | Conferences on 432 Project | D. H. Marquis | 4-3-50 | Six months | X | | |
| J. J. Courtney to: Mallinckrodt Chemical Works St. Louis, Missouri | Consultation on design problems | W. H. Keller | 4-10-50 | 4-15-50 | X | | |
| H. E. Grantz to: Gen. Eng. & Con. Lab. Schenectady, New York | Conferences on 432 Project | D. H. Marquis | 4-10-50 | 4-21-50 | X | | |
| C. T. Groswith to: Gen. Eng. & Con. Lab. Schenectady, New York | Conferences on 432 Project | D. H. Marquis | 4-10-50 | 4-21-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| G. Thayer<br>to: Gen. Eng. & Con. Lab.<br>Schenectady, New York | Conferences on 432 Project | D. H. Marquis | 4-10-50 | 4-21-50 | X | | |
| PURCHASING AND STORES DIVISION | | | | | | | |
| I. Visitors to this Works | | | | | | | |
| D. A. Westermeyer<br>Consolidated Freightways<br>Pasco, Washington | Deliver load of material on order OGT-10831 | H. O. Monson | 4-3-50 | 4-3-50 | | X | 200-W<br>221-T |
| W. Nelson<br>Layrite Concrete Products Co.<br>Yakima, Washington | Deliver load of material on order HW-60887-M | H. O. Monson | 4-4-50 | 4-4-50 | | X | 100-B<br>XXX |
| J. W. Nelson<br>Layrite Concrete Products Co.<br>Yakima, Washington | Deliver load of material on order HW-60887-M | H. O. Monson | 4-5-50 | 4-5-50 | | X | 100-B<br>XXX |
| C. Freauff<br>Lee and Estes<br>Pasco, Washington | Deliver load of material on order HW 57849-M | H. O. Monson | 4-6-50 | 4-6-50 | | X | 100-DR<br>105-DR |
| W. Nelson<br>Layrite Concrete Products Co.<br>Yakima, Washington | Deliver load of material on order HW-60887-M | H. O. Monson | 4-6-50 | 4-6-50 | | X | 100-D<br>XXX |
| W. Nelson<br>Layrite Concrete Products Co.<br>Yakima, Washington | Deliver load of material on order HW-60887-M | H. O. Monson | 4-7-50 | 4-7-50 | | X | 100-F<br>105 |
| E. Winkelman<br>Inland Motor Freight<br>Pasco, Washington | Deliver material on order HW 57899-M | H. O. Monson | 4-13-50 | 4-13-50 | | X | 100-F<br>XXX |
| M. Kelso<br>Inland Motor Freight<br>Pasco, Washington | Deliver material on order HW-57899-M | H. O. Monson | 4-13-50 | 4-13-50 | | X | 100-F<br>XXX |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| E. Winkelman<br>Inland Motor Freight<br>Pasco, Washington | Deliver material on order HW-57899-M | H. O. Monson | 4-14-50 | 4-14-50 | | X | 100-H<br>XXX |
| G. Nulholland<br>Lee and Estes<br>Pasco, Washington | Deliver material on order HW-57899-M | H. O. Monson | 4-17-50 | 4-17-50 | | X | 105-DR |
| E. Winkelman<br>Inland Motor Freight<br>Pasco, Washington | Deliver material on order HW-57899-M | H. O. Monson | 4-17-50 | 4-17-50 | | X | 100-H<br>XXX |
| D. A. Westermeyer<br>Consolidated Freightways<br>Pasco, Washington | Deliver material on order 59627 | H. O. Monson | 4-17-50 | 4-17-50 | | X | 200-W<br>221-T<br>200-E<br>271-B |
| J. Janeick<br>Layrite Concrete Products Company<br>Yakima, Washington | Deliver material on order HW616k3-M | H. O. Monson | 4-18-50 | 4-18-50 | | X | 100-B<br>XXX |
| A. R. Wiegand<br>United Truck Lines<br>Pasco, Washington | Deliver material on order HW 59618-M | H. O. Monson | 4-18-50 | 4-18-50 | | X | 200-E<br>271-B<br>200-W<br>271-T |
| W. Nelson<br>Layrite Concrete Products Co.<br>Yakima, Washington | Deliver material on order HW 61613-M | H. O. Monson | 4-19-50 | 4-19-50 | | X | 100-B<br>105 |
| D. Mock<br>Consolidated Freightways<br>Pasco, Washington | Deliver material on order OGT -- | H. O. Monson | 4-19-50 | 4-19-50 | | X | 100-D<br>105 |
| E. Winkelman<br>Inland Motor Freight<br>Pasco, Washington | Deliver material on order HW 60897-M | H. O. Monson | 4-19-50 | 4-19-50 | | X | 200-W<br>271-T |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| W. Nelson<br>Layrite Concrete Products<br>Yakima, Washington | Deliver material on order HW 61613-M | H. O. Monson | 4-20-50 | 4-20-50 | | X | 100-B<br>108 |
| D. A. Westermeyer<br>Consolidated Freightways<br>Pasco, Washington | Deliver material on order HW 54849-M | H. O. Monson | 4-21-50 | 4-21-50 | | X | 105-DR |
| W. Nelson<br>Layrite Concrete Products<br>Yakima, Washington | Deliver material on Order HW 61613-M | H. O. Monson | 4-21-50 | 4-21-50 | | X | 100-B<br>108 |
| P. Sutphin<br>Richland Transfer<br>Richland, Washington | Deliver material on order HWC-7727 | H. O. Monson | 4-26-50 | 4-26-50 | | X | 100-D<br>XXX |
| F. Colbert<br>United Truck Lines<br>Pasco, Washington | Deliver material on order DC-49844 | H. O. Monson | 4-28-50 | 4-28-50 | | X | 200-E<br>XXX |

TECHNICAL DIVISIONS

I. Visitors and Consultants to this Works

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| J. Morfitt<br>Oak Ridge National Laboratory<br>Oak Ridge, Tennessee | P-11 consultation | P.F. Gast | 4-3-50 | 4-14-50 | X | | 300-3706<br>P-11 |
| H. B. Stewart<br>Knolls Atomic Power Laboratory<br>Schenectady, New York | Consultation on DR experiment | P. F. Gast | 4-17-50 | 5-5-50 | X<br>100-H-105<br>101<br>200-W-221-T, 231 | | 300-3706<br>100-D-105-D<br>105-DR |
| H. Etherington<br>Argonne National Laboratory<br>Chicago, Illinois | Consultation on ANL-140 | J. B. Lambert | 4-25-50 | 4-26-50 | X | | 300-3706<br>100-F-105<br>100-H-105 |

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DECLASSIFIED

[redacted]

| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| C. W. Watt<br>University of Texas<br>Austin, Texas | Research and development consultations | R. H. Beaton | 4-3-50 | 4-7-50 | X | | 300-3706, 321<br>200-E-221-B<br>200-W-221-T, 231, 234, 235<br>100-B-105 |
| II. Visits to other Installations | | | | | | | |
| G. B. Barton<br>to: Knolls Atomic Power Lab.<br>Schenectady, New York | Discuss and observe techniques in analytical chemistry | J. F. Flagg | 4-26-50 | 4-28-50 | X | | |
| G. B. Barton<br>to: Research Laboratory<br>Schenectady, New York | Discuss and observe techniques in analytical chemistry | H. A. Liebhafsky | 4-26-50 | 4-28-50 | X | | |
| G. B. Barton<br>to: Detroit, Michigan | Attend A.C.S. Meeting | - - | 4-17-50 | 4-21-50 | | X | |
| W. R. Felts<br>to: Knolls Atomic Power Lab.<br>Schenectady, New York | Consultation on extraction development program | Z. D. Sheldon | 4-3-50 | 4-7-50 | X | | |
| W. R. Felts<br>to: Gen. Eng. & Con. Lab.<br>Schenectady, New York | Consultation on extraction development program | R. A. Kohler | 4-3-50 | 4-7-50 | X | | |
| J. K. Figenshau<br>to: Lionel Corporation<br>Irvington, New Jersey | Discuss Lionel train equipment | J. L. Bananno | 4-13-50 | 4-14-50 | | X | |
| J. K. Figenshau<br>to: Gen. Eng. & Con. Lab.<br>Schenectady, New York | Observe developments in remote control equipment | D. H. Marquis<br>H. A. Moulthrop | 4-17-50 | 4-18-50 | X | | |
| J. K. Figenshau<br>to: Knolls Atomic Power Lab.<br>Schenectady, New York | Observe and discuss recent developments in remote control | H. H. Zornig<br>V. E. Flanders | 4-17-50 | 4-18-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Restricted Data Areas |
|---|---|---|---|---|---|---|---|
| J. K. Figenshau to: Argonne National Lab. Chicago, Illinois | Observe Argonne's developments on remote control equipment | F. Bevilacqua H. L. Hull | 4-19-50 | 4-20-50 | X | | |
| J. K. Figenshau to: K-25, Oak Ridge Lab. Oak Ridge, Tennessee | Observe developments in remote control equipment | F. W. Hurd | 4-21-50 | 4-21-50 | X | | |
| J. K. Figenshau to: Oak Ridge National Lab. Oak Ridge, Tennessee | Observe developments in remote control equipment | L. Emlet | 4-21-50 | 4-21-50 | X | | |
| Marselle G. Freidank to: Knolls Atomic Power Lab Schenectady, New York | Attend AEC meeting of document librarians | Jane S. Tucker | 4-27-50 | 4-28-50 | X | | |
| O. F. Hill to: Knolls Atomic Power Lab. Schenectady, New York | Redox consultation | J. Marsden | 4-19-50 | 4-21-50 | X | | |
| W. W. Koenig to: Knolls Atomic Power Lab. Schenectady, New York | Employment interview | G. W. Giddings | 4-25-50 | 4-28-50 | X | | |
| W. W. Koenig to: West Milton Plant Schenectady, New York | Employment interview | L. L. Ferguson | 4-25-50 | 4-28-50 | X | | |
| C. E. Lacy to: Simonds Saw & Steel Co. Lockport, New York | Serve as technical advisor on an experimental rolling test | A. D. Potts | 4-17-50 | 4-21-50 | X | | |
| W. H. McVey to: Knolls Atomic Power Lab. Schenectady, New York | Redox consultation | J. Marsden | 4-19-50 | 4-21-50 | X | | |
| O. F. Hill to: Detroit, Michigan | A.C.S. Meeting | [redacted] | 4-17-50 | 4-19-50 | | | X |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Declass | Areas |
|---|---|---|---|---|---|---|---|
| W. H. McVey to: Detroit, Michigan | A.C. S. Meeting | - - | 4-17-50 | 4-19-50 | | X | |
| A. R. Matheson to: Knolls Atomic Power Lab. Schenectady, New York | P-10 consultation | J. Marsden | 4-20-50 | 4-21-50 | X | | |
| D. W. Pearce to: Philadelphia, Pennsylvania | Attend A.C.S. meeting | - - | 4-9-50 | 4-12-50 | | X | |
| D. W. Pearce to: Pennsylvania State College State College, Pennsylvania | Technical recruitment | W. C. Fernelius | 4-13-50 | 4-13-50 | | X | |
| D. W. Pearce to: Leionel Corporation Irvington, New Jersey | Discuss Lionel train equipment | J. L. Bananno | 4-14-50 | 4-14-50 | | X | |
| D. W. Pearce to: Knolls Atomic Power Lab. Schenectady, New York | Observe and discuss recent developments in analytical chemistry and remote control | J. Marsden<br>J. F. Flagg<br>H. H. Zornig<br>V. E. Flanders | 4-17-50 | 4-18-50 | X | | |
| D. W. Pearce to: Gen. Eng. & Con. Lab. Schenectady, New York | Observe and discuss recent developments in analytical chemistry and remote control | D. H. Marquis<br>H. A. Moulthrop | 4-17-50 | 4-18-50 | X | | |
| D. W. Pearce to: Argonne National Lab. Chicago, Illinois | Observe and discuss recent developments in analytical chemistry and remote control | F. Bevilacqua<br>H. L. Hull | 4-19-50 | 4-20-50 | X | | |
| D. W. Pearce to: K-25, Oak Ridge Oak Ridge, Tennessee | Attent metting of AEC, SF Materials Standards Committee | F. W. Hurd<br>C.W. Thornton<br>C. F. Metz | 4-21-50 | 4-22-50 | X | | |
| D. W. Pearce to: Oak Ridge National Lab. Oak Ridge, Tennessee | Observe and discuss recent developments in chemistry, remote control | M. T. Kelly<br>L. Emlet | 4-21-50 | 4-22-50 | X | | |

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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| H. R. Schmidt to: University of Washington Seattle, Washington | Attend meeting with Chemistry Staff | - - | 4-6-50 | 4-7-50 | | X | |
| B. Weidenbaum to: Los Alamos Scientific Lab. Los Alamos, New Mexico | 234-5 consultation | M. Roy | 4-16-50 | 4-21-50 | X | | |
| H. F. Zuhr to: Knolls Atomic Power Lab. Schenectady, New York | Consultation on extraction development program | Z. D. Sheldon | 4-3-50 | 4-7-50 | X | | |
| H. F. Zuhr to: Gen. Eng. & Con. Lab. Schenectady, New York | Consultation on extraction development program | R. A. Kohler | 4-3-50 | 4-7-50 | X | | |
| H. F. Zuhr to: Los Alamos Scientific Lab. Los Alamos, New Mexico | P-10 consultation | E. S. Robinson | 4-25-50 | 4-27-50 | X | | |
| O. P. Amacker to: University of California Berkeley, California | Technical recruitment | - - | 4-17-50 | 4-18-50 | | X | |
| O. P. Amacker to: University of Nevada Reno, Nevada | Technical recruitment | - - | 4-19-50 | 4-19-50 | | X | |

MEDICAL DIVISION CONTINUED ---

I. Visits to other Installations

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| B. C. Scudder to: Argonne National Lab. Chicago, Illinois | Discuss mutual industrial problems | A. M. Brues<br>R. J. Hasterlik | 4-24-50 | 4-28-50 | X | | |

PLANT SECURITY AND SERVICES DIVISION

[redacted]

[redacted]

| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Restricted Data Class | Restricted Data Unclass | Areas |
|---|---|---|---|---|---|---|---|
| I.. Visits to other Installations | | | | | | | |
| R. G. Burrus to: Portland, Oregon | Arrangement, planning and detailing of security film made at Hanford Works | M. Pipes | 4-10-50 | 4-13-50 | | X | |



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PURCHASING AND STORES DIVISIONS
SUMMARY
APRIL, 1950

Personnel of the Purchasing and Stores Divisions showed a net increase of twenty-nine people as indicated by the tabulation below:

| | Total Personnel as of 3-31-50 | Total Personnel as of 4-30-50 | Net Change |
|---|---|---|---|
| Exempt | 55 | 57* | Plus 2 |
| Non-Exempt | 245 | 272** | Plus 27 |
| TOTALS | 300 | 329 | Plus 29 |

* Includes 5 Administrative personnel not shown on divisional reports.
** Includes 4 Administrative personnel not shown on divisional reports.

Despite the fact that the work load in the Purchasing Division decreased slightly during the month, it was necessary to work a few selected individuals overtime on Saturdays in order to keep current.

Procurement work for Projects P-10 A and P-10 B continued on an accelerated basis.

There was a slight increase in the number of purchase requisitions for Major Construction materials and equipment.

Arrangements were concluded with the Aluminum Company of America whereby they will supply our requirements of high purity aluminum to be used in connection with the P-10 operation.

Contract negotiations with General Chemical Division, Allied Chemical and Dye Corporation, for our requirements of aluminum nitrate were temporarily suspended pending selection of a plant site.

Coal inventories were built up to an average 3½ months' supply.

The Assistant Manager, Purchasing and Stores Divisions, visited the Kellex Offices in New York City in an effort to work out some of the problems encountered on purchase requisitions and drawings originating in New York.

Considerable difficulty was experienced by the vendor fabricating aluminum nozzles and at month end, it did not appear as though plant site required dates could be met. All interested Divisions were kept informed.

Materials valued at $93,369.85 were declared excess.

1,426 purchase requisitions were processed through screening resulting in 1,294 items being furnished from plant inventories, thus obviating the necessity for outside purchase.

Considerable increased activity is noted in both receiving and disbursing sections of active Stores.

PURCHASING AND STORES DIVISIONS
SUMMARY
APRIL, 1950

Due to a Commission directive to the effect that the Pasco Depot be evacuated no later than November 23, 1950, it was necessary to double the personnel engaged in shipping activity. The Commission was advised that every effort would be made to evacuate the Depot by the date indicated; however, it was pointed out that it would be necessary that we be supplied shipping orders sufficiently in advance to permit orderly and efficient shipments.

Materials and equipment valued at $487,916.40 were removed from excess inventories and returned for use on the Project.

A meeting was held with Northern Pacific and Union Pacific Railroad officials to discuss operating and traffic practices and procedures which will be followed after the completion of the southern rail connection.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION
APRIL, 1950

GENERAL

The work load decreased slightly during the month. 1,985 purchase orders were placed as compared to 2,052 placed in March. 2,765 purchase requisitions were received and assigned as compared with 3,282 during March. Requisitions on hand at month end totaled 764 as compared with 1,062 at the end of the previous month.

Further work continued on an accelerated basis for projects P-10-A and P-10-B. All requisitions received were promptly placed and careful follow-up was maintained by Expediting to insure delivery as required.

The number of requisitions for major construction material and equipment increased slightly during the month. 34 requisitions were received on the 100-DR Water Works project, 55 requisitions on MJ-1, 6 on MJ-2 and 36 on MJ-3. The MJ-3 project was transferred from D&C to Project Engineering and has been renumbered to Project 343. The M&E lists furnished on each of these projects were assigned to individuals in Expediting who are responsible for maintaining an up-to-date status on each item contained in the M&E lists.

Deliveries on high purity aluminum required in the operation of P-10 became critical and special arrangements were concluded with the Aluminum Company of America to meet our requirements. The purchase of this material was transferred to the Essential Material Buyer in order to properly control plant inventories. In order to insure a steady flow of extruded rods made from the high purity aluminum, a survey was made of additional extrusion plants and invitations to bid were mailed to five additional prospective fabricators. In the past this work has been done exclusively by the Detroit Gasket and Manufacturing Company.

Contract negotiations with General Chemical Division, Allied Chemical and Dye Corporation on the ANN contract are being held in abeyance pending the acquisition of a plant site. The General Chemical Division indicates that final arrangements for the purchase of a plant site will be completed during the month of May.

Contracts for nitric acid and ammonium silico fluoride are being reviewed by the General Electric Legal Division. Du Pont was the successful bidder for the nitric acid contract for the next twelve-month period.

Requests for bids have been mailed to prospective suppliers on our requirements for potassium hydroxide, soda ash, argon gas, rock salt and steam coal.

Coal stocks have been returned to the proper level and inventories now stand at approximately 3½ months' supply.

The Assistant Manager, Purchasing and Stores Divisions, made a trip to the Kellex Corporation, New York, in order to work out some of the purchasing problems encountered on Kellex originated requisitions and drawings. The results of this trip were as follows:

1. Design will not issue any purchase requisitions to Purchasing unless General Electric "approved for construction" drawings accompany the requisitions.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

GENERAL (Cont.)

2. Purchase requisitions presently in the hands of the Purchasing Division on which General Electric approved drawings were not available were returned to the Kellex Corporation via the Separations Division D&C.

3. A new Design, Procurement, and Construction Schedule will be issued on the basis that approved drawings must be available before purchasing action can be taken.

Considerable difficulty has been encountered by the vendor fabricating aluminum nozzles and, at month end, it could not be determined if this vendor would meet our plant site delivery requirements. Receipt of porous aluminum castings from the foundries was responsible for the difficulty.

PERSONNEL

| | Total Personnel as of 3-31-50 | Total Personnel as of 4-30-50 | Net Change |
|---|---|---|---|
| Exempt | 30 | 32 | Plus 2 |
| Non-Exempt | 29 | 33 | Plus 4 |
| TOTALS | 59 | 65 | Plus 6 |

SAFETY AND SECURITY

| | |
|---|---|
| Safety and Security Meetings scheduled | 1 |
| Number of Employees attending | 65 |
| Minor Injuries | 1 |

STATISTICS

| | G | D | Total |
|---|---|---|---|
| Requisitions on hand 4-1-50 (includes 95 assigned to Govt.) | 936 | 126 | 1,062 |
| Requisitions assigned during April | 2,525 | 240 | 2,765 |
| Requisitions placed during April | 2,821 | 242 | 3,063 |
| Requisitions on hand 4-30-50 (includes 60 assigned to Govt.) | 640 | 124 | 764 |

| | | Number | Value |
|---|---|---|---|
| HW Orders placed | | 1,836 | $501,114.42 |
| HW Alterations placed | | 117 | 7,602.94 Cr. |
| | Total | 1,953 | $493,511.48 |
| HWC Orders placed | | 149 | 437,143.86 |
| HWC Alterations placed | | 40 | 84,272.11 Cr. |
| | Total | 189 | $352,871.75 |
| AEC Orders placed | | 179 | $102,768.11 |
| DC Orders placed | | 17 | 116,781.82 |

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISIONS

STATISTICS (Cont.)

| | OR | ORC | TOTAL |
|---|---|---|---|
| Government Transfers | 6 | 1 | 7 |

Open Orders

| | |
|---|---|
| HW Orders | 1,524 |
| HWC Orders | 295 |
| Govt. Orders | 40 |

| | |
|---|---|
| Number of new orders requiring inspection during month | 48 |
| Number of orders requiring inspection completed during month | 33 |
| Number of orders outstanding requiring inspection at month end | 87 |
| HW Orders expedited (Special Request) | 494 |
| HW Orders expedited (Routine) | 515 |
| HWC Orders expedited (Routine) | 250 |

PURCHASING AND STORES DIVISIONS
STORES DIVISION
APRIL, 1950

GENERAL

Materials valued at $93,369.85 ($90,558.31 maintenance materials, $2,811.54 spare parts) were declared excess from Stores active inventories during the month. This was accomplished by excessing materials representing more than a year's supply and by the deletion of 113 obsolete stock items.

Excessing of spare parts originally purchased for the 186 Buildings was started and was progressing satisfactorily at month end.

1,426 purchase requisitions were processed through screening and 1,294 items were furnished from plant inventories.

The number of purchase requisitions issued for reorder of active inventory items was reduced by approximately 10%. This was accomplished by study and control of reorders.

During the month, Stores active inventories heretofore warehoused at the Pasco Depot were consolidated with warehouse stocks at Richland and North Richland.

Receipts of incoming shipments increased approximately 60% reflecting a total of 5,008 receiving reports being issued, while the value of disbursements increased proportionately.

During the month a revised directive to evacuate the Pasco Depot by November 23, 1950 was received from the Commission. In order to accomplish the foregoing, it was necessary to double personnel engaged in shipping activities and requisitions for additional personnel were issued.

We were authorized by the Commission to eliminate from future excess lists all materials and supplies having an acquisition cost of $100.00 per line item or less. Line items valued at $100.00 or less are listed on shipping orders for immediate shipment to consignee as directed by the Property Branch of the Commission. This has materially reduced the value of formal excess lists submitted to the Commission during the month.

Preliminary plans were formulated to accept the control of equipment and materials resulting from the dismantling of the "U" plant at such time as that project gets underway.

Materials and equipment valued at $487,916.40 were removed from excess and returned for use on the Project.

Formal excess lists totaling $65,162.01 were submitted to the Commission during the month, and 238 shipping documents were processed.

Eighty representatives of government and private businesses were escorted through our warehouses and scrap yards for the purpose of negotiating the purchase of scrap and the transfer of excess property.

PURCHASING AND STORES DIVISIONS
STORES DIVISION

PERSONNEL

| | Total Personnel as of 3-31-50 | Total Personnel as of 4-30-50 | Net Change |
|---|---|---|---|
| Exempt | 18 | 18 | 0 |
| Non-Exempt | 207 | 230 | Plus 23 |
| TOTALS | 225 | 248 | Plus 23 |

SAFETY AND SECURITY

| | |
|---|---|
| Safety and Security Meetings Scheduled | 10 |
| Number of Employees attending | 231 |
| Minor Injuries | 8 |

STATISTICS

Construction Materials Inventory Control

| | |
|---|---|
| Items in Stores Stock | 55,797 |
| Items in Small Tools (Estimated) | 17,800 |
| Items added to Stock | 1,899 |
| Items completely liquidated from Stock | 5,836 |
| Store Orders Filled - Materials (Items) | 5,989 |
| Store Orders Filled - Tools (Items) | 12,204 |
| Number of Requisitions screened - A.J. | 246 |
| Number of Requisitions screened - G.E. | 1,472 |
| Number of Items furnished from Stock | 1,404 |
| Value of Material offered by screening | $20,433.75 |
| Value of Disbursements - Materials | 428,673.91 |
| Value of Disbursements - Tools | 839,702.02 |
| Inventory Valuation at month end - Materials | 9,783,485.10 |
| Inventory Valuation at month end - Tools | 1,440,812.94 |

Inventory Control Section

| | |
|---|---|
| Number of items added to Stores Stock | 154 |
| Number of items deleted from Stores Stock | 113 |
| Items in Stores Stock at month end | 47,984 |
| Store Orders filled | 19,484 |
| Number of requisitions screened this month | 1,426 |
| Number of items furnished from plant sources this month | 1,294 |
| Inventory valuation at month end (903-all captions, 906 & 912) | $1,280,458.99 |
| Inventory valuation at month end (Spare Parts) | 1,657,059.04 |
| Inventory valuation at month end (Special Materials) | 3,195,781.91 |
| Total value Inventory Accounts | 6,133,299.94 |
| Value of disbursements, not including cash sale items | 271,464.62* |
| Value of Cash Sales | 984.00 |
| Value of materials declared excess | 93,369.85 |
| Value of materials returned to Stores Stock for credit | 4,115.77 |

* Includes $15,338.68 disbursed to Construction and CPFF subcontractors

Receiving, Warehousing & Disbursing

| | |
|---|---|
| Receiving Reports issued | 5,008 |
| Emergency Store Orders filled | 2 |

PURCHASING AND STORES DIVISIONS
STORES DIVISION

STATISTICS (Cont.)

| | | |
|---|---|---|
| **Receiving Warehousing & Disbursing (Cont.)** | | |
| Returnable containers on hand at month end | | 6,707 |
| Returnable containers on hand over six months | | 1,677 |
| Shipments processed (containers and material) | | 158 |
| Store orders filled 3-25 to 4-21 | | 22,218 |
| **Surplus, Salvage & Scrap** | | |
| **Excess Account 10.10 Balance 3-25-50** | | $18,276,439.08 |
| Receipts 3-25-50 to 4-25-50 | | |
| Lumber | $ 6,073.24 | |
| Automotive Equipment | 41,250.46 | |
| Machine Tools and Equipment | 924.02 | |
| Office Furniture, Machines, etc. | 22,640.87 | |
| Household Furniture, etc. | 281.62 | |
| Material and Supplies | 114,234.07 | |
| Miscellaneous Equipment | 3,801.05 | |
| | $189,205.33 | 189,205.33 |
| | | $18,465,644.41 |
| Disbursements 3-25-50 to 4-25-50 | | |
| On Project | | |
| Lumber | $ 2,918.25 | |
| Automotive Equipment | 251,054.73 | |
| Machine Tools and Equipment | 43,934.30 | |
| Office Furniture, Machines, etc. | 505.32 | |
| Material and Supplies | 147,337.47 | |
| Miscellaneous Equipment | 42,166.33 | |
| Off Project | | |
| Lumber | 233,675.41 | |
| Automotive Equipment | 54,821.52 | |
| Machine Tools and Equipment | 2,294.53 | |
| Office Furniture, Machines, etc. | 10,722.70 | |
| Household Furniture, etc. | 13,359.02 | |
| Material and Supplies | 187,629.01 | |
| Miscellaneous Equipment | 31,107.41 | |
| | $1,021,526.00 | 1,021,526.00 |
| Balance Account 10.10 as of 4-25-50 (See attached list for breakdown of materials in this account by classifications) | | $17,444,118.41 |
| Total Receipts to Date | | $29,918,875.57 |
| Total Disbursements to Date | | 12,474,792.68 |
| Scrap Sales Completed | | 8 |
| Scrap Sale Revenue as of 3-25-50 | | 54,376.38 |
| Scrap Sale Revenue as of 4-25-50 | | 4,488.59 |
| Total Scrap Revenue to Date | | $58,864.97 |

PURCHASING AND STORES DIVISIONS
STORES DIVISION

## RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10

| Class | Description | Monetary Value |
|---|---|---|
| 2 | Small Arms | $ 1,301.16 |
| 3 | Lethal Device | 10.00 |
| 4 | Ammunition | 3.28 |
| 5 | Flags | 195.21 |
| 7 | Fuel | 601.03 |
| 8 | Motor Vehicles | 715,548.83 |
| 9 | Boats | 7.00 |
| 10 | Outboard Motors | 5,386.98 |
| 11 | Pumps and Parts | 161,918.70 |
| 12 | Marine Hardware | 2,299.62 |
| 13 | Engine and Fireroom | 5,916.77 |
| 14 | Lubricants | 27,776.53 |
| 15 | Elec. Cable | 63,943.55 |
| 16 | Radio App. | 25,590.28 |
| 17 | Elec. Apparatus | 1,324,829.89 |
| 18 | Instruments | 69,884.09 |
| 19 | Blocks | 33,521.64 |
| 21 | Cordage | 16,418.31 |
| 22 | Wire Rope | 51,355.35 |
| 24 | Canvas, Duck | 14,841.77 |
| 26 | Furniture | 221,476.50 |
| 27 | Textiles | 424,222.93 |
| 29 | Toilet Articles | 8,086.10 |
| 30 | Bathroom Fixtures | 56,449.67 |
| 31 | Non-Electric Lighting Apparatus | 2,014.47 |
| 32 | Fire Surfacing | 56,177.58 |
| 33 | Gaskets | 135,228.02 |
| 34 | Belting | 5,247.04 |
| 37 | Wearing Apparel | 122,276.97 |
| 38 | Brooms | 8,094.37 |
| 39 | Lumber | 504,650.45 |
| 40 | Machine Tools | 664,199.88 |
| 41 | Hand Tools | 443,735.00 |
| 42 | Builders and General Hardware | 242,997.54 |
| 43 | Bolts, Nuts, etc. | 388,149.03 |
| 44 | Pipes, Tubes | 1,133,498.57 |
| 45 | Pipe Fittings | 2,549,577.84 |
| 46 | Metal in Bars | 186,211.33 |
| 47 | Metal in Plates | 158,779.01 |
| 48 | Metal Shapes | 47,775.54 |
| 51 | Acids | 72,911.48 |
| 52 | Paints | 149,250.60 |
| 53 | Pens | 33,876.07 |
| 54 | Office Equipment | 80,738.72 |
| 55 | Clothing | 6,576.69 |

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10 (Cont.)

| Class | Description | Monetary Value |
|---|---|---|
| 57 | Laboratory Equipment | 81,061.68 |
| 58 | Fire Apparatus | 376,779.70 |
| 59 | Building Material | 179,176.40 |
| 60 | Boilers | 131,749.84 |
| 63 | Tableware | 689.13 |
| 64 | Kitchenware | 52,083.65 |
| 65 | Ovens, Stoves | 13,895.67 |
| 66 | Machinery | 489,712.84 |
| 69 | Vehicles | 13,342.87 |
| 70 | Agricultural Implements | 1,402.37 |
| 71 | Badges | 1,602.00 |
| 72 | Leather Boots | 7,048.74 |
| 74 | Infantry Equipment | 630.93 |
| 78 | Motor Equipment | 5,774,478.75 |
| 83 | Airplane Accessories | 340.33 |
| | Suspense (Equipment adjustments not yet processed) | 91,563.12 |
| | Total of Account 10.10 as of April 25, 1950 | $17,444,118.41 |

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION
APRIL, 1950

GENERAL

Effective April 14, 1950 the Washington Public Service Commission granted rail carriers permission to increase intrastate rates to the bases applicable on interstate shipments. This had the effect of increasing all intrastate rates by 4% with the exception of rates on Cement and Limestone which were not increased.

Effective April 18, 1950 the Railway Express Agency increased its rates approximately 10%.

On April 20, 1950 the principal Northwest operating and traffic officials of the Northern Pacific and Union Pacific Railroads met in Richland with the Transportation Officer of the Atomic Energy Commission, the Transportation Superintendent and Chief Supervisor - Traffic of General Electric Company to discuss operating and traffic practices and procedures which would be followed on and after the opening of the Southern rail connection in May. Although each line indicated that it would perform its own service to and from the Project, General Electric Company requested the two railroads to seriously consider a joint operation which would result in many advantages to the Project.

At the meeting referred to above, the Traffic Managers for both the Northern Pacific and Union Pacific Railroads suggested that the routing of all rail freight to and from the Project, including even freight for Lump Sum Subcontractors and facility operators be placed under the jurisdiction of this Section in order to insure the three lines serving the Project a fair share of all competitive traffic. The Transportation Officer for the Atomic Energy Commission stated he would investigate the possibility of such a plan.

As a result of rate reductions obtained from the carriers, there was a total savings in freight charges for the month of April amounting to $41,670.97. This makes a total savings from September 1, 1946 to date of $1,338,928.79.

PERSONNEL

| | Total Personnel as of 3-31-50 | Total Personnel as of 4-30-50 | Net Change |
|---|---|---|---|
| Exempt | 2 | 2 | 0 |
| Non-Exempt | 5 | 5 | 0 |
| TOTALS | 7 | 7 | 0 |

SAFETY AND SECURITY

| | |
|---|---|
| Safety and Security Meetings Scheduled | 1 |
| Number of Employees attending | 7 |
| Minor Injuries | 0 |

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS

Savings Report

1. Rate Reductions obtained from the carriers:

| Commodity | Origin | Savings for April | Savings 9-1-46 thru March,1950 | Total Savings 9-1-46 to date |
|---|---|---|---|---|
| Acid, Nitric | Dupont, Wash. | $1,147.15 | | |
| Acid, Sulphuric | Dupont, Wash. | 184.64 | | |
| Coal, Mine Run | Colstrip, Mont. | 37,207.56 | | |
| Gas, Chlorine | Tacoma, Wash. | 786.00 | | |
| Iron & Steel | Niles, Calif. | 145.40 | | |
| Soda, Caustic | Willbridge, Ore. | 1,475.97 | | |
| Ferric Sulphate | Stege, Calif. | 724.25 | | |
| | | $41,670.97 | $1,297,257.82 | $1,338,928.79 |
| 2. Freight Bill Audit | | 319.02 | 46,557.25 | 46,876.27** |
| 3. Loss and Damage and Overcharge Claims | | 2,502.90 | 92,832.92 | 95,335.82 |
| 4. Ticket Refund Claims | | 244.99 | 7,725.77 | 7,970.76 |
| 5. Household Goods Claims | | - | 13,843.71 | 13,843.71 |
| | | $44,737.88 | $1,458,217.47 | $1,502,955.35 |

** Includes $19,495.23 for the AEC

Work Volume Report

| | | |
|---|---|---|
| Reservations Made | Rail | 29 |
| | Air | 113 |
| | Hotel | 63 |
| Expense Accounts Checked | | 102 |
| Household Goods & Automobiles | Movements arranged inbound | 3 |
| | Movements arranged outbound | 4 |
| | Insurance riders issued | 5 |
| | Claims filed | 4 |
| Ticket Refund Claims | Filed | 15 |
| | Collected - Number | 15 |
| | Collected - Amount | $244.99 |
| Freight Claims | Filed | 9 |
| | Collected - Number | 9 |
| | Collected - Amount | $2,502.90 |
| Freight Bill Audit Savings | | $319.02 |
| Freight Shipments Traced | | 66 |

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Work Volume Report (Cont.)

| | | | |
|---|---|---|---|
| Quotations | Freight Rates | 152 | |
| | Routes | 142 | |
| Bills Approved | Boat | 4 | |
| | Air Express | 4 | |
| | Carloading | 96 | |
| | Express | 126 | |
| | Rail | 1,294 | |
| | Truck | 202 | |
| Carload Shipments | Inbound - GE | 1,369 | |
| | Others | 33 | |
| | Outbound - GE | 32 | |
| | Others | 0 | |

Report of Carloads Received

| | | | |
|---|---|---|---|
| Atkinson & Jones Construction Company | Asphalt | 1 | |
| | Merchandise | 1 | |
| | Mineral Wool | 2 | |
| | Pipe | 4 | |
| | Rails | 1 | |
| | Roofing | 2 | |
| | Sand | 3 | |
| | Steel | 16 | |
| | Wallboard | 1 | |
| Bonneville Power Administration | Circuit Breakers | 1 | |
| Rust Engineering Company | Contractor's Equipment | 1 | 33 |
| General Electric Company | Air Cleaners | 1 | |
| | Ammonium Silico Fluoride | 1 | |
| | Argon Gas | 1 | |
| | Castings | 1 | |
| | Caustic Potash | 1 | |
| | Caustic Soda | 8 | |
| | Cement | 40 | |
| | Chlorine | 2 | |
| | Coal | 1,267 | |
| | Enamelware | 1 | |
| | Express | 2 | |
| | Ferric Sulphate | 3 | |
| | Grinding Balls | 1 | |
| | Lime | 4 | |
| | Merchandise | 8 | |

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Report of Carloads Received (Cont.)

| | | |
|---|---|---|
| Nitric Acid | 9 | |
| Nitrate of Soda | 1 | |
| Poles | 2 | |
| Pipe | 3 | |
| Plumbers Goods | 1 | |
| Roofing Compound | 1 | |
| Soda Ash | 1 | |
| Sodium Nitrite | 1 | |
| Steel Angles | 1 | |
| Steel Assemblies | 2 | |
| Sulphuric Acid | 1 | |
| Ties | 4 | |
| Weed Killer | 1 | 1,369 |
| Total Entire Project | | 1,402 |

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

SUMMARY -- APRIL, 1950

Employment activity continued to increase during the month of April, with 1,888 applicants being interviewed, 460 of which were individuals who had applied for employment with the Company for the first time. In addition, 143 new applications were received through the mail. Open nonexempt, non-technical requisitions increased from 152 at the beginning of April to 241 at the end of the month. Total plant personnel increased from 7,565 to 7,646. Turn-over rate during April increased from .85% to .89%. 85 new requests for transfers to other type of work were received by the Procurement Group from employees in the various Divisions. As a result of these requests, a total of 32 transfers were effected. Work was located for two of our retired employees in the Medical Clinic building for the doctors going into private practice. Positions of janitors were offered to these two men, who in turn accepted the offers. A recruiting trip for stenographers was conducted in Spokane, Washington, on April 7 and 8. The results were quite disappointing with only five persons making application, and one offer being made.

The G.E. Employees Services Fund was revised during the month to permit employees to designate organizations to whom contributions should be made, as well as to designate the amount which they desired to contribute to each organization. As of the end of the month there was only 60.9% participation in this fund with a required 70% necessary to place it into effect. A representative of the Infantile Paralysis Foundation, Pacific Mutual Life Insurance Company, and also the Metropolitan Insurance Company visited the Employee Services Group during April. Financial assistance, as well as living quarters, were obtained for a new employee in the Health Instrument Division during April. Visits were made to the homes of 21 retired employees in the Tri-City Area. As a result of these visits, nine contacts were made with former employees. Arrangements were made for distribution of G.E. Group Health Insurance certificates and Stock Bonus Receipts, together with a copy of the Company's Annual Report, to all participants in these plans during April. 168 visits were made to employees off the payroll because of illness. Five employees retired during the month of April, and were interviewed by the Employee Services Group concerning their benefit plans prior to retirement. Two employee deaths occurred during April. 49 suggestion awards totaling $ 1,545, were granted to employees during April. These awards represented an estimated savings of $ 27,019.50. One award, in the amount of $ 1,000, was granted which is the largest award which has been granted by the Suggestion System since it was installed at this Works. Four publications of Employee Benefit Plans were prepared for release to the Works News during April. Information concerning the Washington State Financial Responsibility Act of 1949 which went into effect February 1, was furnished to all supervisors through a recent H.W. Instructions Letter issued April 24, 1950.

Twenty-eight supervisors participated in the Supervisor's 40-Hour Training Program during April. The Current Event Economics Program for nonexempt employees was continued by the Training and Program Development Group during April, with a total of 3,967 nonexempt employees participating. A 25-page portfolio on the G.E. Employee Services Fund was prepared by the Training and Program Development Group and distributed to all exempt personnel at the

Employee and Community Relations Divisions
Summary

Hanford Works. During the week of April 10-14, a total of 40 meetings were made available to supervisors for further explanation of the Employee Services Fund. Seven revisions on the Supervisor's Handbook on Employee Relations were issued during April. A plan for recognizing perfect attendance for nonexempt employees was prepared for consideration by Management.

A proposal was submitted to the Council that the Company furnish bulletin boards for the exclusive use of the Union in all areas and an acceptance has not yet been received. The Union, rather than the Company, will then post Union notices. After an agreement was reached with the Council on April 20, wherein a distinction was made between the various types of possible overtime, work was begun on an instructions letter. A copy of a letter to the United Gas, Coke and Chemical Workers of America from the National Labor Relations Board was received, stating that the CIO's petition for investigation and certification of employees at Hanford Works had been dismissed. Negotiation meetings with the Firemen's Union continued. The Company outlined its objections and presented substantiating data to the series of proposals submitted by the Union. On April 18, a letter was received from the HAMTC stating the Council desired to negotiate with the Company the question of a wage increase. One meeting was held with the Council Grievance Committee. As a result of the recent instructions given Division Managers concerning the review of exempt jobs to determine if some should be nonexempt, conferences were held with representatives of 3 divisions and a total of 11 jobs were discussed. In 5 instances exempt employees were transferred to the nonexempt roll and the remaining jobs are being given further study by the divisions involved. An analysis, made upon the completion of a survey of those Atomic Energy Commission jobs which fit the description of those positions listed in the General Electric Company Northwest Wage Survey, revealed a startling difference in that the rates paid to government employees are well above the average rate paid General Electric personnel. Intensive efforts were made to conclude the matter created by the decisions of the various craft unions to observe only Pacific Standard Time relative to hours of work during the period the Hanford Project is on Daylight Savings Time, but at month end the matter was not resolved. Negotiation meetings were attended when the Agreement between Atkinson-Jones and the Office Workers Local No. 100 was reopened during the month. Negotiations of wage revisions between Atkinson-Jones and Ironworkers Local No. 14 were attended by this Division.

April was a peak month of activity in the Nucleonics Department News Bureau. A total of 74 releases was made including information on organization changes, news of interest to Richland residents, the Hanford Works construction program, the Telephone "Open House", the plant safety record, the $ 1000 suggestion award to a Hanford Works employee, Kadlec Hospital, and the Company's various employee benefit plans in effect at Hanford Works.

Special Programs was responsible for handling all of the arrangements concerning the Telephone "Open House" held on April 29 and has also been busily engaged in planning for a similar activity at Kadlec Hospital to be held next month. Special Programs also played an important part in advising supervisors and employees of the changes made in the Employee Services Fund.

Employee and Community Relations Divisions
Summary

The $ 1,000 suggestion award to a Hanford Works employee during the month provided Special Programs an opportunity to design and conduct a special presentation meeting in which the Vice President in charge of the Nucleonics Department participated.

Hanford Works NEWS served as the medium for publicizing the Employee Services Fund to Hanford Works people during the month of April. In addition, it participated in community service activities including the Cancer Drive, the Red Cross Bloodmobile program, and the Telephone "Open House" held during April as well as the Kadlec Hospital "Open House" to be held next month.

As a community service the Supervisor of Community Divisions Public Information served as publicity chairman of the 1950 Cancer Drive in Benton County. The Cancer Committee has advised that, in its opinion, the success of the drive was largely due to the excellence of the Publicity Committee.

The Women's Activities Feature Writer was instrumental in the preparation of a special publicity feature concerning the visit of the Bloodmobile to Richland during April. In addition, through the "What's Doing?" column which she prepares for the Works NEWS, publicity was given to a total of 20 recreational events in which Works NEWS readers could participate.

Through Public Functions and Services two speakers were arranged for during the month of April. One was for the Inland Empire Section of the A.S.M.E. at the Desert Inn in Richland, and the other was the Kiwanis Club in Kennewick, Washington.

The Hanford Works Photo House produced over 1,000 feet of motion picture film during the month of April. During the same month photographic assignments increased by 20 over the previous month and the number of negatives exposed increased by 40.

## EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

### APRIL, 1950

### ORGANIZATION AND PERSONNEL

#### Employee Relations

Employment:

Effective April 13, 1950, an Employment Interviewer and Investigator "B" was employed and assigned to the Procurement and Procedures Group.

Effective April 24, a General Clerk "B" was transferred from the Medical Division, and assigned to the Procurement and Procedures Group to replace a General Clerk "B" transferred, effective April 21, from that Group to the Union Relations and Wage Rates Division.

Effective April 27, a General Clerk "D" was engaged and assigned to the Investigation and Files Group to replace one who resigned effective April 7.

Effective April 28, a General Clerk "E" assigned to the Investigation and Files Group was removed from the payroll as a result of absence due to a compensable injury.

Employee Services:

Effective April 7, a Stenographer-Typist "D" was engaged and assigned to the Insurance and Compensation Group to fill an existing vacancy.

Effective April 21, a General Clerk "D" was engaged and assigned to the Suggestion System Group.

Training and Program Development:

There were no organization changes in this group during the month of April.

#### Union Relations and Wage Rates

Effective April 6, 1950, a Stenographer-Typist "B" was transferred to this Division from the Stenographic Services Section.

Effective April 7, 1950, a Stenographer-Typist "B" terminated voluntarily.

Effective April 21, 1950, a General Clerk "B" was transferred from the Employment Group to this Division.

Employee and Community Relations Divisions
Organization and Personnel

Community and Public Relations

Effective April 3, 1950, a General Clerk "D" was transferred to Health Instrument Development Division.

| Number of employees on payroll | March, 1950 |
|---|---|
| Beginning of month | 84 |
| End of month | 84 |
| Net gain | 0 |

Employee and Community Relations Divisions

## ACTIVITIES

### Employee Relations

Employment:

| | March, 1950 | April, 1950 |
|---|---|---|
| Applicants interviewed | 1,950 | 1,888 |

460 of the above applicants interviewed during April were individuals who applied for employment with the General Electric Company for the first time. In addition, 143 new applications were received through the mail.

| Open requisitions: | March, 1950 | April, 1950 |
|---|---|---|
| Exempt | 5 | 5 |
| Nonexempt | 152 | 241 |

Of the 152 open nonexempt requisitions at the beginning of the month, 93 were covered by interim commitments. Of the 241 open nonexempt requisitions at the end of the month, 136 were covered by interim commitments. In addition, 5 exempt requisitions were being processed.

| | March, 1950 | April, 1950 |
|---|---|---|
| Employees added to the rolls | 177 | 155 |
| Employees removed from the rolls | 76 | 76 |
| Net gain or loss | + 101 | + 81 |

Of the 74 employees removed from the rolls during April, 6 were terminated due to lack of work, of which 1 was outside the bargaining unit.

| Turn-over: | March, 1950 | | April, 1950 | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| Including employees laid off for lack of work | .646% | 2.5 % | .56 % | 2.65 % |
| Excluding employees laid off for lack of work | .48 | 2.36 | .46 | 2.65 |

| Overall plant turn-over: | March, 1950 | April, 1950 |
|---|---|---|
| Including employees laid off for lack of work | 1.01 % | .97% |
| Excluding employees laid off for lack of work | .85 | .89 |

Employee and Community Relations Divisions

During the month of April, a considerable number of employees who were laid off for lack of work in the spring of 1949 were permanently removed from the G.E. rolls due to the fact that they had been off the payroll for over twelve months. As a result the total number of employees in lack of work status was reduced materially. At the end of April there were a total of 276 employees in lack of work status divided into the following categories:

| | March, 1950 | April, 1950 |
|---|---|---|
| Nonbargaining unit employees | 212 | 110 |
| Bargaining unit employees | 186 | 166 |

During the month of April, 85 new requests for inter-Divisional transfers were received and reviewed by the Procurement Group. Transfers were effected for a total of 32 of those employees who had filed requests for consideration for transfer In addition, transfers were effected for 13 employees who had received notice of termination due to lack of work.

At the request of the Medical Clinic, which is composed of those doctors who were to leave the Company and go into private practice effective May 1, 1950, for assistance in securing two janitors, two of our retired employees were referred to the Medical Clinic, and it is our understanding that both of these retired employees were offered jobs and accepted.

Need for additional stenographers necessitated a recruiting trip for this type personnel to Spokane, Washington, on April 7 and 8. The results of this trip were quite disappointing. Only 5 individuals were interviewed, 3 of which were candidates for positions as stenographers. Two of these persons who applied failed to meet our standards, the third was satisfactory and accepted an offer and is now working.

Employment Statistics:

| Number of employees on rolls | 3-31-1950 | 4-30-1950 |
|---|---|---|
| Exempt | 1,728 | 1,759 |
| Nonexempt | 5,837 | 5,887 |
| TOTAL | 7,565 | 7,646 |

ADDITIONS

| | Exempt | Nonexempt | Total |
|---|---|---|---|
| New Hires | 18 | 101 | 119 |
| Re-engaged | 1 | 24 | 25 |
| Reactivations | 0 | 10 | 10 |
| Transfers (from other plants) | 1 | 0 | 1 |
| Actual Additions | 20 | 135 | 155 |
| Payroll Exchanges | 21* | 1 | 22 |
| Gross Additions | 41 | 136 | 177 |

* Transferred from Weekly Salary Roll

Employee and Community Relations Divisions

TERMINATIONS

| | Exempt | Nonexempt | Total |
|---|---|---|---|
| Actual Terminations | 8 | 45 | 53 |
| Removals from Roll | 1 | 20 | 21 |
| Payroll Exchanges | 1 | 21* | 22 |
| Gross Terminations | 10 | 86 | 96 |

Approximately 77% of all terminations were on a voluntary basis, and most of these were for the following reasons (a) Personal Reasons (b) Another Job.

GENERAL

| | 3-31-1950 | 4-30-1950 |
|---|---|---|
| Applicants Interviewed | 1,950 | 1,888 |
| Photographs taken | 322 | 265 |
| Fingerprint impressions taken (in duplicate) | 416 | 353 |
| Procurement letters written | 688 | 431 |

ABSENTEEISM STATISTICS
(Weekly Salary Roll)**

| | | |
|---|---|---|
| Male | 2.32 % | 2.43 % |
| Female | 3.27 | 3.22 |
| Total Plant Average | 2.55 | 2.63 |

INVESTIGATION STATISTICS

| | | |
|---|---|---|
| Cases pending at beginning of month | 664 | 912 |
| Cases received during the month | 411 | 277 |
| Cases closed | 163 | 154 |
| Cases pending at the end of the month | 912 | 1,035 |
| Cases found satisfactory for employment | 337 | 269 |
| Cases found unsatisfactory for employment | 1 | 1 |
| Cases closed before investigation completed | 1 | 4 |
| Special investigations conducted | 38 | 8 |

* Transferred to Monthly Salary Roll
** Statistics furnished by Weekly Payroll Division

Employee Services:

During the early part of April, enrollment cards for participation in the Employee Services Fund were forwarded to all employees. By April 19, it was evident that from the cards returned the 70% participation required to place the plan into effect would not be reached. As a result of this return, a meeting was held by the Employee and Community Relations people at which time it was agreed that two changes might possibly increase employee participation. These changes would permit employees to designate the agencies to whom they wished to make contributions, as well as the amount of the contribution. As a result of these changes, the National Foundation of Infantile Paralysis agreed to become a participant in the plan. In view of these changes new en-

rollment cards were forwarded to all Divisions for distribution to their employees on April 24. At the end of April, 2,800 of the new enrollment cards had been returned. Of the cards returned, 60.9% indicated that they desired to participate. This is still 10% below the percentage required to place the plan into effect.

Mr. Felix Montez, State Executive Secretary of the Infantile Paralysis Foundation, visited the Employee Services Group, at which time the proposed Employee Services Fund was described to him in detail.

A representative of the Pacific Mutual Life Insurance Company contacted the Employee Services Group several times during April relative to the possibility of offering polio insurance to employees at this Works through a group plan with his Company. Inasmuch as all group plans must necessarily come through Schenectady, it was not possible to place the plan into effect here.

On April 24, a representative of the Metropolitan Insurance Company of Seattle visited the Employee Services Group.

Considerable assistance was rendered to a new employee of the Health Instrument Division who was experiencing considerable financial difficulty. Assistance was rendered to this employee in securing a loan to take care of his financial situation for a temporary period, and in addition, arrangements were made possible for this employee to rent a trailer for use in North Richland.

Visits were made to the homes of 21 retired employees during the month of April, 9 of whom were at home. The purpose of these visits were to ascertain if the pensioners were getting along satisfactorily, and also to answer any questions concerning his retirement as well as to lend any other assistance that might be possible under the circumstances.

During April the G.E. Group Health Insurance policies were received, and arrangements were made by the Employee Services Group to see that they were distributed to those participating employees in the various Divisions.

During the latter part of April, stock bonus receipts, together with a copy of the Company's Annual Report, which were forwarded from Schenectady, were forwarded to the various Divisions for distribution to their employees who were participants in this plan.

One contact was made with a former employee as a result of a letter addressed to the General Manager concerning her termination. The reasons for this termination were explained to this employee and confirmed to her by letter.

During April the Employee Services Group made arrangements for preparation of new signs to appear over all time clocks. These signs were prepared to read as follows: "Clocking another employee's card is prohibited. Violators will be subject to disciplinary action".

During April three employees in lack of work status requested that their separation be changed to resignation in order that their pension contributions might be refunded.

Four publications of Employee Benefit Plans Information were prepared and released to the Works News during April.

Employee and Community Relations Divisions

The following visits with absent employees were made during the past month by representatives of the Employee Services Group:

| | |
|---|---|
| Kadlec Hospital | 166 |
| Employees at home | 2 |
| Salary checks delivered to employees confined at Kadlec Hospital | 53 |
| Salary checks delivered to employees at home | 7 |

Bulletin board postings in all areas were made with respect to the following:

| | |
|---|---|
| Union notices | 1 |
| Employee Services Fund posters | 1 |
| Suggestion System posters | 1 |
| Daylight Saving Time notices | 1 |

Six certificates were issued during the month for Company appliances.

The following employees retired during April:

Orrin S. Sinderson, Community Public Works Division;
Louis F. Hulsman, Medical Division;
Obil Shattuck, "S" Division;
Robert C. Shadix, Plant Security and Services Division; and
Bessie W. Ninemire, Construction Division (Optional).

Two employee deaths occurred during April, namely:

Community Public Works Division; and
"S" Division.

Assistance was rendered to members of the families of the deceased with respect to all employee benefit plans and social security information.

Employee Services Statistics:

| | |
|---|---|
| Number of employees registered under the Selective Service Act | 649 |
| Number of employees for whom deferments have been requested and granted | 6 |
| Number of technically trained single men not classified (potential 1-A classifications) | 11 |

Suggestion System:

At the end of April the volume of work in the Office of the Secretary of the Suggestion System was as follows:

| | March, 1950 | April, 1950 | Total since July 15, 1947 |
|---|---|---|---|
| Suggestions received | 116 | 126 | 4,739 |
| Investigation reports completed | 68 | 168 | 4,246 |
| Awards granted by Sug. Committee | 17 | 49 | 607 |
| Cash awards | $ 150 | $ 1,545 | $ 9,060 |
| Estimated savings resulting from suggestions | 733.80 | 27,019.50 | |

PRIVACY ACT MATERIAL REMOVED

Employee and Community Relations Divisions

The largest award ever granted by the Suggestion System since installation on July 15, 1947, was made during April to a Maintenance Division employee in the amount of $ 1,000. At the time this award was made by the employee's foreman, the Vice President and General Manager was present, at which time he discussed to some extent the Company's over-all Suggestion System and its operation, and complimented the employee personally upon such an award.

The April 21 issue of the Works News carried an article as to the reaction of the employees in having one of their employees receive a $ 1,000 award.

This same issue of the Works News also carried a front page story of the total amount of awards paid out by the General Electric Company during 1949.

The April 29 issue of the Works News carried a story of a $ 75 award made to an employee of the Maintenance Division. This issue also carried a story concerning all other awards made during the month of April.

Insurance and Compensation:

Public Liability

Financial Responsibility Law -- Effective February 1, 1950, the Washington State Uniform Safety Responsibility Act of 1949 went into effect. This law requires that parties involved in an automobile accident must file with the Director of Licenses suitable evidence of financial responsibility. The law further provides that the operator of any motor vehicle involved in an accident in this state, in which any person is injured seriously enough to require medical attention by a doctor, or in which there is property damage in excess of $ 200, shall within 10 days after the accident report the matter in writing to the Director of Licenses. In this connection arrangements have been effected with the Director of Licenses for a procedure in reporting such accidents to the Department Licenses by the General Electric Company. In addition, during the month of April, an Instructions Letter outlining the requirements under this Act and pointing out how it applies to the operator of government vehicles as well as personal vehicles was prepared and distributed to all supervisors.

Compensation:

On October 25, 1949, the claimant filed an accident report with the State Department of Labor and Industries in which she alleged an injury to her arm, claimed to be job connected. At the time this claim was filed, the Company opposed allowance of the claim on the grounds that it was not possible to verify that an injury occurred during the course of employment. On November 22, 1949, the claim was allowed by the Department of Labor and Industries. On December 23, 1949, an appeal was filed by the Company with the Board of Industrial Insurance Appeals on the grounds that the claimant's condition was unrelated to employment. Subsequently, thereto, the Board of Industrial Insurance Appeals granted a hearing at which time it was agreed by stipulation that the case would be dismissed since a letter had been received from the claimant by the Department of Labor and Industries stating that she desired to drop the claim since her physician had advised her that her condition was not necessarily related to her employment. On April 19, a stipulation for dismissal signed by the Company and claimant was forwarded to the Department of Labor and Industries and the case was closed.

Employee and Community Relations Divisions

On March 22, 1950, the claimant was instructed by the Department of Labor and Industries to report to a commission of medical examiners in Spokane, Washington, for permanent, partial disability rating, resulting from an injury received on July 1, 1949, which occurred during the course of employment. Following the examination, the claimant while walking along the sidewalk in Spokane noticed a sharp pain in the vicinity of her right groin. Upon return to Richland, an examination revealed fracture of the right pubic bone. This fracture was on the opposite side to that sustained on July 1 for which she was being rated. The Department of Labor and Industries ruled that the injury of March 22 was an extension of the injury previously sustained and therefore compensable. Opinions of the Company's Medical and Legal authorities indicate that in all probability an appeal in this case would be overruled. For this reason no further action is being taken in this case.

Fidelity Bond Coverage

Effective December 1, 1948, the fidelity bond for all General Electric employees was permitted to lapse. The eliminating of the fidelity bond coverage was at the instructions of the Atomic Energy Commission, who had established the policy of eliminating such coverage on all cost-plus, fixed-fee contracts. Elimination of this coverage also included three employees of the State Department of Labor and Industries, who handled accounts of the General Electric Company in accordance with a classified agreement which the Company has with the state for payment of compensation claims. Inquiries of the Controller of the Department of Labor and Industries regarding the extent of the state fidelity bond coverage for these three employees revealed that the state bond could not be extended to include them. This matter was brought to the attention of the insurance representatives of the Atomic Energy Commission and it was agreed that these employees should be bonded, and arrangements are now being made to procure a fidelity bond for each employee in the amount of $ 10,000.

Life Insurance

Code information for use by insurance companies in issuing insurance to employees of this Works was furnished to 103 insurance companies and investigation agencies during the month of April.

Insurance Statistics

| | 3-1950 | 4-1950 | Total since 9-1-1946 |
|---|---|---|---|
| Claims reported to the Department of Labor and Industries | 0 | 64 | 3,307 |
| Claims reported to Travelers Insurance Company | 15 | 4* | 435 |

* Of the above claims reported during April to the Travelers Insurance Company, 3 were property damage claims, and 1 was a bodily injury claim.

Employee and Community Relations Divisions

Training and Program Development:

During the week of April 10-14, the 40-Hour Supervisor's Training Program was again made available to the supervisors at this Works with a total of 28 supervisors from the various Divisions participating in the Program.

During April, a conference was held with a member of the Source and Fissionable Materials Accountability Group, and a member of the Community and Public Relations Group, relative to the third phase of the Accountability Program which the Employee and Community Relations Divisions had committed itself to. At this meeting it was agreed that a follow up to the training programs conducted with groups of employees in the various Divisions handling S.F. materials that posters should be distributed in the areas in which the employees are working.

The Current Events Economic Program for nonexempt employees, which was instituted in March, continued into April with a total of 140 meetings being held during the two months. 3,967 employees participated in this program. As described in the March Monthly Report, this program consisted of a brief discussion on "Big Progress and Big Business Go Together", an exhibition of the film entitled "The Price of Freedom", together with the distribution of the Readers Digest's article on the book, entitled "The Road Ahead".

On April 4 a 25-page portfolio, explaining the G.E. Employees Services Fund, was prepared by the Training and Program Development Group and mailed to each exempt personnel at this Works. A total of 1,639 copies were mailed. As a follow up to the distribution of this portfolio 40 meetings were held during the month of April with supervisory groups for the purpose of explaining it further. A total of 536 supervisors attended these meetings. Following two changes in the plan for the Employee Services Fund a letter was directed to all supervisors indicating these two changes and advising that members of the Training and Program Development Group were available for discussing this plan with nonexempt employees. As a result of this announcement, 11 meetings were held by representatives of the Training and Program Development Group at the request of supervisors with a total of 325 employees in attendance. In addition representatives of the Employee Services Group conducted two meetings with a total of 300 employees in attendance.

Ten Supervisor's Handbooks on Employee Relations were issued during April. In addition, 7 revisions to the Handbook were mailed during the month.

During April a total of 123 new employees were given orientation. Of this number 76% elected to participate in the Group Health Insurance Plan and 61% elected to participate in the Group Life Insurance Plan. In addition to the above number, 25 re-engaged employees were given orientation of which 100% elected to participate in the Group Health Insurance Plan, and 76% elected to participate in the Group Life Insurance Plan.

A number of conferences were attended by a representative of the Training and Program Development Group relative to establishing a procedure for recognizing perfect attendance among nonexempt employees. As a result of these meetings, the Training and Program Development Group drew up a procedure for the administration of such a plan. This plan will be presented to general management in the very near future.

Employee and Community Relations Divisions

Several conferences were held during April for the purpose of preparing a conference style supervisory training program to present to supervisors additional information on H.W. Instructions Letter, entitled "Procedure for Disciplinary Action".

Employee and Community Relations Divisions

Union Relations and Wage Rates

Union Relations - GE Personnel:

It has been proposed to the Council that the Company furnish bulletin boards for the exclusive use of the union in all areas, on the premise that if such boards are furnished, the posting of union notices would be the sole responsibility of the union stewards. This work is being currently performed by the Employee Services group at considerable expense and inconvenience to the Company. Formal acceptance of this proposal is still being awaited.

An agreement was reached with the Council on April 20, 1950, wherein a distinction was made between the various types of possible overtime; viz., call-in time, scheduled overtime and hold-over time. Acceptance of this new interpretation means that four hours minimum overtime pay is applicable only on emergency call-in time. An instructions letter incorporating all factors involved was being prepared at month end.

On April 18, we received a copy of a letter to the United Gas, Coke and Chemical Workers of America from the National Labor Relations Board, stating that the CIO's petition for investigation and certification of employees at Hanford Works had been dismissed.

Negotiation meetings with the Firemen's Union continued, with the Firemen submitting a series of proposals to the Company. The Company outlined its objections and presented substantiating data which showed that the rates of pay and other conditions that exist at Hanford as they apply to industrial firemen compare favorably with other comparable fire departments in the community. To date, we have received no further word on this subject but anticipate new developments at any time.

On April 18, a letter was received from the HAMTC which stated that the Council desired to negotiate with the Company the question of a wage increase affecting all employees in the bargaining unit in accordance with the provisions of Article XXIV of the HAMTC - GE Agreement. Work has begun in preparation of these negotiations which will commence May 19.

Grievance Statistics:

Nine grievance reports were received during the month, bringing the total received this year to 74. Two hundred fifty-one grievances have been received since the grievance procedure was established. Grievances were sent in this month from the following divisions:

| | |
|---|---|
| Mfg. "P" | 1 |
| Mfg. Maintenance | 2 |
| Mfg. "S" | 1 |
| Mfg. Transportation | 1 |
| Stores | 2 |
| Village Labor | 1 |
| Village Maintenance | 1 |
| Total | 9 |

Employee and Community Relations Divisions

Employee grievance reports received during the month of April were regarding the following subjects:

| | |
|---|---|
| Seniority | 3 |
| Wage Rates | 4 |
| Jurisdictional | 1 |
| Vacations | 1 |
| Total | 9 |

The status of all grievances received to date is as follows:

| | 1949 | 1950 | Total |
|---|---|---|---|
| Settled satisfactorily, Step I | 52 | 15 | 66 |
| Not settled satisfactorily, Step I | 125 | 59 | 180 |

Of the 59 grievances received this year which were not settled at the Step I level, 19 have been satisfactorily processed at the Step II level and were settled. Only 7% of the total grievances received this year have been submitted by employees outside the bargaining unit. Forty-two per cent of this year's grievances were submitted by employees in only 7% of the divisions.

Meetings:

The Council Grievance Committee and the Company Negotiating Committee met once during the month for the purpose of processing grievances at the Step II level. All supervisors were informed regarding the disposition of the grievances discussed at this meeting.

Union Relations - Subcontractor Personnel:

The issue, created by the decisions of the various craft unions to observe only Pacific Standard Time relative to hours of work, during the period of Daylight Savings Time for the Hanford Project, was not resolved during the month. Intensive efforts to conclude this matter prior to April 30, 1950, included the following:

A survey of General Electric Divisions, Atomic Energy Commission, and Contractors to determine the effects of dissimilar work periods for construction crafts and operations personnel, which disclosed considerable complications, confusion and increased costs to be anticipated from a dual time system.

A letter to each of the Building Trades Crafts outlining the results of the survey and requesting further consideration of the matter.

Subsequent meetings with the representatives of labor appointed to pursue this subject, which resulted in a joint decision to work toward DST uniformity in the Tri-Cities.

Employee and Community Relations

Appearances before the City Councils of both Pasco and Kennewick by a group which included representatives from Atkinson-Jones, as well as General Electric and labor.

No decision from these cities has been forthcoming, but it is assumed that the matter will be resolved at the joint meeting of the two Councils on May 2, 1950.

Labor was informed that all crafts would work DST starting May 1st. Individual notices to this effect were included in all construction paychecks on April 28. Subsequent instruction from Labor was to the effect that all Union members were to observe only PST.

The advent of DST on the Project resulted in considerable confusion within the construction forces. Employees appeared on the job at varying hours, but the day's work in all cases (Plumbers excepted) has been terminated at 4:30 p.m. DST.

Further attempts to arrive at a solution to this problem will be made when the actions of Pasco-Kennewick in regard to DST are known.

The Agreement between Atkinson-Jones and the Office Workers Local No. 100 was reopened during the month. All negotiations have been attended by a member of this Division.

Negotiations of wage revisions between Atkinson-Jones and Ironworkers Local No. 14 were attended by this Division.

Reimbursement Authorizations:

Request for Reimbursement Authorizations handled during the month.

Hazardous Pay Electricians (Wiremen)
Double Time outside Regular Shift (Plumbers)
Overtime Compensation - Meal Time
Double Time 6th and 7th Day - (Maintenance Wiremen)
Revision to Appendix "C" - (Technical Engineers)
Transportation and Travel Expense - Appendix "C" Revision
Additional Classifications Required For Operation of IBM Section
Wage Increases (Painters)
Plumbers - (Medical Rejects)

Reimbursement Authorizations Received:

Hazardous Pay Electricians (Wiremen)
Double Time outside Regular Shift (Plumbers)
Double Time 6th and 7th Day - (Maintenance Wiremen)
Revision to Appendix "C" - (Technical Engineers)
Transportation and Travel Expense - Appendix "C" Revision
Additional Classifications Required for Operation of IBM Section
Wage Increases (Painters)

Employee and Community Relations Divisions

Threatened or implied work stoppages involving Technical Engineers and Painters were received and successfully averted during the month.

Wage Rates:

The job of checking, reviewing and approving rate and occupation changes was continued throughout the month of April, 1950, with a total of 470 transactions being handled.

In addition to the above, more than 50 conferences were held and jobs studied both in the Community and in the area in which approval for proposed changes was withheld.

The rate and classification changes processed and approved included 21 transfers from weekly to monthly jobs; 40 nonexempt job transfers; 144 job reclassifications; 212 automatic increases and 3 merit increases.

As a result of the recent instructions given Division Managers concerning the review of exempt jobs to determine if some should be nonexempt, conferences were held with representatives of 3 divisions and a total of 11 jobs were discussed. In 5 instances, exempt employees were transferred to the nonexempt roll and the remaining jobs are being given further study by the divisions involved.

During the month a request to amend Reimbursement Authorization No. 63 was approved by the Atomic Energy Commission. This amendment corrected the Reimbursement Authorization in connection with merit increases payable to Designers I, II, III, and automatic and merit phases of the rate schedules for Business and Technical Graduates.

A request for approval for an amendment to Reimbursement Authorization No. 89 pertaining to the Community Fire Department's new two platoon system, was forwarded to the Atomic Energy Commission. No approval has been received to date.

Approval of Reimbursement Authorization No. 94 which modified the rules regarding transfers of Coal Handlers to Miscellaneous Operators was received.

A survey was completed of those Atomic Energy Commission jobs which fit the description of those positions listed in the General Electric Company Northwest Wage Survey. An analysis of the comparisons was made and graphs charted. The study shows a startling difference in that the rates paid to government employees are well above the average rate paid General Electric personnel.

In line with the program of regular reviewing of jobs, all clerical jobs in the Transportation Divisions were studied and necessary changes were recommended.

A complete review was made of Truck Driver classifications in the Community and area. As a result of this study, it was recommended that several jobs now classified as Truck Drivers, Heavy, be changed to Truck Drivers, Light.

Employee and Community Relations Divisions

Community and Public Relations Division

"Public Information" - Community

During the month of April, 74 releases of information were made by the News Bureau. Of this number, 54 were written by News Bureau personnel. The remaining 20 releases were written by Special Programs or Community Divisions Public Information and distributed by the News Bureau.

LOCAL NEWS RELEASES

During April, 47 releases of stories and/or photos on the following topics were made to the "local list" of media, which is comprised of the Columbia Basin NEWS, Tri-City HERALD, Yakima Morning HERALD, Lind LEADER, Walla Walla Union BULLETIN, Spokane CHRONICLE and radio stations KPKW, KWIE, KIT and KALE.

Organization changes - Notice of eight organization changes in Purchasing and Stores Division and eight in Electrical Divisions were sent to local media.

Community News - Five releases were made concerning Community Activities Division promotion of an Easter egg hunt, a marble tournament, week end trips to Camp Dudley, the closing of the winter recreation program, and the opening of Riverside swimming pool. It was explained that Richland was being examined by the Washington Surveying and Rating Group to determine if fire protection facilities justified the rating of Class 3 instead of Class 4. The award of a lease on the old VILLAGER building, 85-X, to an insurance broker was announced. Residents were advised what to do about a disturbing dog.

Construction - The progress of re-roofing and placing siding on the Administration Building was reported. It was announced that operating policies of the southern access rail line were being formulated and that construction of a play-parkground with rides for children would be built and operated as a business in Richland. It was pointed out that retail business was improving in North Richland and that more buses were being taken out of moth balls and were carrying construction workers to their jobs. A joint statement by a representative of the Pasco-Kennewick Construction and Building Trades Council and Atkinson-Jones with regard to Daylight Saving Time in this area was released.

Speakers - It was announced that the Manager of the Employee and Community Relations Divisions addressed an Atomic Energy Personnel Information Panel in Schenectady.

Telephone Open House - Special Programs promotion of the Telephone Open House included the release of 6 stories and 8 photographs to local media. The News Bureau wrote three of the releases.

Safety - A local release explained that the safety record for the first quarter of 1950 was better than the record for the first quarter of any past year. It was pointed out that the irrigation ditch near Columbia High School had

been rerouted as a safety precaution, In a later story parents were urged to keep children away from irrigation ditches. Hunters were warned not to fire guns in the vicinity of the AEC airport. It was explained that the entrances and exits of a North Richland parking lot were revamped as a safety measure.

Hospital - Five releases written by Special Programs about Kadlec Hospital and the Hanford Works medical program were distributed during the month.

Employee Benefit Plans - The Employee Services Fund was explained in a local release. It was also pointed out that six department heads and the dean of the graduate school at Oregon State college met with G.E. representatives to discuss the Graduate School of Nuclear Engineering.

Power Outages - During April residents were advised of 8 electrical interruptions scheduled for Richland.

RELEASES SENT THROUGHOUT THE NORTHWEST

During April, 12 informative news releases were sent to 72 of the leading daily newspapers, wire services and radio stations in the four northwestern states in addition to the local mailing list. Below are the subjects of the 12 releases.

Organization Changes - J. G. Carriere was named Manager of the Engineering Services Division and T. G. LaFollette was named his Assistant. E. W. Seckendorf assumed new duties as Assistant to the Manager of the Design and Constructions Divisions and J. S. Parker became Manager of the Design and Construction Separation Division. Three changes in the personnel responsible for the administration of Kadlec Hospital were announced. It was revealed that H. D. Middel was named Manager of the Mechanical Divisions of the Manufacturing Divisions. Photographs of the men concerned were sent to selected media.

Employee Benefit Plans - It was announced that a $1,000 Suggestion award had been presented to a Hanford Works employee. Photographs were sent to selected papers. A story explaining operation and awards of the G.E. Suggestion System throughout the Company and in the Nucleonics Department was distributed.

Construction - Stories were released of G.E.'s intention to invite bids on contracts to remodel three Hanford Works buildings, to do alteration work on Building 722-A, on the installation of 13 traffic lights in Richland, and on seeding certain parks and school grounds with grass and installing irrigation equipment on those grounds. Edmund P. Erwen of Yakima was announced as the apparent low bidder for the construction of a plant Laundry building. It was revealed that the Spencer-Kirkpatrick Insurance Agency will construct a building in Richland from which to do business.

"Public Information" - General
WEEKLY NEWSPAPER RELEASES

The two stories about the G.E. Suggestion System, mentioned above, were mailed to 143 weekly newspapers in the Northwest.

Employee and Community Relations Divisions

RELEASES SENT TO G.E. KEY PERSONNEL AT HANFORD WORKS

Copies of a local release announcing that Kadlec had become a Blue Cross member hospital and of the release on the $1,000 Suggestion award were sent to key Nucleonics Department Management personnel in advance of release dates.

RELEASES TO COLUMBIA BASIN NEWS ONLY

In response to inquiries from the NEWS, a rumor that ranges and refrigerators in Richland homes would be sold was refuted, a statement placing responsibility for the maintenance of grounds adjacent to businesses was prepared, a follow-up story on the furnace cleaning contract in Richland was released with photographs, and information about the moving of the Masonic Lodge before completion of McNary Dam was released. A story was given exclusively to the NEWS describing safety precautions being taken in setting up Little League Baseball for children in Richland.

RELEASES TO TRI-CITY HERALD ONLY

In answer to questions from the HERALD, releases were made regarding the changed qualifications necessary to obtain space in men's dormitories in Richland, the progress of construction hiring, G.E.'s attitude toward the adoption of Daylight Saving Time throughout the Tri-City Area and the basis for rental fees to be charged doctors and dentists who retain apace in the Medical-Dental Clinic or obtain commercial space elsewhere.

A statement was also given to the HERALD regarding a UP story about the change in emphasis of research work at Knolls Atomic Power Laboratory. To further clarify the change at KAPL a copy of the original joint GE-AEC release was obtained from the East and furnished to the HERALD and other local media.

OTHER PROJECTS

Atomic Waste Disposal

A request for information about the disposal of wastes at Hanford was filled for McGraw-Hill for use in Engineering NEWS-RECORD. Pertinent information was underlined in copies of the 6th and 7th AEC semi-annual reports, and the booklet "Handling Radioactive Wastes in the Atomic Energy Program," and a speech by C. P. Cabell entitled "Design Problems in Nuclear Engineering" were furnished.

Design and Construction

Photos of J. G. Carriere and T. G. LaFollette, recently promoted in Design and Construction Divisions, were sent to Chemical Engineering MAGAZINE at its request.

The Areas

Photos of the production areas and some of the plant history was provided for a Baptist Quarterly Bulletin, "Golden West."

Employee and Community Relations Divisions

World Book

The News Bureau received copy about Richland and Hanford that appeared in the last edition of the World Book Encyclopedia. The copy was brought up-to-date, several errors were corrected, and it was returned.

Construction Contracts

Lists of contractors who have bid assemblies for construction contracts soon to be awarded were sent to Seattle and Portland Journals of Commerce at their request. They publish this information for the convenience of firms interested in the sub-sub contracting part of the work.

"Employee Information" - Special Programs

Publicity for the Telephone Building Open House on April 29 which was attended by approximately 500 persons was handled by Special Programs to inform the public of the new Subscribers' Service Office in the telephone building which is now open to the public.

In line with Special Programs' responsibility for Kadlec Hospital public relations, the Special Programs Supervisor attended a hospital public relations institute which was sponsored by the American Hospital Association on April 27 and 28 in Seattle.

A news release announcing changes in the Kadlec Hospital Administrative Staff was prepared by Special Programs and released to local news media through the News Bureau.

At the request of Richland physicians and the dentists, separate statements concerning the changer-over to private practice were prepared by Special Programs for release to local news media by the respective medical and dental groups.

The Red Cross Home Nursing Course which is being offered free to residents of this area and which is being sponsored jointly by the Benton County Chapter of the American Red Cross and the Public Health and Welfare Section of the Medical Divisions as a public service, was publicized by Special Programs during April through the WORKS NEWS and through local news media.

Special Programs' promotion activities directed toward bringing changes in the Employee Services Fund to the attention of employees included the preparation of a letter which was mailed to all employees from the General Manager, two letters to Supervisors, and a WORKS NEWS story.

At a meeting with members of the Technical Divisions library staff to determine the disposition of technical publications and periodicals produced at other Departments of the Company and by affiliated companies, it was determined that the Library wished to receive "The Research Bulletin," "Electronics Library News Letter" and "Chemical Products Publication."

Employee and Community Relations Divisions

A new Nucleonics Department G.E. blue letterhead was designed through Special Programs with the assistance of the commercial artist, in accordance with specifications established by the Advertising and Publicity Department, and local approvals were obtained.

Publicity covering the presentation of a $1000 Suggestion Award at Hanford Works during April was prepared by Special Programs, and included news photos, news releases, and a special presentation program in which the Vice President in charge of the Nucleonics Department participated.

Safety certificate cards for presentation to 100-D Area employees in commemorating that Area's third major injury-free year were designed and produced during April through Special Programs.

The April meeting of the Health Activities Committee was attended by the Special Programs publicity writer who handles the publicizing of each month's Health Topic.

A news story explaining that Richland residents should continue to contact doctors and dentists through the Kadlec Hospital telephone number until a later date was prepared by Special Programs and released to local news media through the News Bureau.

Classified Advertisements for Stenographers were placed in the April 6, 7 and 8 issues of the Spokane CHRONICLE and The Spokesman-REVIEW, and payment was arranged for upon receipt of invoices and tear sheets.

Cover art work was prepared for a safety booklet, "Laboratory Safety Rules," which is to be issued by the Technical Services Division.

Security Reminder Discs, designed by Special Programs for Plant Security for insertion in the dial centers of plant telephones, were received from the printer during April.

"Employee Information" - WORKS NEWS

The quantity of the WORKS NEWS was increased by 300 copies to include distribution to Hanford Works pensioners and patients at Kadlec Hospital each week.

Continuous publicity was given to the Employee Services Fund, including an introduction to the plan by printing the plan's constitution and by-laws and changes made in the originally proposed plan.

As a community service a great deal of space and time were given to publicize the Cancer Drive, Red Cross Bloodmobile program, Kadlec Hospital and Telephone "Open Houses," through editorials, editorial drawings, picture features and news stories.

As a means of promoting certain community activities and clubs, picture-features were arranged and presented in the pages of the WORKS NEWS throughout the month.

Employee and Community Relations Divisions

Considerable emphasis was placed on page make-up in order to utilize all type faces available in the new printer's shop.

A new system for expediting payment to the new printer was established during the month.

Four pictures of Hanford Works activities appeared in the "Candid Camera" inserts for the month.

"Employee Information" - Women's Features

Educational opportunities for increasing job efficiency and self-improvement were featured on the one women's page appearing in the WORKS NEWS during April. The article featured courses offered in the G.E. Education Program at Building W-10, and in the Columbia High School Adult Evening Program, which were of special interest to business women. An article calling for hostesses for the servicemen's center and an article on a home nursing course to be offered by the American Red Cross also appeared on this page.

Information and photographs were obtained for the picture story on the visit of the Bloodmobile which was featured on the Women's Page on April 14.

"What's Doing" published as a service to WORKS NEWS readers, publicized 20 Richland events during the month of April. Included in "What's Doing" were the following events: Exhibit of Northwest Artists; YWCA Membership Drive; YWCA Party; Richland Players, "The Women"; Dormitory Club Dude Ranch Trip; Treble Clef Concert; Easter Egg Hunt; Hospital Auxiliary Circus; Lecturer Jim Bond, for Sacajawea Rifle and Pistol Club; United World Federalists Forum; Green Leaf Tea (cancer); Operation Variety Show (cancer); Bake Sale (cancer); I-MAC Club trips to Grand Coulee--Gingko State Park--Badger Mountain--Snake River; I-MAC Climbing Classes; Allied Arts Association Exhibit; Richland Symphony Orchestra; Richland Kennel Club Show; and the Richland Rider's Club Horse Show.

"Share a Ride" provided as a service to readers of the WORKS NEWS answered 293 requests for riders or rides on week end or vacation trips. Requests were received for rides or riders to the following destinations: Spokane, Seattle, Yakima, Walla Walla, Wenatchee, Pullman, Portland, Ellensburg, Denver, Kansas City, Los Angeles, Pocatello, Boise, Longview, Chicago, Chicago to Richland; Wagonner, Oklahoma; Miami, Fla.; Louisville, Ky.; Birmingham, Ala.; Salt Lake City, Utah; Wilkes-Barre, Penn.; Calgary, Alberta; Casper, Wyo.; Omaha, Neb.; Reno, Nev.; Memphis, Tenn.; Bismark, N.D.; Texas, Louisiana, Oklahoma, Alabama, Tennessee, Missouri and Southern California.

Work was completed on a rough draft of a booklet on office procedure and business manners for women employees in cooperation with Special Programs.

Community Divisions Public Information

The Supervisor served as Benton County Publicity Chairman for the 1950 Cancer Drive, which was conducted during the month of April, and which exceeded the allotted quota.

Employee and Community Relations Divisions

The student councelors at the local high school called upon the Supervisor for advice in conducting the annual youth vocational program, which is designed to acquaint graduating seniors with the educational requirements of various occupations.

The colonel in charge of the North Richland Army group met with the Supervisor to discuss, generally, the community of Richland, and expressed his thanks for the cooperation the G.E. Community Activities Division gave him in setting-up a recreation program for his battalion.

The Supervisor was appointed to the Richland Safety Council, attended its two March meetings, and, although he declined chairmanship of the Council's publicity committee, he did elect to serve as one of the committee's members.

Community Council meetings of April 10 and 24 were attended by the Supervisor, in order to keep abreast of the group's activities and proposals.

Information on the activities of the Community Divisions during the month of April was gathered by the Supervisor and passed along to residents by the News Bureau and WORKS NEWS.

All the Community Divisions' staff meetings were attended by the CDPI Supervisor, as a means of maintaining close liaison between the Community Divisions and the Community and Public Relations Division.

Public Functions and Services

Miles Patrick of Project Engineering Division spoke on "Design Problems in Nuclear Engineering" on Saturday, April 22, before 42 members of the Inland Empire Section of the A.S.M.E. at the Desert Inn.

Pat Cabell of Project Engineering Division accepted an invitation to speak before 75 members of the Kennewick Kiwanis Club, Tuesday noon, April 25, at the Riviera Club on the subject, "At Work With The Atom," and this was arranged by Public Functions and Services.

Over 30 orders for General Electric Motion Pictures were filled during the month from requests received by Public Functions from several plant divisions, schools and organizations.

A preview showing of the sound-film strip on the Security film, produced in part by this group, was presented to members of the Employee and Community Relations Divisions on Friday, April 28.

Preparation of a tape recording of the Telephone Exchange Open House activities for presentation over station KALE was prepared by Public Functions and Services in conjunction with the program arranged by Special Programs.

Six cartoons and fifteen pages of photo layouts were made by the artist for Hanford Works NEWS during the month.

Employee and Community Relations Divisions

Illustrations and art work were prepared for Technical Divisions "Laboratory Safety Rules" booklet, the Electrical Divisions "Open House" booklet on the Telephone Exchange, New General Electric letterheads, Suggestion System Award poster, and map of 700 Area Telephone Exchange layout.

The Photo House section of Public Functions and Services produced over one thousand feet of motion picture film for Technical Divisions during April.

Photographic Request Forms were designed, prepared and distributed to all using Divisions with the objective of permitting better control of photographic assignments.

Photo House assignments were increased by twenty over March and the number of negatives by forty; the total number of prints produced decreased by 1317 from the previous month.

Production planning discussions were conducted with Community Activities Division and 700 Area Safety Council on the two motion pictures assignments.

G. L. Brown and W. A. Halteman composed and completed a proposed Instructions Letter outlining the procedure to be followed by Hanford Works authors in the presentation and/or publication of speeches and texts.

Eighteen papers and texts were submitted by Hanford Works engineers, chemists and technical personnel for review in conjunction with the forthcoming Regional Meeting of the American Chemical Society in Richland during June and the American Institute of Electrical Engineers technical papers contest.

Hanford Works Photo House Production during April, 1950

| DIVISIONS | TYPE OF PRINTS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 8"x10" | 5"x7" | 2"x4" | 2"x2" | Nega-tives | Color Slides | Prefab. "A" Badge | PH-28 | Lami-nated | Motion Pictures |
| EMPLOYEE & COMMUNITY RELATIONS | | | | | | | | | | |
| EMPLOYMENT | | | 338 | 3346 | 264 | | 338 | 92 | 473 | |
| SPECIAL PROGRAMS | 78 | | | | 43 | | | | | |
| NEWS BUREAU | 97 | | | | 48 | | | | | |
| WORKS NEWS | 248 | | | | 226 | | | | | |
| PUBLIC FUNCTIONS | 8 | | | | 27 | | | | | |
| A.E.C. SECURITY | 2 | | | | 2 | | | | | |
| TRANSPORTATION | 72 | | | | 36 | | | | | |
| COMMUNITY ENGINEERING | 68 | | | | 23 | | | | | |
| DESIGN DIVISION | 15 | | | | 25 | | | | | |
| MEDICAL DIVISION | 16 | 13 | | | 21 | | | | | |
| SAFETY DIVISION | 60 | | | | 37 | | | | | |
| PATROL | 12 | | | | 2 | | | | | |
| TECHNICAL DIVISION | | | | | | | | | | 1000 ft. 16 mm. |
| TOTALS | 646 | 13 | 338 | 3346 | 754 | 0 | 338 | 92 | 473 | 1000 ft. 16 mm. |

| | |
|---|---|
| NEGATIVES | 754 |
| PRINTS | 4343 |
| PHOTO ASSIGNMENTS | 86 |

COMMUNITY DIVISIONS
SUMMARY-APRIL, 1950

ORGANIZATION AND PERSONNEL

| Number of employees on roll: | Beg. of Month | End of Month |
|---|---|---|
| Community Administration | 6 | 6 |
| Community Accounting | 26 | 26 |
| Community Public Works | 431 | 430 |
| Community Safety | 3 | 3 |
| Community Commercial Facilities | 15 | 15 |
| Community Housing | 41 | 44 |
| Community Fire | 104 | 102 |
| Community Patrol | 84 | 84 |
| Community Activities | 12 | 12 |
| | 722 | 722 |

There was no change in the total number of personnel in the Community Divisions during the month of April, 1950.

| | Reduced | Increased |
|---|---|---|
| Community Administration | - | - |
| Community Accounting | - | - |
| Community Public Works | 1 | - |
| Community Safety | - | - |
| Community Commercial Facilities | - | - |
| Community Housing | - | 3 |
| Community Fire | 2 | - |
| Community Patrol | - | - |
| Community Activities | - | - |
| | 3 | 3 |

GENERAL

A survey and study of the housing situation in the communities adjacent to the Hanford Works was completed by Curtis Middlebrook and Company.

Housing applications increased from two hundred sixty-one (261), on March 31, 1950, to two hundred ninety (290) on April 30, 1950.

Through the joint efforts of the Richland Community Council, Community Divisions, Atomic Energy Commission, and the Benton County Commission, an ordinance designed to regulate and license dogs in Richland was to become effective May 1, 1950.

MTBinns/jak
5/10/50

COMMUNITY DIVISIONS
PUBLIC WORKS DIVISIONS
APRIL, 1950

ORGANIZATION AND PERSONNEL

| | EXEMPT | NON-EXEMPT | TOTAL |
|---|---|---|---|
| Number of employees on payroll: | | | |
| March 31, 1950 | 58 | 373 | 431 |
| April 30, 1950 | 57 | 373 | 430 |
| Personnel changes made during month: | | | |
| New Employees | | 8 | |
| Transfers from Security & Services | | 1 | |
| Transfers from Power | | 2 | |
| Transfers from Electrical | | 1 | |
| Transfers from Minor Construction | | 1 | |
| Transfers to Power | | 3 | |
| Transfers to Transportation | | 1 | |
| Transfers to Maintenance | | 1 | |
| Transfers to Community Fire | | 1 | |
| Transfers to Manufacturing Transportation | | 2 | |
| Transfers within Public Works From Village Labor to Village Utilities | | 2 | |
| Returned from Leave of Absence | | 2 | |
| Terminations | | 7 | |
| Retirements | 1 | | |
| Deceased (Employee had been on Leave of Absence since November, 1949) | | 1 | |

GENERAL

The responsibility for operation of the irrigation canal was transferred from the Labor Section to the Utilities Section, as an operating function, on April 17th. Additional maintenance on the canal will still be performed by the Labor Section but only as requested on Work Orders from the Utilities Section.

Water was turned on through the main ditch on April 20th, shut off on the 24th, and returned to the ditch on April 27th. Start up of irrigation pumping stations is being expedited and will be complete by May 6th.

During the month, 241 street trees and 1447 shelter belt trees and shrubs were planted in addition to the transplanting of 49 evergreens and 77 shrubs.

PROJECTS

C-203-III - Water Supply & Sewage Facilities for Richland Village and North Richland Construction Camp - The installation of water lines by Bailey Plumbing and Heating Company is complete except for fine grading and replacement of top soil. Backfill operations flooded

PROJECTS (CONTD)

C-203-III (Contd) - heavily with water and allowed to stand 7 days before top scil is to be applied. All old fencing was removed and staking of new 6' fence is complete. Fencing subcontractor is scheduled to start work May 1, 1950. Retaining wall is complete and backfilled. Work Order was issued to seed and fill low spots and to construct roadway to the old plant.

Modification to extend completion date to June 20th was requested for this project.

Work in the pump house is complete and drawing for walkway on primary digestor is complete. Work on walkway is scheduled to be released on 5-3-50.

C-232-Part II - Construction of Robert Gray Jr. High School
C-233-Part II - Construction of Spalding School - Specifications covering contract work under irrigation projects are completed and have been turned over to the Contract Section. Preliminary notifications of anticipated work has been released to the press and bid assemblies were available April 28, 1950. All plans necessary for the execution of the work covered under the projects are complete.

C-282-R - Richland Community Dust and Pollen Program - Construction work on the By- Pass Shelterbelt is complete with the exception of installation of tail water drains and planting of three of five rows of trees and shrubs from Duportail to Van Giesen Streets. Preliminary inspection of this work indicates that nearly all the trees are in good condition and most of them are showing signs of growing. During the month, 1,447 trees were planted, and a total to date of 2,898.

Grass seeding will be started during the month of May. The present cold weather and high winds are preventing the planting as early as normally.

During the month 224 street trees were planted bringing the total of street trees planted to date to 2,471 trees.

17 trees, 49 evergreens and 77 shrubs were planted at the Municipal Building, Patrol Building, and the Public Health Building.

C-348 - Cover Administration Building #703 - Asbestos Siding - Subcontractor is 55% complete and proceeding satisfactorily.

C-351-R - Installation of Irrigation Systems - Public Grounds - Specifications covering contract work under irrigation projects are completed, and have been turned over to the Contract Division. Preliminary notification of anticipated work has been released to the press and bid assemblies were available April 28, 1950. All plans necessary for the execution of the work covered under the project are complete with the exception of the Columbia High School Playfield.

Construction of the irrigation system for shelterbelt is 95% complete. Final acceptance of this system will be arranged during May.

Community Public Works Divisions

PROJECTS (CONTD)

C-357 - Additional Capacity of Richland Sewage Lift Station - Drawings and specifications were issued to the Contract Section. Material Control Section is preparing purchase orders for that equipment to be procured by General Electric Company.

C-359 - Duane Avenue - Specifications are complete. Plans are 99% complete, and will be ready for Contract Section May 8th

C-367 Moving 10 Prefabs from Columbia Camp to Richland - Specifications are being prepared, and will be turned over to Contract Section May 8th.

C-374 - Casey Street Improvement - Plans are 95% complete. Ready for bidding May 8th.

C-382 - Additional Well 1100-D - Duke Field Area - Project Proposal was approved by A&B Committee and is in the hands of AEC Specifications are approximately 15% complete. Final drawings are 10% complete and will be ready for contract May 15th.

"S" PROJECTS

S-147 - Central Fire Station Building - Project completion report was issued 4-27-50.

S-149 - Fire Station #2 - Request to close project was issued 4-10-50.

S-216 - Rehabilitation of Irrigation Ditch - Subcontractor completed work 4-27-50, and final inspection was held 4-28-50.

S-229 - Furnace Cleaning, Conventional Houses - Cost reports and inspection reports were issued. Subcontractor is 67% complete.

S-240 - Prefab Roof Maintenance - The first phase of the project is complete except for clearing exceptions noted in final inspection.

S-255 - Development of School Areas (A) Levee Irrigation - Newton St to Gowen Avenue - In hands of Community Accounting for Appropriation Request. (B) Grass Seeding, Marcus Whitman & Frankfort Playgrounds - In hands of Community Accounting for Appropriation Request. (D) Parking Lot - Columbia Playfield - In hands of Community Accounting for Appropriation Request.

S-258 - Re-roofing of B.O.Q Dorms - Final specifications are ready for approval signatures. Ready for Contract Section May 5th.

S-269 - Fencing Water Recharge Basins - Plans and specifications were approved, and project is ready for Contract Section.

S-290 - Traffic Control Signals - In hands of the Contract Section and is being advertised for bid.

S-311 - Remodeling 722-A Building - Final specifications were issued and are ready for Contract Section.

Community Public Works Divisions

ENGINEERING DIVISION

| Number of Employees on Payroll: | EXEMPT | NON-EXEMPT | TOTAL |
|---|---|---|---|
| March 31, 1950 | 17 | 12 | 29 |
| April 30, 1950 | 17 | 12 | 29 |

Miscellaneous

Material procurement items handled during the month are as follows:

| | |
|---|---|
| Purchase Requisitions | 74 |
| Store Stock Requests | 8 |
| Store Stock Adjustment Requests | 4 |
| Purchase Orders Expedited | 18 |

Several vendor contacts were made to secure technical data for use by Design and Building Sections.

Use of ready-mixed concrete by Public Works Divisions totaled 104 cu yds. during April. Orders for this material are placed by telephone by Material Control Section.

The following number of jobs were completed on continuous engineering service requests:

| | |
|---|---|
| ESR #97-CH - Elec. & Struct. Inspections | 11 |
| ESR #100-CH - Back Charge Estimates | 7 |
| ESR #115-CF - Back Charge Estimates | 2 |
| ESR #118-CF - Approved Alteration Permits | 2 |

The following Engineering Service Requests were completed or cancelled:

| Job No. | Description | Date Completed |
|---|---|---|
| 165-CF | National Bank of Commerce | 4-18-50 |
| 192-CF | Combination Fountain Lunch & Smoke Shop | 4-18-50 |
| 209-PW | Installing Screens in Irrigation Pumps | 4-5-50 |
| 231-CF | Diettrich Food Store | 4-18-50 |
| 260-CF | Barnhart's Bakery | 4-3-50 |
| 263-PW | Installation of Sand Traps on 14" & 24" Mains | 4-14-50 |
| 276-CF | Multiple Business Building | 4-18-50 |
| 293-CH | Repairs to Tract House J 708 | 4-4-50 |
| 296-CH | Substandard Basement Stairs, A&B Houses (Recommendation Report) | 4-12-50 |
| 351-CA | Relocation of Hutments | 4-10-50 |

Community Public Works Divisions

Engineering Service Requests (Contd)

| | | |
|---|---|---|
| 358-CH | Structural Failure of B Type Houses (Recommendation Report) | 4-4-50 |
| 363-CA | Elec. Estimate for Church of Christ | 4-13-50 |
| 364-SS | Parking Area Around 705, 721 & Telephone Buildings | 4-7-50 |
| 368-FS | Fire Hydrant - Flagler & Knight Streets | 4-28-50 |

Technical information and instructions were furnished the following prospective facility operators, clubs, churches, and schools.

Proposed addition to Masonic Lodge
New Investment Building proposed by Mr. Joseph
Building of Dog Kennels at Dr. Miller's Tract Site

The Status of Commercial Facility Division Sponsored Construction is as follows:

Theater - Construction started 12-14-49 - 40% complete

National Bank of Commerce - Construction started 10-31-49 - 100% complete

Deymonaz - Construction started 9-16-49 - 100% complete

Diettrich Food Store - Construction started 11-3-49 - 100% complete

Barnhart's Bakery - Cancelled 3-30-50

Kaiser & Johnson Food & Drug - Construction started 10-17-49 100% complete

Cascade Radio Station - Still awaiting information

Multiple Business Building - Construction started 11-2-49 - 100% complete

Morgan & Olberg Drugstore - Awaiting Detailed Plans

Ellis Photographic Studio - Construction started 2-28-50 - 90% complete

Food Store - McVicker - Approved 3-30-50 - Awaiting Detailed Plans

Playland Park - Construction started 4-12-50 - 25% complete

Spencer Kirkpatrick Insurance - Approved 3-27-50 - Awaiting start of construction

The Status of Community Activities Division Construction is as follows:

Latter Day Saints Church - Construction started 2-5-49 - 90% complete

South Side United Protestant Church - Construction started 11-5-48 - 99% complete

Richland Baptist Church - Construction started 11-27-48 - 99% complete

Assembly of God Church - Awaiting information

Community Public Works Divisions

Community Activities Division Construction (Contd)

Church of Nazarene - Construction started 4-2-49 - 99% complete

Church of Christ - Construction started 12-19-49 - 85% complete

Swimming Pool Association - Awaiting information

Reorganized Latter Day Saints Church - Construction started 8-22-49 - 20% complete

Christian Science Society - Awaiting information

Catholic Church Site - Awaiting information

Northwest United Protestant Church - Approved 3-8-50 - Awaiting detailed plans

Westside United Protestant Church - Approved 10-14-49 - Awaiting detailed plans

First Baptist Church - Approved 3-22-49 - Awaiting detailed plans

Episcopal Church - Awaiting information

Central United Protestant Church - Awaiting information

Redeemer Lutheran Church - Awaiting detailed plans

Relocation of Masonic Temple - Awaiting start of work

The status of School Construction is as follows:

Chief Joseph School - Construction started 4-24-50 - 1% complete

New Elementary School - Awaiting information

Agricultural Building - Construction started 3-6-50 - 50% complete

Alteration Permit Progress is as follows:

| Facility | Description | Approved | Remarks |
|---|---|---|---|
| New City Cleaners | Install Gasoline Pump and Storage Tank | 11-23-49 | 95% complete Work to be inspected |
| Diettrich's Food Mkt. | Install Neon Sign | 1-9-50 | 100% complete |
| Laundryland | Install Neon Sign | 2-6-50 | 95% complete Work to be inspected |
| The Mixer | Install Neon Sign | 2-15-50 | 95% complete Work to be inspected |
| The Bootery | Install Neon Sign | 2-28-50 | 95% complete Work to be inspected |

Community Public Works Divisions

| Facility | Description | Approved | Remarks |
|---|---|---|---|
| Dick & Jerry's Fine Foods | Install Neon Sign | 2-6-50 | 95% complete Work to be inspected |
| Natl. Bank of Commerce | Install Neon Sign | 2-8-50 | 100% complete |
| Garmo's Food Store | Relocate Neon Sign | 3-27-50 | 95% complete Work to be inspected |
| The Mart | Alter Elec. System | 12-6-49 | 95% complete |
| The Mart Evergreen Lounge | Install Air Condi-ditoning | 3-28-50 | 95% complete Work to be inspected |
| The Mart | Alter.Elec. System | 2-2-50 | 95% complete Work to be inspected |
| The Mart | Structural Alter. | 10-5-49 | 95% complete Work to be inspected |
| The Mart | Install new doors | 3-24-50 | Awaiting Constr. |
| Desert Inn | Remodel Entrance | 3-7-50 | 30% complete |
| Columbia Service | Install Neon Sign | | Awaiting sketch |
| Anderson Motors | Install Neon Sign | 4-24-50 | Awaiting Constr. |
| Seattle 1st Natl. Bank | Install Neon Sign | 4-12-50 | 95% complete Work to be inspected |
| Parker's Hardware | Install Elec. Sign | | 95% complete Work to be inspected |
| Groceteria | Install Elec. Outlets for Frozen Food Boxes | 4-7-50 | 95% complete Work to be inspected |
| Desert Inn | Install Neon Sign | 12-9-49 | 95% complete Work to be inspected |
| Carlston & Hanson | Install Neon Sign | 7-27-49 | 95% complete Work to be inspected |
| Mil Haven Kennels | Extend present dog kennels | 4-27-50 | Awaiting start of construction |

Leased Areas were surveyed and plot plans prepared for the following:

Playland Park  Parker's Hardware Store

Report on New Work under $2,000:

New fire hydrants at M Dorms - Work is being held pending excavation equipment

7.

Community Public Works Divisions

The following work was done on streets and storm sewers:

An inspection tour on rural roads and streets was made with representatives of the Labor Section.

Project Proposal was prepared for seal coating of 10.8 miles of Village streets. Specifications are being prepared.

Work done on grounds maintenance is as follows:

The area south of Duportail, which was disturbed by construction of Housing Area F, was seeded and sprinklers installed to control sand blowing. Some additional work was done in the area around the blow hill at the intersection of Swift and Elm extended, additional seeding will be done in this area in the future The stand of rye is very good and as warm weather permits sufficient growth, the irrigation systems in some of these areas can be removed.

Additional irrigation equipment is being ordered to assure equipment on hand to control eroding areas within the Village.

Fertilizer ordered during the month of March has been received and as soon as maintenance crews can apply this to the grassed areas, this work will be completed.

Rye has been seeded wherever irrigation is installed to maintain growth. Areas included are areas between the food store on Wright Avenue and the Nazarene Church, area along Duportail, By-Pass Shelterbelt and selected areas around the blow hill. Wherever ground cover indicated blowing would be at a minimum, these areas were not disturbed and no additional seed will be planted.

Work done on irrigation is as follows:

Temporary portable lines which were installed during the winter for control of blow areas are being re-installed with invasion pipe. This pipe will serve as a temporary source of water until permanent systems approved under the irrigation projects have been installed. Survey of the grassed areas indicated that most of them are extremely dry and will develop into very weedy stands of grass unless ample irrigation and fertilization is done during the coming month.

With the irrigation water coming on, several leaks have developed causing some damage.

Report on garage building is as follows:

Three garage building permits were issued during April and six additional requests were studied and returned for additional information.

Follow-up on Unit Price contractor is being made and reports submitted weekly by members of the Community Engineering Division.

OPERATION AND MAINTENANCE DIVISION
MAINTENANCE SECTION

| Organization and Personnel | EXEMPT | NON EXEMPT | TOTAL |
|---|---|---|---|
| March 31, 1950 | 19 | 185 | 204 |
| April 30, 1950 | 19 | 183 | 202 |

Community Public Works Divisions

Maintenance Division (Contd)

| | EXEMPT | NON-EXEMPT |
|---|---|---|
| Personnel changes made during the month: | | |
| Transfers to Maintenance Division | | 1 |
| Transfers from Electrical Division | | 1 |
| Transfers from Security & Services Division | | 1 |
| On loan to Minor Construction | | 1 |
| On loan from Minor Construction | | 1 |
| Returned from Leave of Absence | | 1 |
| Terminations | | 4 |

Miscellaneous

Renovations of vacant houses completed during April amounted to a total of 66 orders, 31 of these being conventional houses and the remainder (35) prefab houses. The work involved on these orders included 53 complete interior paint jobs, 5 partial paint jobs, and miscellaneous repairs and cleaning as required to place these houses in acceptable condition. There are 17 open renovation orders on hand at close of the month.

A total of 31 conventional houses and 70 prefab houses were completed in the interior paint program. All conventional houses in Divisions IV and V scheduled for interior painting this year have now been completed and men assigned to this program are now concentrated in the prefab area.

Painting of walls which were water stained during past winter was completed in 39 houses, and the entire interior of the Red Cross Building, and the restuarant and waiting room of Commercial Bus Depot were repainted. Painting was also completed in 4 rooms and entrance lobby of 703 Building, and 15 rooms and west corridor of Kadlec Hospital.

Miscellaneous paint work completed includes touch up work in 83 bathrooms or kitchens, spraying of 95 cross-walks and approximately 4 miles of road stripe. Spraying of fire hydrants is now 50% complete.

Carpentry labor necessary to prepare 75 railroad car loads and 5 motor truck loads of lumber for shipment was supplied to the Excess Division and crating of material for this same Division required the full time of 3 carpenters at Pasco.

Floors in 32 A&J houses and 66 precut houses were leveled by jacking and shimming, and faulty timbers were replaced in footings and foundations of 24 prefab houses.

Concrete bath tubs which were leaking or cracked were replaced with metal bath tubs in 68 houses and tyle-bord was installed at the same time In addition to these 68 installations of tyle-bord, 46 tyle-bord jobs were completed where tub replacement was not involved, thus making a total of 114 "tyle-bord" installations.

Re-enforcing of pilings under ramp to Pasco River Pump House was accomplished by cutting away of decayed timber and pouring of 16 cubic yards of concrete around the piles after placement of dowels. Major repair work on Pasco warehouse fire doors is now totally complete.

Community Public Works Divisions

Miscellaneous (Contd)

Installation of bubbler head irrigation system in shelter belt west side of Richland was completed on April 26 1950.

A new water service line and sewer line connecting to main sewer line were installed at L-928, this work being done to eliminate an old septic tank, and a shallow water line which froze during the cold weather.

Seasonal servicing of evaporative coolers in dormitories and 700 Area buildings is 90% complete, the remainder to be completed when shipment of excelsior pads is received. Installation of over-flow pans under air coolers in Kadlec Hospital is in process.

Fabrication of steel plate covers for 700 Area dry wells is in process, and the installation of these covers will eliminate old wooden covers which have rotted and become safety hazards.

Overhaul of irrigation system pumps is complete with the exception of one motor for #5 pump house which is awaiting delivery of a thrust bearing.

Domestic well #12 was pulled and overhauled and is now back in service. It was necessary to replace all bearings, bearing retainers and shafting on this pump because of severe sand cutting, and the tail pipe was shortened by approximately six feet in the hope that this will eliminate some of this cutting outby sand.

The remodeling of a space in Kadlec Hospital to provide four examining rooms for industrial doctors is approximately 75% complete and is proceeding.

Installation of a concrete retaining wall and concrete stairway was completed at sewage treatment plant.

Three Richland School District hutments were moved from former location west of 700 Area to new locations in south end of Richland.

A listing of miscellaneous work completed during April includes replacement of 8 laundry trays, 15 kitchen sinks, 2 wash basins, 2 prefab stop and waste valves, and 10 prefab shower stalls; repair or replacement of linoleum on 113 floors and 69 kitchen sink boards; repair of 48 screen doors and 71 roofs; overhaul of 27 electric ranges; repair and refinishing of 29 chairs and 22 tables; recovering of 1 davene and 13 chairs; sanding and finishing of floors in 7 houses; lining with celotex of 15 prefab utility rooms; installation of concrete rear walks to 20 ranch houses; and the sealing and caulking of linoleum edge around sinks in 206 houses, this being a preventive measure to extend life of linoleum.

Service Order Group

A total of 2096 orders were completed by the Service Order Group, 93% of this work being for Housing Division, 2.9% for General Division, 2.3% for Commercial Facilities Division, and the remainder for various other groups.

The following is a status report on service orders as of the end of April:

| | |
|---|---|
| On hand at beginning of month | 202 orders |
| Received during month | 2150 orders |
| Completed during month | 2096 orders |
| On hand at end of month | 256 orders |

Community Public Works Divisions

UTILITIES SECTION

| Organization and Personnel | EXEMPT | NON-EXEMPT | TOTAL |
|---|---|---|---|
| March 31, 1950 | 9 | 56 | 65 |
| April 30, 1950 | 9 | 56 | 65 |

Personnel changes made during the month:

| | |
|---|---|
| Transfers to Power | 2 |
| Transfers from Power | 2 |
| Transfers to Transportation | 1 |
| Transfers from Village Labor | 2 |
| Terminations (Employee deceased after being on Leave of Absence since November, 1949) | 1 |

Steam Facilities

The steam load at the 784 Boiler House has decreased sufficiently to carry the load with two boilers in service.

Routine overhaul work has been commenced on the boilers that have been taken out of service. Overhaul work on #3 boiler is about sixty percent complete.

The Bailey flow meter on #1 boiler was removed, completely overhauled and re-installed and is ready for service.

Central Steam Plant

| | |
|---|---|
| Steam Generated | 23,273 M. lbs. |
| Steam Sent Out | 19,962 M. lbs. |
| Coal Consumed | 3,580 M. lbs. |

Domestic Water

Domestic water consumption has increased considerably during the month. This has caused a considerable decrease in the water table in the Richland well field. We have cut back on the water production from the Richland field since the 3000 Area percolation basin has been flooded and more water is available from that source. This should help the Richland field water table to recover.

All scheduled pump overhauls on the Richland and 3000 Area wells have been completed. The "B" well at Columbia field will be pulled and overhauled as soon as convenient.

Some difficulty has been encountered with water main leakage on the 14" water distribution main on Lee Boulevard west of RR tracks. Plans are being made to replace about 600 feet of this line that is known to be in poor condition.

Some evidence of sagging in the roof structure over the south reservoir at the consumers pump station has been noted recently. It may be necessary to take some emergency measures.

Community Public Works Divisions

Utilities (Contd)

Domestic Water System

| | Well Production Million Gallons | Avg. Daily Production | Total Consumption Million Gallons | Avg. Daily Consumption |
|---|---|---|---|---|
| Richland | 111.8330 | 3.7278 | 179.2288 | 5.9743 |
| No. Richland | 44.5275 | 1.4843 | 26.6577 | 0.8886 |
| Columbia Field | 84.0368 | 2.8012 | | |
| 300 Area | | | 35.1705 | 1.1724 |
| Totals | 240.3973 | 8.0133 | 241.0570 | 8.0353 |

Sewage System

Satisfactory progress has been made on Project C-203, Part III at the sewage plant. Several items have been completed. Plans are being made to start construction work on the new fence in the near future.

The week beginning April 17, the operating personnel at the Sewage Disposal Plant was reduced to one man per shift. Some slight changes in operating procedures were necessary to accomplish this, but it seems to be working out very well. This change will result in a saving of about $700 per month now and about $1,050 per month after July 1.

Operation of the digester at the #1 Sewage Treatment Plant has been discontinued to allow digester gas production to discontinue. When digester has been completely work out it is to be opened up and thoroughly cleaned.

Sewerage

| | Total Sewage Flow Million Gallons | Average Daily Flow Million G.P.D. | Average Rate Flow Gals. per min. |
|---|---|---|---|
| Plant No. 1 | 27.000 | 0.8710 | 605 |
| Plant No. 2 | 43.400 | 1.4000 | 972 |
| Totals | 70.400 | 2.2710 | 1577 |

Irrigation System

Responsibility for operation of the irrigation ditch was transferred from the Labor Section to the Utilities Section effective April 17, 1950. Two canal tenders were transferred to the Utilities Section with this responsibility. A saving equivalent to the time of 2½ men and one foreman, or about $15,000 per year is being made.

Water was brought down the irrigation ditch and through the lateral to the 3000 Area percolation basin and #3 irrigation pump station on April 3rd. Turning water on through the main ditch to facilitate relocation of the ditch west of Columbia High School. Water was brought through the ditch on April 20th. In the relocated section of ditch considerable erosion took place and on April 24th it became necessary to drain the water out of the ditch and cover the sides of ditch channel with coarse gravel to prevent further erosion. Water was returned to the ditch on April 27th, and at present is operating satisfactorily.

Community Public Works Divisions

Irrigation System (Contd)

Start up of irrigation pumping stations and systems is in progress and is being expedited. Systems #3, #4 and parts of #1 and #5 are in service at the end of the month, with the balance to be in service by May 6th.

Pasco Warehouse Area

A considerable amount of repairs were made on pilings at river pump station.

LABOR SECTION

| Organization and Personnel | EXEMPT | NON-EXEMPT | TOTAL |
|---|---|---|---|
| Number of employees on payroll: | | | |
| March 31, 1950 | 9 | 118 | 127 |
| April 30, 1950 | 8 | 120 | 128 |
| Personnel changes made during the month: | | | |
| New Employees | | 8 | |
| Transfers from Minor Construction | | 1 | |
| Transfers to Community Utilities | | 2 | |
| Transfers to Transportation | | 1 | |
| Transfers to Power | | 1 | |
| Transfers to Maintenance | | 1 | |
| Transfers to Purchasing & Stores | | 1 | |
| Returned from Leave of Absence | | 1 | |
| Terminations | | 2 | |
| Retirements | 1 | | |

Miscellaneous

The garbage and refuse collection continued as usual, with the residential trash collection Wednesday of each week. Five men used each Saturday on garbage and trash removal from Commercial Facilities and Stores. Two complete collections of garbage were made each week in residential areas during April, 1950.

Labor foreman O.S. Sinderson retired April 14, 1950.

All company tended orchards are cleaned, disced and ready for watering.

Twenty additional acres of blow area were seeded to rye during April.

Planting with the exception of the evergreens on the By-Pass Shelter Belt completed during April. All pipe work on the irrigation system for same complete.

During the month of April, 241 street trees were planted, 49 evergreens were transplanted, 77 shrubs were transplanted, and 1447 shelter belt trees and shrubs were planted.

Ninety-one lots of topsoil delivered for Tenant Relations.

Community Public Works Divisions

Miscellaneous (Contd)

The handling of Government and personal fixtures continued during April. Seven lots of personal furniture and four baggage pickups were handled this month. Beginning May 1st this group will discontinue the handling of personal furniture.

Miscellaneous excavation and backfill jobs this month included the installation of water and sewer service to the new facility on Stevens Drive west of 700 Area; installation of irrigation risers at Carmichael Jr. High, relocation of the water line along the canal and Thayer Driver, repair of leaks in water main on Wellsian Way along Lee Blvd., and the repair of leak in irrigation main at Cullum and Lee.

The installation of two ten inch pumps on drain ditch and Geo. Washington Way is complete.

Irrigation of public areas is getting underway. All of the pump systems should be under pressure next week. Cleaning of the drainage ditch from Stevens Drive north will be started this week.

Road and street maintenance is progressing satisfactorily. A new parking lot is being constructed at the United Protestant Church on Stevens Drive. The installation of a three hundred foot drain on Goethals Drive by Garno's Market was completed this month. Our street drainage work is increasing due to an excess of water run off from sprinklers.

Materials used this month:

| | |
|---|---|
| **Pre-Mix** | |
| Road Patching | 74.0 tons |
| Steps and service walks | 36.5 tons |
| Parking compounds | 6.0 tons |
| Total | 116.5 tons |
| **RR X-ties:** | |
| Sand blow shelter, West end Swift | 265 |
| Parking lot bumper logs | 18 |
| Flood control pump platform | 32 |
| Total | 315 |
| **Bitumuls** | |
| 10 bbls. for all blacktop work on streets | |
| **Gravel & Chips** | |
| 3/4" Minus Gravel - Protestant Church parking lot | 239 yds. |
| Miscellaneous Roads & Streets | 158 yds. |
| Total cu. yds. used | 397 yds. |
| 1-1/4" clean chips | 4 cu. yds. |
| Sand | 6 cu. yds. |
| **Pit Run Gravel** | |
| Protestant Church Parking Lot | 42 yds. |
| Canal Stabilization | 643 yds. |
| Flood Control | 194 yds. |
| Miscellaneous | 179 yds. |
| Total Cu. Yds. Pit Run Used | 1058 yds. |

Material delivered to yard:
250 Tons Pre-Mix

COMMUNITY COMMERCIAL FACILITIES DIVISION

April, 1950

| ORGANIZATION AND PERSONNEL | APRIL |
|---|---|
| Number of employees on payroll | |
| Beginning of month | 15 |
| End of month | 15 |

COMMERCIAL FACILITIES:

| Number of Commercial Facilities Employees: | |
|---|---|
| March | 1,011 |
| April | 1,054 |
| Net increase | 43 |

The following routine items were processed:

| | |
|---|---|
| Work Orders | 26 |
| Back Charges | 11 |
| Service Orders | 16 |

CONTRACTS AND NEGOTIATIONS:

Supplemental Agreement was entered into with the following firm:

Railway Express Agency - Supplemental Agreement No. I, dated July 1, 1949, which provides for a change in the monthly rental to provide for a fuel allowance to the Operator.

Commercial Facility Leases were entered into with the following firms for the construction of buildings and operation of businesses as outlined below:

Amusement Enterprises, Inc. (H. A. Andrews and Gordon Mathews) - Lease dated April 1, 1950 - covering the construction and operation of an amusement park to be located in the Light Industrial Area.

Spencer-Kirkpatrick Insurance - Lease dated April 15, 1950 - covering the construction and operation of an insurance agency and investment building in the Uptown Business Area.

Klopfenstein's, Inc. was authorized to sublet a portion of its building to Martin & Tuttle of Seattle for the establishment and operation of a women's shoe department.

The Desert Inn was authorized to establish a car rental service in connection with the International & Domestic Travel Service, to be known as Hales Car Rental Service.

Garmo's was authorized to sublet its bakery to Charles R. Cloud and Gordon T. Tyree, to be known as the Richland Bakery.

Midstate Amusement Corporation was authorized to sublet space in their new theater building in the Uptown Business Area to R. J. Skewes of Richland, Inc. for use as a custom-built furniture and drapery store.

Davis Furniture Company was authorized to sublet space in the basement of its building in the Uptown Business Area to Lee Curtis, of Bremerton, Washington, for use as a radio repair shop.

Invitations to Submit Proposals were forwarded on April 24, 1950 to prospective bidders for the construction of a building to be located on one or more of the sites listed below:

The 45' frontage in Block 1, Uptown Business Area
The 55' frontage in Block 4, Uptown Business Area
The 110' frontage available in Block 6, Uptown Business Area

Invitations to Submit Proposals were forwarded on April 25, 1950 to prospective bidders for a drive-in restaurant to be located on a plot of land approximately 125' x 175' located at the northwest intersection of Duane Avenue and Gillespie Street, Richland, Washington.

An award was made to Stanley N. Randolph to operate a general insurance agency with stenographic and telephonic services in connection therewith, and to sublease space to others in Building 85X, 713 George Washington Way.

An award was made to Dr. J. C. Miller to operate a dog-boarding kennel on Tract K-772.

COMMERCIAL FACILITIES EXPANSION PROGRAM:

| | March | April |
|---|---|---|
| 1. Number of Government-owned Buildings | 35 | 35 |
| (a) Number of businesses operated by Prime Lessees | 48 | 48 |
| (b) Number of businesses operated by Sublessees | 9 | 11 |
| (c) Total businesses operating in Government-owned buildings | 57 | 59 |
| 2. Number of Privately-owned Buildings | 29 | 29 |
| (a) Number of businesses operated by Prime Lessees | 30 | 33 |
| (b) Number of businesses operated by Sublessees | 12 | 12 |
| (c) Total businesses operating in Privately-owned buildings | 42 | 45 |

| | March | April |
|---|---|---|
| 3. Total Number of businesses in operation | 99 | 104 |
| 4. Privately-owned Buildings under construction | 2 | 3 |
| 5. Leases awarded | 0 | 2 |

The following Commercial Facilities opened for business this month:

A women's apparel shop, sublessee of Klopfenstein's, Inc., opened for business on April 1.

The Richland Bakery, sublessee of Garmo's, started operations on April 2.

The Evergreen Lounge, a department of The Mart, opened for business on April 3.

Amusement Enterprises, Inc. started construction of a children's playground on the west side of Stevens Drive between Swift and Lee Boulevard on April 11.

Final inventory was taken of Government-owned equipment located in Richland Motor Company.

REQUESTS FOR ESTABLISHMENT OF BUSINESSES IN RICHLAND:

A number of individuals and firms, the majority of which were not interested in constructing their own buildings, expressed a desire during the month to establish and operate businesses in Richland. The types of establishments desired are shown in the following list:

| | |
|---|---|
| Bakery | General Merchandise Store |
| Barber | Golf Course |
| Billiard Parlor | Investment Building |
| Confectionery | Law Office |
| Department Store | Laundry |
| Dairy & Dairy Products | Multiple Business Building |
| Dog Kennel | Photographic Studio |
| Drive-in Restaurant | Service Station |

COMMUNITY DIVISIONS

COMMUNITY HOUSING DIVISION

April, 1950

ORGANIZATION AND PERSONNEL

| | April |
|---|---|
| Number of employees on payroll | |
| Beginning of Month | 41 |
| End of month | 44 |
| Increase | 3 |

RICHLAND HOUSING

Housing Utilization as of Month End

| Houses Occupied by Family Groups | Conventional | Block | T | Precut | Ranch | Prefab | Apt. | Tract | Total |
|---|---|---|---|---|---|---|---|---|---|
| Operations | 2221 | 269 | 4 | 378 | 834 | 1145 | 60 | 41 | 4952 |
| Commercial Facilities | 96 | 6 | 1 | 26 | 71 | 58 | 2 | 4 | 264 |
| Community Activities | 10 | | | 1 | 8 | 3 | | 2 | 24 |
| Post Office | 5 | | | 1 | 2 | 13 | | 3 | 24 |
| Government | 102 | 33 | | 13 | 42 | 23 | 4 | 4 | 221 |
| Schools | 40 | | | 6 | 11 | 49 | 1 | | 107 |
| Kellex Corporation | 1 | 5 | | 4 | 4 | | | | 14 |
| Atkinson-Jones | 8 | 15 | | 6 | 10 | 2 | 4 | | 45 |
| J. G. Turnbull | 1 | 1 | | 2 | 5 | 3 | | | 12 |
| C. T. Main Co. | 2 | | | 5 | 3 | 1 | 1 | | 12 |
| J. A. Terteling | | | 5 | 1 | 2 | | | | 8 |
| Newberry Neon | 3 | 1 | | 1 | | | | | 5 |
| Vernita Orchards | | | | | | | | 3 | 3 |
| Urban-Smythe & Warren | | 1 | | | 1 | | | | 2 |
| Roberts Filter | | | | | | 1 | | | 1 |
| TOTAL HOUSES OCCUPIED | 2489 | 331 | 10 | 444 | 993 | 1298 | 72 | 57 | 5694 |
| Houses assigned - awaiting tenants | 9 | | | 5 | 6 | 32 | 2 | 3 | 57 |
| Houses assigned - (Leases written) | 2 | 2 | | 1 | 1 | 2 | | | 8 |
| TOTAL HOUSES | 2500 | 333 | 10 | 450 | 1000 | 1332 | 74 | 60 | 5759 |

COMMUNITY HOUSING DIVISION

| Housing Turnover During Month | Begin Month | Moved In | Moved Out | Month End | Difference |
|---|---|---|---|---|---|
| Conventional Type | 2486 | 24 | 21 | 2489 | Plus 3 |
| Block Type | 333 | 1 | 3 | 331 | Minus 2 |
| T Type | 10 | 0 | 0 | 10 | None |
| Precut Type | 443 | 10 | 9 | 444 | Plus 1 |
| Ranch Type | 992 | 19 | 18 | 993 | Plus 1 |
| Prefab Type | 1299 | 35 | 36 | 1298 | Minus 1 |
| Apartments | 68 | 7 | 3 | 72 | Plus 4 |
| Tract | 57 | 0 | 0 | 57 | None |
| Total | 5688 | 96 | 90 | 5694 | Plus 6 |

Dormitory Statistics

| Dormitories | | Occupants | Vacancies | Total Beds |
|---|---|---|---|---|
| Men - Occupied | 13 | 512 | 4 | 516 |
| Men - Unoccupied | | | | |
| Women - Occupied | 13 | *465 | **166 | 631 |
| Women - Unoccupied | 2 | | | |

| Women's Dormitories occupied by: | |
|---|---|
| G. E. Office | 1 |
| Education | 1 |
| Apartments | 1 |
| | 31 |

* This includes space of 4 beds in W-9 used for supply rooms and dormitory offices.
** This includes 100 beds in "Standby Condition" in W-17 and W-20.

| GENERAL | Allocation Section Statistics |
|---|---|
| Houses allocated to new tenants | 26 |
| Exchanged houses | 41 |
| Moves (within the village) | 33 |
| Turnovers | 2 |
| Total leases signed | 96 |
| Terminations | 32 |
| Total Cancellations | 90 |
| Applications Pending | 290 |
| Voluntary Terminations | 12 |
| R. O. F. | 1 |
| Transfers | 1 |
| Retirements | 2 |
| Moves Off Project | 16 |
| Houses assigned "As Is" | 22 |
| Houses sent to renovation | 37 |

Tract house L-854 was completed April 28, 1950 and is ready for occupancy.

Expermients were conducted during the month in three "A" type houses and two precut houses in an effort to discover a more practical method of refinishing soft wood floors. The process deals with cleaning and sealing floors while the house is vacant. These exporiments are being conducted by the Maintenance Division.

TENANT RELATIONS

Processing of Service Orders, Work Orders and Service Charges

| | Issued from March 31 to April 30, 1950 | Incomplete April 30 | Issued Previous Month |
|---|---|---|---|
| Service Orders | 2150 | 256 | 2577 |
| Work Orders | 622 | 2778 | 1114 |
| Service Charges | 204 | 59 | 215 |

31 Conventional houses were painted on the interior by project forces as compared to 26 the previous month.

70 Prefab houses were painted on the interior as compared to 34 the previous month.

83 Kitchens and bathrooms were painted and repaired as compared to 63 the previous month.

7 Conventional houses had floors sanded and refinished.

4 Conventional houses had floors patched. New boards were installed.

66 Precuts were jacked up and shimmed as compared to 7 the previous month.

32 A & J houses were jacked up and shimmed as compared to 37 the previous month.

24 Prefab foundations were repaired and leveled, as compared to 27 the previous month.

39 Work orders were completed on walls damaged by ice and water.

2 Basements were completely painted with Bondex for waterproofing.

ITEMS OF INTEREST

| | Total Outstanding | Total Outstanding Previous Month |
|---|---|---|
| Laundry Tubs | 39 | 39 |
| Bathroom Tileboard | 298 | 223 |
| Bathtubs | 169 | 180 |
| Kitchen sink linoleum | 145 | 176 |
| Bathroom floor linoleum | 182 | 110 |
| Kitchen floor linoleum | 28 | 114 |

TENANT RELATIONS

Alteration permits issued during the month of April totaled 118 as compared to 112 the previous month.

| | | | |
|---|---|---|---|
| Reverse Range and Refer | 1 | Awnings | 2 |
| Remove shelves | 1 | Basement windows | 1 |
| Dishwasher | 1 | Basement excavation | 8 |
| Fences | 42 | Water softener | 5 |
| Back door in prefab | 1 | Electrical wiring | 5 |
| Automatic washer | 7 | Clothes poles | 4 |
| Relocate coal bin | 2 | Automatic dryer | 3 |
| Refinish floors | 4 | Partitions | 1 |
| Tool sheds | 4 | Playground equipment | 2 |
| Air conditioner | 15 | Patio | 4 |
| Front porch ramp | 1 | Remove laundry tubs | 1 |
| Glaze sun porch | 1 | Radio antenna | 1 |
| Change cupboard doors | 1 | Driveway | 4 |
| Exterior painting | 1 | Remove broom closet | 2 |

1451 Inspections were made during the month of April, 1950. A breakdown of the inspections shows the following distribution:

| | | | |
|---|---|---|---|
| Grass Seed | 196 | Lot Lines | 75 |
| Top Soil | 135 | Bathrooms | 78 |
| Floor Boards | 45 | Sidewalks | 69 |
| Leaking basements | 14 | Linoleum | 87 |
| Walls | 127 | Alteration Permits | 1 |
| General Inspections | 4 | Shades | 111 |

1575 Pounds of grass seed were issued.

DORMITORIES

Dirt fills are being made around the foundations of buildings.

Sanding and sealing of floors in M-10 has been completed.

Sanding and sealing of floors in W-20 is being completed.

M. S. WAREHOUSE SUMMARY FOR 3-27-50 thru 4-25-50

TOTAL INV. $107,152.72

INVENTORY ITEMS AMOUNT $66937.93

| RECEIVED IN INVENTORY | CODE | AMOUNT |
|---|---|---|
| ON STORE ORDERS | | $2,490.93 |
| ON PURCHASE ORDERS | | 271.50 |
| FROM EXCESS | | |
| FROM HOUSING (20-20) | | 107.04 |
| FROM DORMS (21-20) | | 154.93 |

TOTAL RECEIPTS $3,024.45

| INVENTORY DISBURSED | | |
|---|---|---|
| TO EXCESS | | $23.31 |
| MISC. CHRG. | | 909.01 |
| FREE ISSUE | 20-20 | 5,788.09 |
| CASH ITEMS | 20-20 | 104.60 |
| DORM SUPPLIES | 21-20 | 910.22 |
| DORM LINENS | 21-20 | 616.29 |
| DORM FURNITURE | 21-20 | 22.00 |
| WHSE. SUPPLIES | 20-20 | 22.69 |

TOTAL DISBURSED $8,396.71

INVENTORY ITEMS BALANCE $61,565.67

PLANT ITEMS AMOUNT $40,214.79

| | CODE | AMOUNT |
|---|---|---|
| RECEIVED | 20-20 | $1,271.58 |
| DISBURSED | 20-20 | 1,554.34 |
| DISBURSED TO EXCESS | | |
| DISBURSED TO SALVAGE | | |

TOTAL DISBURSED

PLANT ITEMS BALANCE $39,932.03

GRAND TOTAL INVENTORY $101,497.70

| | PIECES |
|---|---|
| DORM FURNITURE EXCHANGES | 91 |
| RANGES EXCHANGED | 11 |
| REFRIGERATORS EXCHANGED | 12 |
| PREFAB HEATERS EXCHANGED | 145 |
| SENT TO MAINTENANCE | 112 |
| RECEIVED FROM MAINT. | 0 |

1220073

COMMUNITY SAFETY DIVISION
April, 1950

ORGANIZATION AND PERSONNEL

| | April |
|---|---|
| Number of employees on Payroll | |
| Beginning of month | 3 |
| End of month | 3 |

GENERAL

The Child Pedestrian and Bicycle Safety Campaign which was sponsored by the Richland Parent Student Council, was quite successful for the month of April. It was well planned, and each school was well represented.

During this program, there were six radio interviews, approximately fifteen minutes each, from the local stations. Newspaper coverage amounted to one hundred and thirteen column inches in local papers, including one editorial. A parade was given on April the first, with the School Boy Patrol announcing their support of the program. The Boy Scouts carried out a house to house distribution of a Child Pedestrian and Bicycle Safety pamphlet, published by the Student and Parent Council. All crosswalks near the schools were re-painted during April. Pieces of printed material, donated from various organizations, such as insurance companies, American automobile associations, etc., were distributed at various spots. A program was held in each school by Lee Edgar, of Richland Patrol, who gave a twenty minute talk on Child Pedestrian and Bicycle Safety, A fifteen minute film on the same subject was included in the program. The Sacajawea Highschool gave an assembly on Traffic Safety. A Poster Contest was conducted and the winning posters will be submitted with the National Traffic Inventory for this year.

Both Highway Bulletins were posted with a "Don't Be A Killer" sign. Climaxing the program was the parade, held in Richland on April the 29th, which consisted of approximately a thousand bicycles; some elaborately decorated. The parade was escorted through Richland by Patrol, and ended up at the Columbia High School Ball Diamond, where the various schools participated in the Bicycle Rodeo. A number of contests were held and keen interest and competition was exhibeted between the schools. Good supervision and planning was executed by the responsible parties, particularly the atheletic coaches of the schools. The audience expressed good enthusiasm, and the definite interest expressed by the school representatives may make the Bicycle Rodeo an annual event.

The Richland Safety Council held their monthly meeting on April the 9th, and a three month program was planned, in keeping with long range program which was agreed upon at this meeting.

The program Committee meeting was held on April the 24th, making definite plans for the June and July Safety program. There was a hundred per cent attendance of committee chairmen. Each chairman was presented a package of material which would assist him in formulating his June and July programs. These packages were prepared by this office.

Community Safety

Plans and specifications were reviewed on fire and safety features for the proposed plans of the First Baptist Church. The final inspections were made on a number of business houses with the Engineering Group. Inspection was made on the Latter Day Saint Church.

The Fire Prevention Survey was discussed, relative to Commercial Facility operation, with Hal Smith of the Commercial Facilities Division.

As of this date, there have been eight hundred and fifty-eight column inches of newspaper material on Community Safety subjects, nine radio programs, varying from six to fifteen minutes and approximately 750 spot announcements over the three radio stations. These quantities have far exceeded those of the same period last year.

Dick Richards, Manager of the Tri-City Braves, agreed to use Safety Spot Announcements as a manner of caution to drivers during the game, and particularly during the time that motorists are leaving the ball park. This office volunteered to supply him with spot announcements for this purpose.

COMMUNITY FIRE PROTECTION DIVISION

APRIL 1950

Organization and Personnel

| Number of employees on payroll | April |
|---|---|
| Beginning of the month | 104 |
| Optional Retirement - 1 | |
| Transfer - 1 | - 2 |
| End of the month | 102 |

| | Richland | North Richland |
|---|---|---|
| Response to alarms | 13 | 7 |
| Fire Loss (estimated) | | |
| Hanford Works | $ 0.0 | $ 0.0 |
| Personal | 105.00 | 203.00 |
| Investigation of minor fires and incidents | 13 | 2 |
| Safety Meetings | 8 | 4 |
| Outside drills | 31 | 36 |
| Inside drills | 17 | 3 |
| Fire alarm boxes tested | 179 | 75 |

Miscellaneous Fire Department Activities

Apparatus stood by at Government Airport during three aircraft landings.

Apparatus stood by during controlled burning in two hazardous areas.

Aerial ladder truck and two firemen dispatched to Government Airport to assist on replacement of beacon light.

Hose was replaced in fire hose boxes in 700 Area, Transportation Labor Yard and Salvage Yard.

Three safety meetings were conducted for Community Utility employees with first aid instruction.

Three Boy Scouts were examined for firemanship merit badges.

Remodeled food and laundry lockers at Station 1.

Remodeled rack for miscellaneous firefighting tools on aerial ladder truck and installed tool holders on Engine 37.

Hedges and shrubbery furnished by Landscaping group planted at Stations 1 and 2.

Fire man R. L. Almond gave blood for emergency transfusion at Kadlec Hospital.

Conducted evacuation drill at 101 Building in North Richland.

Seven North Richland firemen attended movie "The Price of Freedom" at Village Theatre.

"Chemistry of Fire" data was prepared and distributed to all officers and firemen for instruction and reference purposes.

Richland Fire Prevention

Fire Inspections:

| | |
|---|---|
| 700 Area Buildings | 54 |
| 1100 Area Buildings | 102 |
| Commercial Facilities (Gov't owned) | 57 |
| Schools, Clubs, Churches | 8 |
| Government Airport | 6 |
| Total | 227 |

Fire Extinguishers:

| | |
|---|---|
| Inspected | 751 |
| Refilled | 19 |
| Installed | 14 |
| Relocated | 10 |
| Removed | 12 |
| Lost or stolen | 1 |

Demonstrations and Lectures:

On April 25th a talk on fire prevention was given to employees of Project Engineering Division.

Demonstrated the recharging and use of 40-gallon fire extinguisher to entire high school agriculture class.

Fire Exit Drills:

A fire drill was conducted in the 760 Building on April 19th. Evacuation was completed in 1½ minutes. The drill was conducted according to procedure and the alarm system operated satisfactory.

On April 28th a fire drill was conducted in Building 720. Because a circuit fuse had been removed, evacuation horns did not operate on the first signal. This led to a recommendation that a locked cover be installed on the fuse box. After the circuit was energized, a satisfactory drill was conducted.

An April 28th test of evacuation alarm in the Desert Inn revealed one horn failed to operate. Proper adjustments were made.

Miscellaneous Fire Prevention Activities:

Evacuation procedure for 720 Building was revised.

Conversion of existing fire hose boxes in the 700 and 1100 Areas to conform with Hanford Works Standard A-2-1 was recommended by letter to supervision in charge of these areas.

Several meetings were held with Kadlec Hospital officials regarding the proposed alterations and additions to hospital buildings.

Upon our recommendation, two additional heat detectors and a pilot light on the electric iron circuit were installed during alterations to 770-A Building.

Assistance was given A. E. C. engineers on a survey of Lewis and Clark and Sacajawea Schools to determine the cost of bringing these buildings up to the Uniform Building Code standards.

On our recommendation, hazardous exterior conditions existing in new commercial areas were greatly improved.

Supervision of the 720 Building agreed to correct the hazardous parking problem around this building to conform with our recommendation.

Inspected the storage and handling of ditto fluid and a report of findings was submitted to Safety and Fire Protection Division. Refilling the new type ditto machines cannot be done in compliance with present safety procedures.

Following a recommendation from this office, all air conditioning units in the 703 Building were provided with cut-off relays to operate in event of building alarm.

## COMMUNITY DIVISIONS

## COMMUNITY PATROL

## APRIL 1950

### ORGANIZATION AND PERSONNEL

| Number of employees on payroll: | April |
|---|---|
| Beginning of month | 84 |
| End of month | 84 |

### GENERAL

Effective April 24, 1950, Community Patrol assumed responsibility for expediting maintenance of its own automotive equipment. This function was formerly performed by the Security and Services Patrol Division on a charge back basis to the Community Patrol Division. This change constitutes a savings equivalent to the salary of one patrolman full time.

Community Patrol participated with other law enforcement agencies and civic organizations in the Tri-Cities in sponsoring the Tri-City Papooses, an organization designed to provide free admission for children from 10 to 12 years of age to Western International Baseball League games played at Sanders Field in Kennewick.

Began periodic checks of G. E. Engineers office building (old McNeil building) at 500 Thayer Drive on April 19, 1950. Security Patrol was formerly responsible for checking this building, however, discontinued their checks on above date.

During the month, Capt. J. S. Johnson of the Crime Prevention Section gave several talks on juveniles and public relations to the League of Women Voters.

During the first part of April a new identification laboratory room was opened containing all of our Patrol identification and fingerprint material and equipment. Also fingerprint files were set up in this room and our own personnel began classification of prints taken of prisoners processed through jail.

During the month, 165 traffic violation reports were received which consisted mainly of Speeding, Stop Sign Violation, and Illegal Parking. A total of 114 other reports were received which consisted mainly of Petit Larceny, Investigation, Public Intoxication, and Malicious Mischief.

During the month, a total of 61 letters were received, consisting of 58 inquiries on arrests and 3 requests for assistance.

During the month, 15 prisoners were processed through the Richland Jail.

During the month, 22 gun registrations were taken by Community Patrol.

During the month, 187 bicycle registrations were taken by Community Patrol.

TRAFFIC

Traffic accidents in Richland declined from 13 in March to 10 in April. Traffic volume counts taken on major arterials showed a slight increase. Counts taken at the Yakima River Bridge on George Washington Way indicate that approximately 9,800 vehicles use this arterial each day.

There were no traffic accidents in North Richland during April. Traffic volume over the roads and streets in North Richland and vicinity showed a sharp increase of approximately 30% over the previous month.

Patrolman E. L. Edgar showed a traffic safety film and gave a 20 minute lecture on pedestrian and bicycle safety to all students attending schools in Richland and North Richland. Each principal arranged for a general assembly on a school day for the showing of the film and the lecture.

Traffic safety lectures were given to eleven plant and civic groups during April. The traffic safety film "The Careless Driver" was shown to each of the groups prior to the lecture.

All crosswalks in the vicinity of the Richland schools were freshly painted last month. Arrangements have been made with the Community Public Works Division to repaint all curbs and crosswalks in the business district and to repaint the center lines of all arterials during the month of May.

TRAINING

Subjects covered in the lieutenant's training classes for the month of April were as follows:

Statutes on Assaults
Investigation of Homicide

Advance training for Community Patrol members at the small arms range for the period in field instruction was as follows:

| | |
|---|---|
| Pistol | $1\frac{1}{2}$ hours |

The 38 caliber revolver was used in controlled firing at the standard F. B. I. target at a distance of seven yards. Scores were kept, but no qualifications were made. A total of 58 men reported to the Range for training.

Community Patrol Division - Continued

ACTIVITIES AND SERVICES (RICHLAND)

| | February | March | April |
|---|---|---|---|
| Check on absentees | 2 | 3 | 6 |
| Persons assisted * | 189 | 205 | 216 |
| Doors and windows found open | 40 | 41 | 26 |
| Lost children | 4 | 29 | 16 |
| Ambulance runs | 34 | 32 | 28 |
| Lost dogs reported | 15 | 8 | 7 |
| Dog, cat, loose stock complaints | 116 | 58 | 53 |
| Persons injured by dogs | 4 | 6 | 8 |
| Bank escorts and details | 35 | 45 | 39 |
| Fires investigated | 26 | 22 | 32 |
| Miscellaneous escorts | 20 | 20 | 21 |
| Complaints investigated | 20 | 28 | 46 |
| Natural deaths reported | 1 | 2 | 1 |
| Lost and found articles | | | 43 |
| Totals | 506 | 509 | 542 |

ACTIVITIES AND SERVICES (NORTH RICHLAND)

| | February | March | April |
|---|---|---|---|
| Check on absentees | 1 | 2 | 0 |
| Persons assisted * | 86 | 79 | 84 |
| Doors and windows found open | 122 | 40 | 45 |
| Lost children | 0 | 4 | 2 |
| Ambulance runs | 2 | 2 | 4 |
| Lost dogs reported | 0 | 0 | 1 |
| Dog, cat, loose stock complaints | 0 | 0 | 4 |
| Persons injured by dogs | 0 | 0 | 0 |
| Bank escorts and details | 25 | 25 | 20 |
| Fires investigated | 1 | 6 | 7 |
| Miscellaneous escorts | 6 | 18 | 21 |
| Complaints investigated | 1 | 1 | 2 |
| Natural deaths reported | 0 | 0 | 0 |
| Totals | 244 | 177 | 190 |

* Includes: Assisting other departments, assisting outside police agencies, assisting private persons, delivering emergency messages, etc.

# COMMUNITY PATROL DIVISION
## RICHLAND JUSTICE COURT CASES

April 1950

| VIOLATION | NO.OF CASES | NO.OF CONV. | NO.OF FORF. | CASES CON'T. | CASES PEND. | CASES DISM. | WARR. ISS. | SENT. JAIL | SENT. SUSP. | LIC. REV. | TOTAL FINES | TOTAL SUSP. | TOTAL BAIL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drunken Driving | 2 | 1 | | | | | | 1 | | 2 | $ 77.50 | | |
| Reckless Driving | 1 | 1 | | | | | | | | 1 | $ 27.50 | | |
| Negligent Driving ** | 15 | 10 | 2 | 3 | | | | | | | $177.50 | | $ 55.00 |
| Speeding * | 25 | 8 | 15 | 1 | | | 1 | | | | $ 72.50 | | $191.50 |
| F.T.S. & I. | 1 | | | | | | | 1 | 1 | 1 | | | |
| Stop Sign ******* | 15 | 5 | 7 | 1 | | | 2 | | | | $ 29.00 | $20.00 | $ 35.00 |
| Driver's License | 11 | 8 | 1 | | | 2 | | | | | $ 55.50 | $27.50 | $ 7.50 |
| No License Plates *** | 1 | | | 1 | | | | | | | | | |
| F.T. Dim Hdlts. | 2 | 1 | 1 | | | | | | | | $ 5.00 | | $ 10.00 |
| Ill. "U" Turn | 3 | 1 | 2 | | | | | | | | $ 5.50 | | $ 10.00 |
| Def. Lights | 1 | | | | | 1 | | | | | | | |
| Perm. Unlic. Dr., to Oper. Motor Vehicle | 1 | 1 | | | | | | | | | $ 12.50 | $12.50 | |
| Dr. with Obsc. Vision | 1 | 1 | | | | | | | | | $ 5.00 | | |
| F.T. Obs. School Boy Patrol flag ****** | 1 | 1 | | | | | | | | | $ 7.50 | | |
| Ill. Parking **** | 23 | 13 | 7 | 2 | | | 1 | | | | $ 45.50 | $10.50 | $ 24.50 |
| Public Intoxication | 6 | 6 | | | | | | | | | $ 75.00 | | |
| Petit Larceny | 2 | | | | | | | 2 | | | | | |
| TOTALS: | 111 | 57 | 35 | 8 | 0 | 3 | 4 | 4 | 1 | 4 | $595.50 | $80.50 | $333.50 |

| | |
|---|---|
| Cases proc., thru Crt. | 111 |
| Other cases incl., with above viol. | 14 |
| Cases Pending | 0 |
| Cases orig., in prev's Mo's and tried in April | 1 |
| TOTALS: | 126 |

** 1 Negligent Driving case, reduced from Reckless Driving.

** 1 Negligent Driving case, orig., in Feb - 1950, Fined $17.50 - susp., due to personal and family circumstances.

continued on page two.

CASES INCLUDED WITH VIOLATIONS ON PAGE ONE:

* 1 - Improper Passing case, included with this violation.
* 2 - Driver's License cases, included with this violation.
** 1 - Driver's License case, included with this violation.
** 1 - Failure to Stop and Identify case, included with this violation.
*** 1 - No Registration case, included with this violation.
**** 1 - License Plates case, included with this violation.
***** 1 - Driver's License case, included with this violation.
****** 1 - Driver's License case, included with this violation.
******* 2 - Driver's License cases, included with this violation.
******* 2 - Defective Brakes cases, included with this violation.
******* 1 - Speeding case included with this violation.

---

CONTINUED CASES THAT ORIGINATED AND WERE INCLUDED IN MARCH REPORT AND WERE TRIED IN APRIL

| | |
|---|---|
| Speeding | Con't. to 5-12-50 |
| Speeding | Fined $12.50 |
| Speeding | Taken to Prosser |
| Drunken Driving | Fined $77.50 & Dr's Lic., rev. for 1 year. |
| Drunken Driving | Fined $77.50 & Dr.'s Lic., rev. for 1 year. |
| Negligent Driving | Hold for further consideration |
| Stop Sign | Fined $5.50 - susp. |
| Driver's License | Fined $7.50 |
| Driver's License | Fined $7.50 |
| Speeding & No Driver's License | Warrant Issued - On File. |

WARRANTS ISSUED ON CASES THAT ORIGINATED AND WERE INCLUDED IN MARCH REPORT AND WERE TRIED IN APRIL

| | |
|---|---|
| Speeding | Hold open. |
| Stop Sign | Warrant on file. |
| Improper Parking | Warrant on file. |
| Third Degree Assault | Warrant on file. |

# COMMUNITY PATROL DIVISION
## NORTH RICHLAND JUSTICE COURT CASES

April - 1950

| VIOLATION | NO.OF CASES | NO.OF CONV. | NO.OF FORF. | CASES CON'T. | CASES PEND. | CASES DISM. | WARR. ISS. | SENT. JAIL | SENT. SUSP. | LIC. REV. | TOTAL FINES | TOTAL SUSP. | TOTAL BAIL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drunken Driving | 2 | 2 | | | | | | | | 2 | $155.00 | | |
| Reckless Driving | 1 | 1 | | | | | | | | 1 | $27.50 | | |
| Negligent Driving | 2 | 2 | | | | | | | | | $55.00 | | |
| Speeding | 7 | 4 | 3 | | | | | | | | $47.50 | | $40.00 |
| No Dr's. License ** | 6 | 3 | | 2 | | 1 | | | | | $22.50 | $20.00 | |
| Stop Sign * | 26 | 11 | 8 | 3 | 3 | | 1 | | | | $57.00 | $5.50 | $53.50 |
| Def. Lights | 1 | | | | | 1 | | | | | | | |
| Imp. Passing | 3 | 2 | | | 1 | | | | | | $12.50 | | |
| No Lights | 1 | 1 | | | | | | | | | $5.00 | | |
| F.T.Y.R.O.W. | 1 | | | | 1 | | | | | | | | |
| Vagrancy | 1 | 1 | | | | | | | | | $12.50 | | |
| Public Intoxication | 3 | 1 | 2 | | | | | | | | $17.50 | | $30.00 |
| Dr. & Dis. Conduct. | 1 | 1 | | | | | | | | | $17.50 | | |
| | 55 | 29 | 13 | 5 | 5 | 2 | 1 | | | 3 | $429.50 | $25.50 | $123.50 |

| | |
|---|---|
| Cases proc. thru crt..... | 55 |
| Other cases inc. with above viol..... | 3 |
| Cases Pending..... | 5 |
| Cases orig. in prev's. mo's. & tried in April..... | 0 |
| TOTAL: | 63 |

* 2 - Driver's License cases, included with this viol.
** 1 - No valid License plates, case included with this violation.

(Continued on Page Two)

PENDING CASES THAT ORIGINATED AND WERE INCLUDED IN MARCH AND WERE TRIED IN APRIL

| | |
|---|---|
| Stop Sign ..... | Forf: $5.50 |
| Speeding ..... | Forf: $7.50 |
| Stop Sign ..... | Forf: $5.50 |

WARRANTS ISSUED ON CASES THAT ORIGINATED AND WERE INCLUDED IN MARCH REPORT AND WERE TRIED IN APRIL

| | |
|---|---|
| Improper Parking ..... | Forf: $3.50 |

# COMMUNITY PATROL DIVISION
## RICHLAND CRIME REPORT
## APRIL, 1950

| Classification of Offenses | Offenses Known or Reported to Patrol | Offenses Unfounded | Actual Offenses March | Actual Offenses April | Offenses Cleared By Arrest | Offenses Cleared By Other Action | Perpetrators Involved |
|---|---|---|---|---|---|---|---|
| Possible Attempted arson | 1 | 0 | 0 | 1 | 0 | 0 | u |
| Attempted Breaking & Entering | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Larceny By Check | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Larceny (Except Auto & Bike) | | | | | | | |
| Over $50.00 | 6 | 1 | 5 | 5 | 0 | 2 | 1 (a) |
| Under $50.00 | 24 | 0 | 14 | 24 | 2 | 5 | 9 (b) |
| Bike Theft | 15 | 0 | 17 | 15 | 0 | 8 | u |
| Dest. of Personal Property | 1 | 0 | 3 | 1 | 0 | 0 | u |
| Dest. of Government Property | 3 | 0 | 1 | 3 | 0 | 1 | 1 |
| Loss or Theft of Government Prop. | 2 | 0 | 1 | 2 | 0 | 1 | 1 |
| Investigation | 7 | 0 | 7 | 7 | 0 | 4 | 7 (c) |
| Disturbance | 11 | 0 | 2 | 11 | 0 | 11 | 17 (d) |
| Missing Persons | 3 | 0 | 3 | 3 | 0 | 3 | 6 (e) |
| Offense Against Family & Children | 2 | 0 | 4 | 2 | 0 | 2 | 1 |
| Prowlers | 3 | 0 | 3 | 3 | 0 | 2 | 2 (f) |
| Public Intoxication | 6 | 0 | 3 | 6 | 6 | 0 | 6 |
| Pickup For Outside Agency | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Vandalism | 7 | 0 | 5 | 7 | 0 | 4 | 6 (g) |
| Malicious Mischief | 7 | 0 | 7 | 7 | 0 | 4 | 8 (h) |
| Indecent Exposure | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lewd Remarks | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Pickup of Soldiers for Provost Marshall | 2 | 0 | 0 | 2 | 0 | 2 | 3 |
| Auto Theft | 2 | 0 | 0 | 2 | 0 | 2 | 4 |
| Dog Poisoning | 1 | 0 | 0 | 1 | 0 | 0 | u |
| Illegal Use of Registration Cert. | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Illegal Purchase of Beer | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| TOTALS | 103 | 1 | 83 | 102 | 8 | 53 | 73 * |

(Continued on Page Two)

| | | | |
|---|---|---|---|
| (a) | 1 Case | Perpetrated | by 1 Juvenile, Age 17. |
| (b) | 1 Case | " | by 2 Juveniles, Age 17 & 19. |
| | 1 Case | " | by 1 Juvenile, Age 16. |
| | 1 Case | " | by 2 Juveniles, Ages 17. |
| | 1 Case | " | by 1 Juvenile, Age 6. |
| (c) | 1 Case | " | by 3 Juveniles, Ages 14, 16, & 18. |
| (d) | 1 Case | " | by 2 Juveniles, Ages 16 & 17. |
| | 1 Case | " | by 1 Juvenile, Age 14. |
| (e) | 1 Case | " | by 2 Juveniles, Ages 13 & 15. |
| | 1 Case | " | by 1 Juvenile, Age 14. |
| (f) | 1 Case | " | by 1 Juvenile, Age 21. |
| (g) | 1 Case | " | by 1 Juvenile, Age 16. |
| | 1 Case | " | by 3 Juveniles, Ages 9, 11, & 12. |
| | 1 Case | " | by 1 Juvenile, Age 9. |
| | 1 Case | " | by 1 Juvenile, Age 18. |
| (h) | 1 Case | " | by 1 Juvenile, Age 8. |
| | 1 Case | " | by 2 Juveniles, Ages 3 & 5. |

* 22 of the Juveniles Involved Were Males.
4 of the Juveniles Involved Were Females.

u Represents Unknown
Property Recovered for the Month, $1,220.00 (8 Bikes)

# COMMUNITY PATROL DIVISION
## NORTH RICHLAND CRIME REPORT
## APRIL, 1950

| Classification of Offenses | Offenses Known or Reported to Patrol | Offenses Unfounded | Actual Offenses March | Actual Offenses April | Offenses Arrest | Cleared By Other Action | Perpetrators Involved |
|---|---|---|---|---|---|---|---|
| Assault | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| Burglary | 1 | 0 | 0 | 1 | 0 | 0 | u |
| Larceny By Check | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Larceny (Except Auto & Bike) | | | | | | | |
| Over $50.00 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Under $50.00 | 3 | 0 | 4 | 3 | 0 | 0 | 0 |
| Disturbance | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| Dest. of Government Property | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Dest. of Personal Property | 3 | 0 | 0 | 3 | 0 | 1 | 1 (a) |
| Investigation | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Missing Persons | 1 | 0 | 1 | 1 | 0 | 1 | 1 (b) |
| Public Intoxication | 3 | 0 | 3 | 3 | 3 | 0 | 3 |
| Public Nuisance | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Drunk & Disorderly Conduct | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| Vagrancy | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| Indecent Liberties | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Sodomy | 0 | 0 | 1* | 0 | 0 | 0 | 0 |
| Prowlers | 2 | 0 | 0 | 2 | 0 | 1 | 1 |
| Pickup of Soldiers for Provost Marshall | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| TOTALS | 19 | 0 | 18 | 19 | 5 | 5 | 9 x |

(a) 1 Case Perpetrated by 2 Juveniles Ages 17 & 20.
(b) 1 Case " by 1 Juveniles Age 15.
Juveniles Involved Were all males.
x 5 of the Perpetrators Involved were Colored.
* Reported as Sodomy but Reduced to Vagrancy in Superior Court, Juvenile Age 20.

# COMMUNITY PATROL DIVISION
## CRIME COMPARISON REPORT
### APRIL, 1950

Number of offenses known to police per 25,000 inhabitants in cities of 25,000 inhabitants:

| Class | Wash. Oregon & Calif. Six Months (Jan-June 1949) | Wash. Oregon & Calif. One Month Average | Richland Six Months (Jan-June 1949) | North Richland Six Months (Jan-June 1949) | Richland March 1950 | Richland April 1950 | North Richland March 1950 | North Richland April 1950 |
|---|---|---|---|---|---|---|---|---|
| Murder | .60 | .10 | 0 | 0 | 0 | 0 | 0 | 0 |
| Robbery | 15.80 | 2.63 | 0 | 1 | 0 | 0 | 0 | 0 |
| Aggrav.Asslt | 10.15 | 1.69 | 4 | 16 | 0 | 0 | 0 | 1 |
| Burglary | 90.90 | 15.15 | 8 | 5 | 2 | 0 | 0 | 1 |
| Larceny | 254.22 | 42.37 | 181 | 97 | 36 | 44 | 4 | 5 |
| Auto Theft | 38.4 | 6.40 | 4 | 5 | 0 | 2 | 0 | 0 |

Number of offenses known to police per 25,000 inhabitants regardless of whether offenses occurred in cities or rural districts:

| Class. | State of Washington Six Months (Jan-June 1949) | State of Washington One Month Average | Richland Six Months (Jan-June 1949) | North Richland Six Months (Jan-June 1949) | Richland March 1950 | Richland April 1950 | North Richland March 1950 | North Richland April 1950 |
|---|---|---|---|---|---|---|---|---|
| Murder | .79 | .13 | 0 | 0 | 0 | 0 | 0 | 0 |
| Robbery | 11.25 | 1.87 | 0 | 1 | 0 | 0 | 0 | 0 |
| Aggrav.Asslt. | 3.82 | .63 | 4 | 4 | 16 | 0 | 0 | 1 |
| Burglary | 74.35 | 12.39 | 8 | 5 | 2 | 0 | 0 | 1 |
| Larceny | 241.60 | 40.26 | 181 | 97 | 36 | 44 | 4 | 5 |
| Auto Theft | 38.05 | 6.34 | 4 | 5 | 0 | 2 | 0 | 0 |

The portion of offenses committed by persons under the age of 25 years, is shown by the following figures:

| Class. | National Average Six Months (Jan-June 1949) | Richland Six Months (Jan-June 1949) | North Richland Six Months (Jan-June 1949) | Richland March 1950 | Richland April 1950 | North Richland March 1950 | North Richland April 1950 |
|---|---|---|---|---|---|---|---|
| Robbery | 53.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burglary | 59.9 | 1 | 0 | 1 | 0 | 0 | 0 |
| Larceny | 45.1 | 25 | 44 | 21 | 5 | 0 | 0 |
| Auto Theft | 67.8 | 3 | 0 | 0 | 0 | 0 | 0 |

Note: Statistics of Juvenile Offenses throughout the United States were taken from the Uniform Crime Report published by the Federal Bureau of Investigation, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower age groups because of the practice of some jurisdictions not to fingerprint youthful offenders."

# PATROL DIVISION - TRAFFIC CONTROL STATISTICS
## April - 1950

**MOTOR VEHICLE ACCIDENTS:**

| | Total Number | | Fatalities | | Major Injuries | | Minor Injuries | |
|---|---|---|---|---|---|---|---|---|
| | March | April | March | April | March | April | March | April |
| Richland | 13 | 10 | 0 | 0 | 0 | 0 | 2 | 3 |
| North Richland | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | 14 | 10 | 0 | 0 | 0 | 0 | 2 | 3 |

**ACCIDENT CAUSES:**

| | Negligent Driving | | Failure to Yield Right of Way | | Reckless & Drunken Driving | | Other Causes | |
|---|---|---|---|---|---|---|---|---|
| | March | April | March | April | March | April | March | April |
| Richland | 3 | 5 | 3 | 0 | 2 | 1 | 5 | 4 |
| North Richland | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Totals | 3 | 5 | 4 | 0 | 2 | 1 | 5 | 4 |

**PLANT WARNING TRAFFIC TICKETS ISSUED:**

| | Speeding | | "Stop" Sign | | Parking | | Imp. License | | Def. Equipment | | Other Violations | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar. | Apr. | Mar. | Apr. | Mar. | Apr. | March | April | March | April | March | April | Mar. | Apr. |
| Richland | 0 | 0 | 0 | 0 | 91 | 97 | 6 | 1 | 0 | 2 | 0 | 1 | 97 | 101 |
| North Rich. | 0 | 0 | 0 | 0 | 154 | 66 | 2 | 0 | 8 | 5 | 0 | 0 | 164 | 71 |
| Totals | 0 | 0 | 0 | 0 | 245 | 163 | 8 | 1 | 8 | 7 | 0 | 1 | 261 | 172 |

**TRAFFIC CHARGES AND COURT CITATION TRAFFIC TICKETS ISSUED:**

| | Speeding | | "Stop" Sign | | Drunken Dr. | | Reckless Dr. | | Right of Way V. | | Neg. Dr. | | Parking V. | | Other V. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar. | Apr. | Mar. | Apr. | Mar. | Apr. | Mar. | Apr. | March | April | Mar. | Apr. | March | Apr. | Mar. | Apr. | Mar. | Apr. |
| Richland | 23 | 25 | 13 | 15 | 6 | 2 | 1 | 2 | 5 | 0 | 4 | 14 | 10 | 24 | 23 | 31 | 85 | 113 |
| N. Rich. | 3 | 8 | 15 | 27 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 5 | 17 | 25 | 58 |
| Totals | 26 | 33 | 28 | 42 | 7 | 4 | 1 | 3 | 5 | 1 | 4 | 16 | 11 | 24 | 28 | 48 | 110 | 171 |

**TRAFFIC VOLUME:** Average 24-hour Traffic Volume Count for week ending on 4-30-50, on Thayer Drive south of Williams Boulevard - 5,491 Motor Vehicles.

**Note:** Traffic Control Statistics show ORIGINAL CHARGES ONLY.

COMMUNITY DIVISIONS

COMMUNITY - ACTIVITIES DIVISION
April, 1950

## ORGANIZATION AND PERSONNEL

Number of employees on roll

| | | |
|---|---|---|
| Beginning of month | | 12 |
| Additions | 0 | |
| Terminations | 0 | |
| End of month | | 12 |

## SCHOOLS

The following is a tabulation of full-time paid School District #400 personnel as of April 30, 1950:

| | |
|---|---|
| Administration | 6 |
| Principals & Supervisors | 16 |
| Clerical | 18 |
| Teachers | 246 |
| Health Audiometer | 1 |
| Building Custodians | 50 |
| Cooks | 35 |
| Nursery School & Ex. Day Care | 11 |
| Bus Drivers | 2 |
| Farm Manager | 1 |
| | 386 |

The reports from the Atomic Energy Commission Census, taken recently, show that there are 3,883 children under school age in Richland. Actual enrollment in School District #400 is 5,122 pupils. These figures represent a sharp rise in school enrollment in the next five years, and show the need for new school buildings.

## CLUBS AND ORGANIZATIONS

As of April 30, 1950, organization's personnel include:

| | |
|---|---|
| American Legion | 2 |
| Coordinate Club | 1 |
| Youth Council | 1 |
| Boy Scouts | 1 |
| Camp Fire Girls | 2 |
| Hi-Spot Club | 2 |
| Red Cross | 3 |
| Castle Club | 1 |
| Post Office | 49 |
| Veterans Administration | 2 |
| Girl Scouts | 2 |
| Masonic Lodge | 1 |
| Justice of Peace | 1 |
| | 68 |

Community - Activities Division

Mr. Cofer, Veteran Administrator was replaced on April 7, by Mr. Swindle, who was formerly head of the Pullman office.

On April 9, the Red Cross sponsored the first open house from 2:00 to 6:00 PM in the Community House. Two hundred fifty soldiers attended this affair and over 30 girls served as junior hostesses. Every Sunday afternoon the soldiers will be entertained in this manner. Sandwiches, cake, etc. were served and all recreation facilities in the Community House were made available to the soldiers. Two representatives of the Community-Activities Division were present to help in any matters that arose. A representative of the Community - Activities Division will be present at all open houses in the future.

The East Social Room in the Recreation Hall has been obtained as a Servicemen's Center. This room will be made available to servicemen for reading, writing, and games. Books, mazazines, and other material are being furnished by the Red Cross and other interested persons.

The regular meeting of the Recreation Advisory Committee was held on April 11. Recommendations for approval by Management of the following organizations subject to proper security clearance were made: Young Women's Christian Association, Design and Construction Recreation Association, and Home Culture Club. It was also recommended that the following private instructor be permitted to utilize school facilities subject to proper security clearance: Square and Folk Dancing, Mr. J. W. McLaughlin, instructor.

On April 14, the Treble Clef presented their spring concert before a near capacity audience.

On April 16, 1950, The Mart, was the sponsoring agent for the soldiers open house held in the Community House. Over 150 soldiers were present and 24 girls served as junior hostesses.

The Kadlec Hospital Auxiliary sponsored the Olympic Shrine Circus in the Columbia High School Gymnasium on April 17 and 18. Profits from these performances will go for various hospital facilities.

Forty work orders were issued during the month. The increase in the number of orders issued is due to the preparation of summer play areas and park system. Twenty service orders were written during the month.

On April 21, the Richland American Legion Post #71 received the national department citation for distinguished service. This is the second consecutive year that Post #71 has received this award. At the presentation, held in the Richland American Legion Hall, awards were given to ten Richland residents for their outstanding community service and cooperation.

The Community - Activities Division aided the Veterans of Foreign Wars in their annual Marble Contest held in Riverside Park on April 22 and 23. The winner of the contest will be in the State finals to be held in Pasco on May 20.

Community - Activities Division

The last of a series of dances sponsored by the Hi-Spot Club was held on Saturday April 22. These dances were held as benefits for the needy families in the Tri-City area. The admission price was one can of food per person. A total of 712 cans of food and $38.25 was collected by this series. The money was used to purchase potatoes, rice, flour, sugar, and other edibles.

The Richland American Legion Post #71 were hosts to 160 soldiers on Sunday afternoon, April 23, from 2:00 to 6:00 PM in Community House. Forty-eight junior hostesses were present to help in sponsoring the program.

"The Women" was presented by the Village Players on April 28, and 29, in the Carmichael Junior High School. A near capacity house attended the performances.

On Saturday, April 29, the Student-Parent Council sponsored a bicycle parade and rodeo. The rodeo was held at the Columbia High School baseball field. This affair was put on in conjunction with the April Safety Program.

The Sacajawea Rifle and Pistol Club sponsored Class "C" rifle match at their range on April 30. Fifty-three persons entered the match.

Several state records and one world record were established in a model racing car race held at the Civil Air Patrol track on April 30, 1950. The meet was sponsored by the Atomic City Racing Car Association.

CHURCHES

The following is a tabulation of full-time paid church personnel, as of April 30, 1950:

| | Minister | Staff | Total |
|---|---|---|---|
| Assembly of God | 1 | 0 | 1 |
| Catholic | 2 | 2 | 4 |
| Central United Protestant | 2 | 2 | 4 |
| Church of Christ | 1 | 0 | 1 |
| Church of God | 1 | 0 | 1 |
| Episcopal Church | 1 | 0 | 1 |
| Free Methodist | 1 | 0 | 1 |
| Foursquare Gospel | 1 | 0 | 1 |
| Mission Baptist | 1 | 0 | 1 |
| Mo. Synod. Lutheran (Redeemer) | 1 | 1 | 2 |
| National Lutheran | 1 | 2 | 3 |
| Nazarene | 1 | 0 | 1 |
| Regular Baptist | 1 | 0 | 1 |
| United Protestant - North Richland | 1 | 0 | 1 |
| United Protestant - West Side | 1 | 0 | 1 |
| United Protestant - Southside | 1 | 0 | 1 |
| United Protestant - Northwest | 1 | 0 | 1 |
| | 19 | 7 | 26 |

Community - Activities Division

The annual Easter Sunrise Service was held in Bomber Bowl at 5:30 AM Easter Sunday morning, April 9. The United Protestant Churches sponsored the service with several other community organizations aiding in the presentation.

Representatives from the Atomic Energy Commission Property Section, Commercial Facilities Property, and Community-Activities Division Property took a complete inventory of the Central United Protestant Church on April 24. The inventory was taken with the intent that the church will purchase the equipment, as outlined in a recent Atomic Energy Commission policy regarding the selling of equipment to facilities.

Revised preliminary plans for the First Baptist Church were reviewed by the Engineering Section on April 27. The plot requested for the construction of the church is in the northeast corner of the block bordered by Richmond, Raliegh, Putnam, and Wright Avenue.

On April 28, an inventory was taken of all government owned equipment located in the Catholic Church. Representatives of Atomic Energy Commission Property, Commercial Facilities and Activities Division took the inventory.

The church construction program status is as follows:

| CHURCH | DATE STARTED | ESTIMATED % COMPLETE | OCCUPANCY DATE |
|---|---|---|---|
| Nazarene Church | April 12, 1949 | 99 % | 11/30/49 |
| Latter Day Saints | February 5, 1949 | 90 % | 3/5/50 |
| Latter Day Saints (Reorganized) | August 22, 1949 | 20% | |
| U.P. Southside | November 5, 1948 | 99% | 4/10/49 |
| Richland Baptist | November 27, 1948 | 99% | 4/17/49 |
| Church of Christ | December 21, 1949 | 85% | 3/19/50 |
| Assembly of God | Awaiting start of construction. | | |

COMMUNITY

Park Development

The layout plans and drawings for the Barth Playlot, Marcus Whitman Playground, and Frankfort Playground were completed and prints were made.

A map of all areas administered by the Activities Division was completed.

A conference was held with the Community - Public Works Labor Division on the current maintenance program. A map was prepared by the Activities Division indicating Park System areas that are to be irrigated and mowed this season.

Work Orders were issued by the Activities Division to fertilize and apply weed killer to grassed areas in the Park System.

Community - Activities Division

One softball diamond at Jefferson Grade School was moved to the south end of the tennis courts from its former location. This move was made to allow the former play area to be seeded in the near future.

RECREATION

The number and types of organizations presently served by the Community - Activities Division include:

| | | |
|---|---|---|
| Business and Professional Clubs | | 20 |
| Churches & Church organizations | | 25 |
| Civic organizations | | 4 |
| Fratneral organizations | | 21 |
| Music & Art Associations | | 8 |
| Recreation & Hobby groups | | 41 |
| Schools & Parent Teachers Associations | | 13 |
| Social Clubs & organizations | | 11 |
| Veteran & Military organizations | | 12 |
| Welfare | | 6 |
| Youth | Boy Scouts | 19 |
| | Camp Fire Girls | 36 |
| | Girl Scouts | 49 |
| | Misc. | 10 |
| Miscellaneous | | 7 |
| | Total | 282 |

A summary of the month's participation in the recreational activities sponsored and directed by the Activities Division follows:

| | No. Sessions | No. Participants |
|---|---|---|
| Womens Sport Night | 4 | 68 |
| Co-Rec Sports | 3 | 76 |
| Men's Sports | 4 | 54 |
| Badminton & Ping Pong | 4 | 80 |
| Fencing Class | 4 | 18 |
| | 19 | 296 |

All gym programs were concluded on April 28. The following summary of participation covers the entire period of operation from October 20, 1949, through April 28, 1950.

| | No. Sessions | No. Participants |
|---|---|---|
| Womens Sport Night | 20 | 282 |
| Co- Rec | 21 | 495 |
| Mens Sport Night | 22 | 510 |
| Badminton & Ping Pong | 12 | 228 |
| Fencing | 24 | 189 |
| Weight Lifting | 54 | 1146 |
| | 153 | 2850 |

Community - Activities Division

Total participation throughout the operating period included 2257 men and 593 women. The average attendance per session was 19. Interest and enthusiasm among participants has been very gratifying. The variety of activity has been adequate to maintain interest and from the point-of-view of participants the overall program has met a definite need in providing facilities and a directed program for adults from high school age and up.

Mr. A. H. Saunders (Recreation Section Athletic Director) has directed all activities for all events except weight lifting which was handled by one volunteer director under the general supervision of the Recreation Section.

The weight lifting program was open to both juniors and adults, and total participation included 234 adults and 914 juniors. Experience gained throughout the past season indicates that a more satisfactory program could be operated by setting up separate sessions for adults and juniors.

The Safety record in all activities has been excellent since there were no injuries which could be charged to faulty equipment, inadequate supervision or loose enforcement of regulations relating to safety factors.

Cooperation with officials of School District #400 in providing space and facilities was excellent, however, in conducting a weight lifting program it is highly desirable to have facilities set up for this program only, such that classes could be scheduled each night both for instruction and for informal participation, and with separate programs set up for youth and adults.

Assisted in preliminary planning for the Regatta to be sponsored by the Richland Yacht Club on July 23. Anticipated programming will include boat races, bathing beauty contest, finals of the "High Water" contest and a street dance.

Arrangements were made with the Public Relations Section to make movies of events conducted as a part of the summer recreation program.

The brochure on the projected Riverside Park Summer Recreation Program has been completed and circulated.

Conferred with the Adult Evening School Council in formulating plans for conducting the program during the ensuing year.

Conferred with officials of School District #400 relating to policies governing the conduct of contests and programs sponsored jointly and/or separately by the School and the Activities Division, and established policies governing the awarding of prizes to participants.

Plans have been presented to the schools relative to formation of junior softball leagues during the school term and providing for continuation of the leagues during the summer as a part of the Activities Division recreation program.

The Triple "O" (Old Men's League) Softball League will again be sponsored by the Activities Division. Rules and regulations and projected schedule dates have been mailed to prospective managers.

Community - Activities Division

Effective April 11, 1950, the recreational facilities of the south social room were opened for general use to residents of Richland of high school age and over from 2:00 - 5:00 PM on Tuesdays, Wednesdays, Thursdays, and Fridays and from 7:00 - 10:00 PM on Tuesdays and Thursdays. A member of the Activities Division has been assigned full time to handle programming during the above hours and to be present during all other programs scheduled at Community House to control the use of facilities and to render assistance to organizations as necessary within the limits of the Community - Activities Division responsibilities.

Bookings were made for the 114 uses of community softball fields during the month.

## Maintenance

The following maintenance work and/or improvements were completed during the month:

All major softball diamonds and the baseball field conditioned for use - backstops repaired, bases and plates installed.

Routine conditioning of the track at Bomber Bowl, relocation of two jumping pits, and general cleanup of the entire area. Also repair of amplification system completed.

General cleanup of the area west of the George Washington Way apartments in order to set up the community archery range.

Minor alterations and relocation of furnishing at Community House were made to facilitate use of the west social room and the games room for fuller utilization for recreation purposes.

Public rest rooms at Riverside Park readied for use and janitor service started.

Telephone installed in the guard house at the Riverside Park Swimming Pool.

Picnic tables and benches at Riverside Park distributed for use, fireplaces conditioned and firewood provided.

Routine maintenance at Memorial Field started including irrigation and general cleanup.

Walks at Memorial Field were resurfaced with black top.

A warm-up area, with backstops and floodlights is under construction outside of the fenced area at Memorial Field. This installation will eliminate the hazard to spectators involved in the practice of hazardous warm-up by players within the spectator area.

Community - Activities Division

Removable net posts and net adjustment anchors installed on the four new tennis courts at Carmichael and Spalding Playgrounds. (These items were not included on the court construction project) and nets installed. Nets were also installed on all other tennis courts.

Two hutments (located on south Goethals near By-Pass Highway) assigned to Community - Activities Division were readied for use -- general cleanup, electrical service installed and door locks provided. Space provided in one for use by Village Players as storage.

Additional garbage and trash disposal facilities and service added at Community House. Exit light over clock at north of social room installed.

Drinking fountains at the Riverside Park and Columbia Playfield were conditioned for use.

Additional routine maintenance was required in removing sand from all tennis softball and baseball backstop areas.

Work Orders were issued for the repair of the three pool tables at Community House. Three pool table covers were ordered for tables.

Arrangements were made to have a set of swings located on the Barth Playlot relocated at the Jefferson Playground area south of Symons Street.

## Special Events

Assistance given to the Parent Student Council of Richland in planning the Bicycle Parade held on Saturday, April 29. Patrol jeep with speaker made available to group.

Amplification system made available to sponsors of the Dog Show held at the Columbia High School Saturday, April 29.

Amplification system made available to the Village Players for use on Saturday, April 29.

Amplification system was made available to the Air Force Association for use on Sunday, April 30, 1950, for the Model Airplane Contest.

The Community Easter Egg Hunt on April 9, was directed by the Activities Division with finances provided by Villagers, Inc., prizes donated by the local merchants and eggs (1,000) colored by the Richland Girl Scouts. Approximately 600 children, ages 3 to 5 and 6 to 8, participated and an estimated 400 to 500 adults attended.

Community - Activities Division

## Services

Assisted in drafting plans and regulations relating to the operation of the Tri-City Softball League. Submitted the schedule for the League which was adopted. (The Richland component, four teams, of the Tri-City League will operate under the jurisidiction of the R. S. A. and will be governed by the R. S. A. regulations as approved by the Community - Activities Division for the 1950 season.)

Worked closely with the Little League (Junior Baseball, nationally affiliated) in formulating regulations and rules and the constitution under which the Leagues will operate. Also assisted in securing sponsors, schedule making and individual team organization.

Arranged for approval of the parade route and Patrol escort for the Bike Rodeo held on Saturday, April 29, at the Columbia baseball field under the direction of the Parent-Student Council of Richland. Also arranged for the use of a Patrol jeep and loud speaker for handling the various events and as a safety precaution measure.

Assisted with arrangements for the Community Sunrise Easter Service held at the Bomber Bowl on April 9.

Assistance given in the formation of plans, rules and regulations to handle the community marble tournament conducted at Riverside Park April 29, and 30, under the general sponsorship of the Veterans of Foreign Wars of Richland. Also assisted in publicity campaign including liaison with the public schools.

Cooperated with the Fraternal Order of Eagles in formulating plans for the Richland Yo-Yo Contest. The contest will be sponsored and directed by the Richland Eagles, the contest however, is statewide and local winners will have an opportunity to progress to the State finals.

Arrangements were made for materials and equipment used by the American Legion in their Easter Egg Hunt on Saturday, April 8.

MAJOR EVENTS DURING MONTH OF APRIL

| | | |
|---|---|---|
| April 9 | - Soldiers Open House (sponsored by Red Cross) | Community House |
| 9 | - Easter Egg Hunt - | Riverside Park |
| 14 | - Treble Clef Concert | Carmichael Jr. Hi. |
| 16 | - Soldiers Open House (sponsored by The Mart) | Community House |
| 18 | - Tri-City Braves Baseball Parade | Community |
| 17 & 18 | - Olympic Shrine Circus | Columbia Hi. Sch. |
| 21 | - American Legion Distinguished Service Awards | Legion Hall |
| 29 | - Marble Contest | Riverside Park |
| 23 | - Soldiers Open House (sponsored by American Legion) | Community House |
| 28 & 29 | - "The Women" - Villager Players | Carmichael Jr. Hi. |
| 29 | - Bicycle Parade & Rodeo | Columbia Playfield |
| 29 | - Dog Show | Columbia Hi. Sch. |
| 30 | - Model Airplane Contest - "Atomic City Open" | CAP Field |
| 30 | - Atomic City - Model Car Contest | CAP Field |
| 30 | - Soldiers Open House (sponsored by Desert Inn) | Community House |

GENERAL ELECTRIC COMPANY
HANFORD WORKS
COMMUNITY ACCOUNTING DIVISION

MONTHLY REPORT FOR APRIL - 1950

ORGANIZATION

| | | | | | |
|---|---|---|---|---|---|
| Employees - Beginning of Month | 26 | Exempt | 4 | Male | 8 |
| Terminations or Transfers | 0 | Non-Exempt | 22 | Female | 18 |
| Total - End of Month | 26 | Total | 26 | Total | 26 |

| Rents | April | March |
|---|---|---|
| House Leases Processed | | |
| New Leases | 125 | 83 |
| Modifications | 9 | 1 |
| Cancellations | 122 | 85 |
| Total Active House Leases | 5,689 | 5,686 |
| Dormitory | | |
| New Assignments | 101 | 131 |
| Removals | 97 | 89 |
| Total Occupancy | 988 | 984 |
| Rental Revenue was as Follows | | |
| **Equipment | 35.19 cr | 39.33 |
| * House | 254,879.17 | 254,373.96 |
| * Dormitory | 13,675.57 | 13,291.57 |
| * Facilities | 40,010.75 | 42,759.46 |
| | $ 308,530.30 | $ 310,464.32 |
| Unoccupied Dormitory Revenue Loss | 956.93 | 2,505.93 |
| Unoccupied House Revenue Loss | 2,965.78 | 2,417.69 |
| Total Potential Revenue | $ 312,453.01 | $ 315,387.94 |

* Includes utilities which are collected as a part of rental.

**One Equipment lease cancelled and one rate change with retroactive date accounts for credit figure. Six facility operators still have equipment on a rental basis.

Telephone

| | | |
|---|---|---|
| Number of work orders handled | 404 | 312 |
| Number of working Phones | 4,318 | 4,072 |
| Revenue including services | $16,047.81 | $16,510.63 |

A difference of approximately $900 for service charges in March over April accounts for the revenue being lower in April than March even though there are an additional 246 working phones.

Telephone (Cont)

Of the 54 delinquent payment notices issued to date on telephones, all were paid during April except four. They have made partial payment and satisfactory arrangement for the payment of the balances. Only twenty-six notices were issued this month. One phone, Wiley Shoe Repair at North Richland was disconnected for non-payment.

Miscellaneous

| | April | March |
|---|---|---|
| Invoices prepared during the month | 221 | 272 |
| *Revenue from above invoices | $1,946.77 | $12,189.32 |

*Dollar volume in March due to an accumulation of charges for utilities furnished School District #400 July 1, 1949 - March 31, 1950 and car handling charges to Northwestern Fuel Company.

The following building permits were issued during April:

| | |
|---|---|
| Amusement Enterprises, Inc. | 65.85 |
| John H. Ludwig | 2.00 |
| P. G. Wascher | 16.50 |
| Anderson Motors | 7.60 |
| Charles J. Argo | 2.00 |
| Total | $93.95 |
| Previously Reported | 5,424.51 |
| Total to date | $5,518.46 |

General

Thirty-seven collection letters were written during the month resulting in the collection of $377.26.

The following accounts were submitted to the Yakima Adjustment Service for collection.

| | |
|---|---|
| John F. Norton - House Rent | 2.27 |
| Richard C. Hulsman - Tenant Service | 7.97 |
| Eugene H. Larson - Telephone | 10.52 |
| R. M. Hanks - Telephone $4.33 Tenant Service $29.91 | 34.24 |
| TOTAL | $ 55.00 |

## ACCOUNTS PAYABLE

| STATISTICS | April | March |
|---|---|---|
| Accounts Payable Vouchers Processed | 220 | 218 |
| Freight Bills Processed | 11 | 11 |
| Purchase Orders Received | 79 | 56 |
| Net Amount of Purchase Orders | 6,157 | $11,101 |
| Receiving Reports Received | 79 | 77 |
| Total Net Amount Disbursed | $42,170 | $35,833 |
| No. of Checks Issued | 183 | 182 |

A summary of active Community Subcontracts is shown below:

| Subcontractor | Subcontract Number | Amount Awarded | Paid This Month | Total Paid | Amount Retained |
|---|---|---|---|---|---|
| Frederickson, Dr. J.L. | ---- | * 1,897.00 | 223.00 | 1,897.00 | --0-- |
| Newland Cafeteria | ---- | * 23.32 | 17.74 | 23.32 | --0-- |
| Richland Maintenance Co. | ---- | * 84,916.16 | 7,018.50 | 84,916.16 | --0-- |
| West Coast Painters Co. | G-219 | 58,526.79 | -0- | 43,974.85 | 2,926.34 |
| Holaday & Edworthy, Inc. | G-284 | 4,700.00 | -0- | -0- | --0-- |
| Pringle, R. A. | G-289 | 10,000.01 | 5,240.36 | 5,240.36 | 573.99 |
| Curtis Middlebrook & Co. | G-290 | 10,800.00 | -0- | 3,600.00 | --0-- |
| Roof Service, Inc. | G-291 | 12,684.43 | 3,239.25 | 3,239.25 | 349.43 |
| Bailey Plumbing & Heating | G-293 | 8,256.89 | -0- | -0- | --0-- |
| Mathews Brothers | G-295 | 7,196.45 | -0- | -0- | --0-- |
| | | 199,001.05 | 15,738.85 | 142,890.94 | 3,849.76 |

* Total amount of contract will be total of estimates as submitted.

The Community Divisions Obligations and Expenditure Report, and Compilation of B & O Tax was submitted for consolidation to the General Division.

The Community Division's estimate of Cash Receipts for May amounted to $95,000 and estimated cash disbursements were $50,350.

## COST

The March Operating Report was completed and distributed on April 18, 1950.

The Comptroller's Appropriation Report for March was issued on April 19, 1950.

### Budget

#### Operations

The final budget figures for FY 1952 and Revision of FY 1951 were submitted for transmittal to the A.E.C. on April 25, 1950. We received budget justifications, narrative and work progress schedules from each of the Community Divisions which we are consolidating for submission by the May deadline.

## Construction

The final submission of 24 sets of Construction Budgets to Mr. Holmes occurred on April 24, 1950.

We started preparing Schedules 8 B for all items requested by the A.E.C. These should be complete by May 5th.

## Service Orders

The decrease in Service Orders in April is a seasonal decrease. However, Glazing and Carpentry increased due to the fact that they precede the painters and prepare the houses for painting. For example, reputty, nail loose boards, etc. Heating and Ventilating will steadily decrease due to warmer weather. Sheet Metal work increased because the furnace cleaners found many smoke pipes with holes in them.

A summary of service order statistics for the last two months is listed below:

| | Service Orders | | Total | |
|---|---|---|---|---|
| | March | April | March | April |
| 1. Plumbing | 954 | 757 | 2,496.83 | 2,027.56 |
| 2. Electrical | 1,922 | 1,909 | 4,746.04 | 5,134.96 |
| 3. Heat & Vent | 352 | 251 | 1,383.38 | 1,150.09 |
| 4. Glazing | 77 | 102 | 330.20 | 407.06 |
| 5. Lock & Key | 367 | 297 | 1,015.55 | 1,167.32 |
| 6. Carpentry | 372 | 426 | 888.05 | 1,164.91 |
| 9. Sheet Metal | 4 | 14 | 24.33 | 108.61 |
| | 4,048 | 3,756 | 10,884.38 | 11,160.51 |

| | March | April | Net Change |
|---|---|---|---|
| **Work Orders** | | | |
| Active Routine | 421 | 425 | + 4 |
| Active Normal | 2,063 | 1,959 | -104 |
| | 2,484 | 2,384 | -100 |
| Work Orders Received | 2,241 | 2,003 | |
| Work Orders Completed | 1,923 | 2,103 | |
| | + 318 | - 100 | |

GENERAL LEDGER

| | No. | Amount Debit | Amount Credit |
|---|---|---|---|
| Second Class Invoices Received | 62 | $309,072.22 | $279,279.26 |
| Second Class Invoices Issued | 46 | 191,191.05 | 14,058.11 |

[redacted]





## DESIGN AND CONSTRUCTION DIVISIONS

APRIL 1950

### ORGANIZATION AND PERSONNEL

| | |
|---|---|
| Number of employees on payroll: | |
| Beginning of month | 591* |
| End of month | 603* |
| Net increase | 12 |
| * Does not include the following Personnel: | |
| Instrument Div. (Loan) | 7 |
| H. I. Div. (Loan) | 1 |
| Kellex Corp. (Contract) | 10 |
| Fluor Corp. (Contract) | 12 |
| Charles T. Main, Inc. (Contract) | 25 |
| | 55 |
| Total beginning of month | 619 |
| Total end of month | 658 |
| Net increase | 37 |

### I. INVENTIONS OR DISCOVERIES

All persons within the Design and Construction Divisions engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report. Such persons further advise that, for the period therein covered by this report, notebook records, if any kept in the course of their work have been examined for possible discoveries or inventions.

### ACCOUNTING DIVISION

This Division issues a report separately and subsequently to the date of this report.

[redacted]

CONSTRUCTION SERVICES DIVISION



I. SUMMARY

No major changes were made within the Construction Services Division during the month.

II. STATISTICAL AND GENERAL

North Richland Construction Camp
(Period covered: March 28, 1950, to April 26, 1950, inclusive)

| | Beginning of Month | End of Month | Net Change |
|---|---|---|---|
| | 3,074 | 3,331 | 257 |

Camp Population

| | |
|---|---|
| (Barracks | 613) |
| (Trailers | 2,075) |
| (Houses | 643) |

Barracks in Use

16 wings one-story male barracks
2 wings one-story female barracks

Trailer Lots

Occupied - 736
(One trailer bathhouse was re-opened making a total of 35 presently in use.)

Houses

Of the 201 houses available in North Richland Camp, 13 houses were vacant at the end of the month. Twenty-two (22) houses were assigned during the month and ten (10) vacated.

Maintenance

The construction contractor's maintenance force at the end of the month totaled 57. This total includes a temporary assignment of four plumbers who will complete their assignment April 28, 1950.

Work Order Control

| | | | |
|---|---|---|---|
| Number brought forward 3/27/50 | 73 | | |
| Issued during April | 99 | | 172 |
| Completed during April | | 101 | |
| Voided during April | | 12 | 113 |
| Balance carried forward 4/27/50 | | | 59 |

[redacted]



A revised system for cost control of Work Orders has been established. It is expected that this revision will provide the necessary information to establish daily control of costs.

Maintenance work necessary to de-winterize Barracks 180 and 182 has been completed and these barracks have been turned over to the Army for an infirmary and a recreation center and barber shop respectively.

Steam Generating Plant

The following is a resume' of the operation of the Steam Generating Plant from March 28, 1950, to April 26, 1950, inclusive:

| | |
|---|---|
| Steam generated, M Pounds | 27,100 |
| Oil consumed, gallons | 2,715 |
| Coal consumed, tons | 1,915 |
| Boiler efficiency, average per cent | 75.46 |
| Steam cost per M Pounds $0.9112 | |

Commercial Facilities

There were 19 commercial facilities operating at the close of the month.

The Snack Bar reopened for business on Tuesday, April 18, 1950.

North Richland Realty has been assigned the duties and responsibilities of landlord for the Doctor and Dentist who are expected to continue their present practice in North Richland. The lease agreements are in the process of being formulated and negotiated.

From the information available at this time, the trend of business is continuing upward.

Community Activities

Considerable interest is being displayed in baseball and softball; teams are being sponsored and organized to the extent of taxing the facilities to the limit.

The North Richland Improvement Group is again active; a reorganizing meeting was held and a new president elected. Indications are that the organization will become quite active.

There were 53 church meetings and 27 other gatherings held in the community during the month.



[redacted]

Camp Columbia

The dismantling and disposal of Camp Columbia continued during the month and is not expected to be completed for at least another month. The Community Division has requested that the custodian be allowed to remain until the pre-fabs are removed. They are accepting the cost of this service.

Office Services

A reserve stock of office furniture has been maintained in Warehouse #4 for replacement and future needs. This stock has been transferred to Operations' service section, which will supply our requirements in the future.

Due to reorganizational activities, reassignment and re-allotting of office space in the 760 Building was necessary. This involved the moving and shifting of 73 employees and was accomplished on Saturday to minimize the disturbance and inconvenience caused by such a change.

Services performed during the month by the section included the following:

| | | | |
|---|---|---|---|
| Ditto masters processed | 2,930 | Copies | 92,740 |
| Stencils processed | 2,545 | Copies | 165,492 |
| Mail handled (pieces) | 183,402 | | |
| Mail registered (pieces) | 105 | | |
| Teletypes sent and received | 860 | | |
| Telegrams sent and received | 780 | | |
| Orders issued for stationery | 152 | | |
| Stationery issued (requests) | 1,196 | | |
| Phone installations requested | 23 | | |
| Phone moves requested | 69 | | |
| Office furniture moved (pieces) | 470 | | |
| P.I.T. processed | 13 | | |
| Special messenger runs | 118 | | |
| Office machines delivered Repair Shop | 6 | | |
| Service calls | 545 | | |
| Work orders issued | 12 | | |
| Requisitions approved | 12 | | |
| Reports prepared | 12 | | |

Security Administration

A summary of activities is as follows:

| | |
|---|---|
| Visitor passes issued | 158 |
| Badge number changes | 207 |
| Lost badges | 13 |
| New hires (contractors) | 678 |

4

[redacted]

| | |
|---|---|
| Terminations (contractors) | 235 |
| Number on subcontractor and vendor payroll as of April 27, 1950 | 3,554 |
| "FP" clearances requested | 152 |
| Received this month | 294 |
| "Q" clearances requested | 504 |
| Received this month | 445 |
| "P" approvals requested | 50 |
| Visitor clearances requested | 10 |
| Total clearances requested during month | 716 |
| Total clearances received during month | 739 |

Area Badges Authorized

| | IN | | | | OUT | | |
|---|---|---|---|---|---|---|---|
| | A | V.O.D. | B | T | A | V.O.D. | B |
| 100 F Operations | 0 | 0 | 0 | 12 | 0 | 0 | 0 |
| 200 W Operations | 0 | 23 | 0 | 63 | 0 | 1 | 0 |
| 100DR Limited | 449 | 0 | 10 | 6 | 80 | 0 | 0 |
| 100 H Operations | 0 | 6 | 0 | 2 | 0 | 0 | 0 |
| 200 E Operations | 0 | 1 | 0 | 23 | 0 | 0 | 0 |
| 300 Operations | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

Major Construction Equipment

Equipment assigned as of April 27, 1950:

| | |
|---|---|
| Atkinson-Jones | 1,073 |
| Design and Construction Divisions | 120 |

Safety Report

| Construction Injuries | C.P.F.F. Contractors | Lump Sum Subcontractors |
|---|---|---|
| Major injuries | 6 | 0 |
| Sub-major injuries | 5 | 0 |
| Minor injuries | 260 | 5 |

No motor vehicle accidents have been reported. One fire in trailer camp to private trailer resulted in estimated damage of $200. Another fire in 100-DR was extinguished without loss.

Labor Relations

1. Atkinson-Jones advised General Electric of a threatened work stoppage by Technical Engineers. They have requested an answer from General Electric and the Atomic Energy Commission prior to May 1, 1950, stating specifically whether the agreement negotiated with the Technical Engineers is to be acted upon as a complete package or upon isolation pay alone at this time. The original request covers salary revisions and isolation pay.

2. A reimbursement Authorization was issued by the Commission covering salary revisions for superintendents and assistants.

3. A Reimbursement Authorization was issued establishing a rate for International Business Machine supervision.

III. ORGANIZATION AND PERSONNEL



Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 129 |
| End of month | 138 |
| Net increase | 9 |

## CONTRACT DIVISION

I. SUMMARY

Inability to negotiate acceptable fees has held to a standstill construction and services to be performed under CPFF on the Overall Plant Telephone Project (Part II), the Heat Transfer Test Unit Project and all miscellaneous work and services anticipated to be performed under CPFF. As of April 30, 1950, however, agreements have been reached on major items in relation to preparation of estimate and determination of fees for the CPFF sub and sub-contractors. Atkinson-Jones' fee was determined and accepted on April 27, 1950. As of April 28, modification of Atkinson-Jones' contract covering these services had not been approved by the Atomic Energy Commission.

A fee for the design of Waste Metal Removal and Recovery Facilities has been successfully negotiated with Kellex and modification covering same executed and approved. Kellex was notified to proceed with the work as of April 10, 1950.

II. STATISTICAL AND GENERAL

Twenty-two contract items were completed during the month. Forty-six contract items remained open at the end of the month.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 26 |
| End of month | 27 |
| Net increase | 1 |

ENGINEERING SERVICES DIVISION



I. SUMMARY

Effective April 1, 1950, an Engineering Services Division of the Design and Construction Divisions was established. This division includes the following sections with responsibilities as indicated:

DRAFTING AND REPRODUCTION SECTION

Drafting
Reproduction, distribution, and storage of prints and specifications

ESTIMATING AND STANDARDS SECTION

Estimating and cost codes
Coordination and issue of specifications

PERSONNEL AND RECORDS SECTION

Administration for non-exempt personnel
Security administration
Housing
Overtime requests
Control and distribution of D & C procedures
Forms control
Project histories
D & C Files

PROJECT COST AND PROGRESS ANALYSIS SECTION

Chart Room
Reports
- Reports for A. E. C.
- Project data to Accounting Division
- Liaison with A. E. C. Report Section
- Edit Monthly Narrative Report

Statistics
- Central project files
- Construction manpower, procurement, and other data
- Project expenditures
- Scope Book

Cost and progress analysis

The functions outlined above were deleted from those previously assigned to the Power and Mechanical Division and from those of the present Administrative Section.

## II. STATISTICAL AND GENERAL

### Drafting

There are now twenty-five Charles T. Main draftsmen working in Building 87, North Richland. Three more men are expected to report for work May 1. The majority of these men are working on Jumper drawings for Project C-343. They have also done the ventilation, heating, and plumbing for the Medical-Dental Building. Drafting on this building, which was scheduled for April 22, will be complete (except for minor revisions) by May 1.

Drafting on Project C-343 is showing good progress and by June 1 should be well over the peak. Preliminary design on C-187 is practically complete and construction drawings are under way. Some activity is developing on Phase III work for Project C-198. Twelve men are now assigned for development drafting on Project C-300.

The following report of man-days indicates the distribution of work in the Drafting Section:

| | |
|---|---|
| D & C Administrative | 2.0 man-days |
| Loaned to Technical Divisions | 48.0 |
| 200-W Laundry | 3.7 |
| Medical-Dental Building Addition | 31.9 |
| Hanford Works Laboratory | 9.4 |
| DR Water Works | 7.9 |
| Reactor Development | 199.1 |
| Separations Division Administrative | 14.0 |
| 234-5 (I) | 10.0 |
| 234-5 (III) | 9.2 |
| C-343 | 851.3 |
| C-187-D | 176.75 |
| C-187-E | 1.1 |
| C-187-E | 1.6 |
| C-362 | 201.6 |

The distribution of man-days spent by Charles T. Main draftsmen is as follows:

| | |
|---|---|
| Medical-Dental Building Addition | 23.7 man-days |
| Addition to 703 Building | 3.0 |
| C-343 | 329.7 |
| Reactor Development | 6.0 |
| C-187-D | 2.0 |

The following miscellaneous charges were made during the month:

| | |
|---|---|
| Cross-charge, Power Division (charts) | 9.6 man-days |
| Absences - Paid | 32.1 |
| Absences - Without pay | 12.25 |
| Overtime Bonuses | 120.0 |

At present, a study is being made to determine how soon Saturday work can be discontinued.

It is anticipated that a revised drawing format will be submitted by May 8.

Reproduction

The square footage volume of all work completed in the Production Group for the month of April shows an increase of 11 per cent over production for March, 1950. This was accomplished in spite of a decrease in personnel in the Shop. Our efficiency rating reached an "all-time" high during this month, with an average of 29,482 square feet of production per employee.

Good progress was made this month toward converting the Print Reference File from a two-print filing system to a one-print subject file, using a numerical Kardex cross-index system.

Construction prints issued to the field by the Redox Group showed a marked increase the latter part of this month, with all signs pointing to an even greater increase in May. The DR Water Works field issues were just about completed as of the end of this month. Revisions will contribute a firm volume for another month or two, however.

A study of comparative printing methods and costs was made to aid in determining the best media for presenting the D & C Instructions. This information was given to H. H. Jones.

A partial crew averaging approximately 75 per cent of total personnel and tailored to fit the work-load has been working Saturdays to keep up with the increase in all phases of work in the Production and Control Groups.

Estimating and Standards Section

The Unit Cost Group has tabulated working basic unit prices and prepared analyses of estimates. Coordination of Accounting and Estimating has been initiated.

Following is a tabulation of estimates handled by this section during the month:

| Division | No. of Estimates Requested Comp. | Type of Estimate | Completed Total Dollars | Estimates Not Completed |
|---|---|---|---|---|
| Power & Mech. | 3 | Preliminary | $ 991,176 | |
| " | 1 | Fair Cost | 215,250 | |
| " | 1 | Firm | 532,665 | |
| | 5 | | $1,739,091 | 0 |

[redacted]



| Division | No. of Estimates Requested Comp. | Type of Estimate | Completed Total Dollars | Estimates Not Completed |
|---|---|---|---|---|
| Separations | 7 | Preliminary | $3,925,890 | |
| " | 3 | Firm | 32,676 | |
| " | 8 | Order of Mag. | 853,614 | |
| " | | Fair Cost | | 1 |
| " | | Order of Mag. | | 2 |
| " | | Check | | 1 |
| | 18 | | $4,812,180 | 4 |
| Reactor | 0 | | | |

## Personnel, Records & Histories Section

On April 17, an engineer was transferred to this section to edit, issue and control all D & C Instructions. The Histories Section, composed of one engineer, one clerk, and one steno-typist, was transferred to this section on April 24.

An employee of the D & C Files attended a meeting at the Knolls Atomic Power Laboratory on April 27 and 28. This meeting was called by the Atomic Energy Commission to discuss regulations concerning the control of classified material.

Other activities of this section during the past month include:

1. Security clearances processed
   - Requests for area badges 59
   - Area badge cancellations 0
   - Requests for access authorization 7
   - Requests for Material & Package Passes 9

2. D & C Payroll additions, terminations and transfers
   - Additons 27
   - Terminations 10
   - Transfers within D & C Divisons 7
   - Transfers out of D & C Divisions 1

3. Secret and confidential documents processed
   - Documents issued 1,262
   - Documents routed 936

4. Procedures issued
   - D & C Instructions issued 24

5. Reports issued
   - Weekly Force Report
   - Force Forecast
   - Overtime Forecast
   - Roster
   - Personnel Report





[redacted]

[redacted]



Monthly Force Report for Employment Office
Monthly Manhour Report for Safety Office
Visitors' Report for Security Office

Project Cost & Progress Analysis Section

During the month of April the following new charts were prepared:

DR Water Works

a. Design drawing release chart showing scheduled and actual releases of design drawings to the construction subcontractor
b. Procurement status chart of M & E items
c. S-curves of design and construction completion, proposed and actual
d. Engineering design costs. Actual record only.
e. Chart of direct labor by heads, manual and non-manual. This chart became obsolete soon after it was prepared and was revised the latter part of the month.
f. Three charts on direct labor by heads by Crafts. These charts became obsolete soon after being prepared.
g. Direct labor completion ratio, estimated and actual
h. Monthly direct labor costs, estimated and actual

MJ-1 Laboratory

Two charts of direct labor by heads, manual and non-manual, and six charts of direct labor by heads by Crafts were prepared. These charts are based on data which are pending review and/or revision by the Separations Division.

Miscellaneous

a. Chart on batch plant operation
b. Four charts on funds

During the month, revisions were made to the following charts:

a. Four charts on heavy construction equipment by pieces were revised to show the latest estimates
b. The Kellex design percentage completion chart for MJ-1 was revised to show a breakdown into major components
c. Two charts on funds were revised
d. Chart of D & C personnel was revised

The following reports were compiled and issued:

a. AEC Monthly Progress Report issued on April 5
b. Monthly Narrative Report issued on April 10
c. Subcontractors' Personnel Report issued on April 6
d. Monthly Summary Cost Report issued April 6





[redacted]

[redacted]

Changes in forms:

a. Sixteen obsolete forms were canceled
b. Four forms were revised
c. One new form was prepared

The Scope of Work Book was kept current throughout the month with revisions to the following projects:

a. C-185, Railroad Connection South of Richland
b. C-342, DR Water Works
c. C-353, Richland Water Study
d. C-361, MJ-5
e. C-362, MJ-4

## III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 149 |
| End of month | 151 |
| Net increase | 2 |
| Draftsmen on loan from Charles T. Main, Inc. | 25 |





[redacted]

## POWER AND MECHANICAL DIVISION

### I. SUMMARY

Construction work on small Village projects authorized to date is complete with the exception of one outstanding work order on electrical service for the New Central Commercial Area and the one active paving job on Jadwin Avenue.

The UP-NP railroad connection is slated for completion by June 30, 1950 and is now approximately 86 per cent complete. Construction completion of the railroad bridge over the Yakima River will no doubt determine the end date of the total railroad project. A premium payment arrangement for early completion of the entire project before June 2, 1950, with J. A. Terteling & Sons, Inc., have been approved by the Atomic Energy Commission. The bonus arrangement for early completion was devised as a safeguard against expected high water on both the Columbia and Yakima Rivers which might cause isolation of Richland inhabitants.

The assignment of the Drafting, Reproduction, and Estimating and Planning Sections to the newly created Engineering Services Division as of April 1, 1950 has reduced the employees in this division from 200 to 72.

The General Engineering Section spent 61 per cent of their time on work for other divisions and 39 per cent on Power and Mechanical Division projects.

Construction progress on the DR Water Works continued in an efficient manner with pipe fitters on the job during the first week of April. We estimate that approximately two weeks' over-all project time was lost by the delay of fitters on the job when required. Construction progress, however, reported as of April 30 is approximately 23 per cent which is almost on schedule for an October 1, 1950 beneficial occupancy.

During the month, the Minor Construction Division has fabricated pipe sections for this work in the modification of Building 115-D gas system to be accomplished during the shut-down in the D area.

Approximately 25,250 cubic yards of concrete have been placed, which represents approximately 50 per cent of the total job.

### II. STATISTICAL AND GENERAL

In the following is briefly covered the active design and construction projects:

C-185, Railroad Connection South of Richland: This project is approximately 86 per cent complete. Track work is progressing satisfactorily and will be completed ahead of the Yakima River bridge. The concrete pile caps on piers 3, 4, 5 and 6 were completed April 29.

C-204-B, Additions and Alterations to Kadlec Hospital and Medical Arts Building: Detail plans for the site work and outside services for the utilities have been completed and submitted for approval. The detail design work for the Medical Arts Building is 90 per cent complete.

C-288-A, B, D - Development of Various Commercial Areas: This work is now complete. "As-built" information is being placed on drawings. Property unitization work is under way.

C-288-C, New Central Commercial Area: This project is complete with the exception of one outstanding work order in the amount of $1165.

C-289, Additional Laundry Facilities--200 West: Contract for construction of this project is in AEC hand's for approval.

C-342, DR Water Works: Total physical completion as of April 30 has been estimated at 23 per cent. Progress through the month has been excellent with pipe fitters on the job during the first week of April. Atkinson-Jones, through this period, have removed the purification equipment from the 115-D building gas system prior to work to be done by Minor Construction forces which will start during the shutdown period in the D area.

The design of DR is practically complete with all construction drawings issued to the field except a few on the 115-D gas system.

The procurement of M & E items by General Electric is 98 per cent complete. Promised deliveries on equipment, with but few exceptions, meet required dates as established by Atkinson-Jones for October 1, 1950 beneficial occupancy.

The design costs are well within the estimate.

Project proposal Part III was submitted to the A & B Committee April 27, 1950. The new cost estimate in the amount of $20,709,675 is $2,462,375 lower than the former estimate submitted in project proposal Part II, HDC-1533.

The new estimate of engineering and design cost plus engineering supervision and field inspection is $928,000, a reduction of $171,100 from the previous estimate.

C-352, Jadwin Avenue and Vicinity--Street Improvements: Grading was started on April 3 by J. A. Terteling & Sons, Inc. The total project is now approximately 19 per cent complete. The base course is in place from Stevens Drive to Wilson Street, with concrete curb and gutter complete from Van Giesen Street to Coordinate North 260.

C-353, Richland Water Study: Collecting detailed information.

C-364, Aquatic Biology Laboratory: Scope work for this project is about complete and project proposal requesting funds for the services of an Architect-Engineer is being prepared.

MC-964, Records Depository: Awaiting AEC directive.

GET-14, Hanford Works Laboratory, Radiochemistry Building: The project proposal is awaiting approval by the Atomic Energy Commission. Leland S. Rosener, architectural firm of San Francisco, has been recommended for the A-E work.

GET-15, Hanford Works Laboratory, Radiometallurgy Building: The project proposal and estimate are up for approval by the A & B Committee May 9.

GET-16, Hanford Works Laboratory, Plot Plan and Outside Facilities: Project proposal will be completed by May 12.

Hanford Works Laboratory - Pile Technology Building: A request has been received from the Technical Divisions to prepare a project proposal, preliminary cost estimate, and scope engineering for the Pile Technology Building as a part of the Hanford Laboratory Area.

## III. ORGANIZATION AND PERSONNEL

Number of employees on payroll

| | |
|---|---|
| Beginning of month | 200 |
| End of month | 72 |
| Net decrease | 128 |

## REACTOR DIVISION

## I. SUMMARY

1. Tapered Bore Gun Barrel

A tapered bore gun barrel (using MO concrete as a filler material) was completed and installed in the "D" reactor. Data obtained during one operating period revealed a pronounced neutron beam which is believed to have been due to a poor fit of the graphite plug which was used to close the test hole. During the shutdown of April 27, the step plug was removed, the graphite plug changed and the step plug reinstalled. Further tests showed the neutron beam had been eliminated.

2. Control Rods

The design layout of the new rod assembly and inverted thimble was approved and released for detailing. The layout for the friction drive assembly is approximately 75 per cent complete.

The preliminary design was completed of a test rig to check the heating of various rod materials in a reactor test hole.

A study was completed to investigate the use of solid control rods of either steel, titanium, vanadium, or nickel. The results indicate that titanium is the most promising, as reported in HDC-1704.

3. Process Tubes
A study was completed of the use of zirconium for process tubes. This material appears to be very favorable from the standpoint of both physical and nuclear properties, as summarized in HDC-1734. There is a potential gain of 150 inhours by using zirconium in place of aluminum.

4. Test Laboratory
The necessary drawings have been completed and the procurement of the hand tools, test equipment, and instruments is well under way.

5. Third Safety System
The stacking of the White Bluffs Test Tower to accommodate the round rods and the ball 3-X system has been completed. The test equipment is being installed and it is anticipated that the first tests will start on May 8.

The physical and chemical tests, performed on glass balls proposed for the 3-X system, indicate that properties are potentially attractive, thus confirming our original expectations. Final verification tests will have to be performed before a decision can be made regarding the suitability of glass balls for the Third Safety System. In the meantime, plans are under way to develop both ceramic and metallic balls.

6. Moderator
A test request was prepared to determine the reaction rates of graphite with $CO_2$ and decomposition of CO in presence of graphite.

Report HDC-1713, which summarizes the results of the graphite key tests, was issued.

7. Water Plant
Another engineer was added to the Water Plant Group. This man will have the responsibility for studying and evaluating the mechanical equipment for the final Water Plant for the "G" reactor.

The latest estimated completion date of the recirculation test installation is August 15. The reason for this delayed completion is interference with several other projects which require all of the available Maintenance forces. These projects are P-10, Rala, Biology Laboratory, and 105-DR Gas System. Steps will be taken to attempt to improve this completion date.

## II. STATISTICAL AND GENERAL

1. Metal Handling
The design layouts of the charging and discharging machines were reviewed and the instructions issued to the Drafting Section to have the necessary changes made. However, very little progress was made due to the lack of draftsmen.

The slug ejector counter and the nozzle seal components will be completed on May 8 and tests will start approximately May 15.

2. Special Process Tubes
A careful analysis was made which revealed that gas cooling of these tubes would be unsatisfactory and, therefore, water cooling will be required. (This is contained in Report HDC-1702.)

The design layouts of the charging machine and discharging equipment for these tubes were approved and detail drawings started.

3. Shielding
There was no progress made on design layouts during the month because of the lack of a design draftsman.

The test authorization was approved for the bulk pour tests. Four crates will be manufactured and erected, but the concrete will not be poured until additional progress has been made in the test program at Battelle.

4. Sheet Rod Tests
A comprehensive report (HDC-1747) covering the entire sheet rod test program was prepared and submitted for approval.

5. Heat Transfer - Graphite to Graphite
This program is planned to determine the heat transfer coefficient from one graphite block to another. The test authorization was approved and the equipment design has been completed.

6. 100-G Heat Transfer Tests
The work at G. E. C. L. was reviewed during the interval of April 12 to April 18 by H. S. Isbin. Encouraging results have been obtained with the brazing techniques developed, and although a complete heater section had not yet been fabricated, it is expected that the final assemblies will be made without undue difficulties. Present scheduling calls for the completion of the heater unit in May.

In addition to the heater being constructed at G. E. C. L., uniform wall aluminum tubes have been ordered. These special tubes have been inspected and accepted. Other heater tubes on order include a set of special stainless steel tubes.

Present tests have indicated that the Heresite coating P-403 may not be able to withstand the applied DC potential. Further testing is under way and other substitutes are being considered.

7. Moderator Temperatures
The effects of pile gas, He or $CO_2$, and gap size on tube block temperature are illustrated in Document HDC-1714.

The calculation of graphite temperatures by the relaxation method has not proven to be successful in that convergence is too slow.

8. "G" Pile Designs
Several factors for the "G" Pile design have been considered:
   (a) HDC-1703, "Number of Effective Tubes in "G" Pile"
   (b) Tentative orifice pattern
   (c) Header pressure requirements to suppress boiling following electrical outage
   (d) Calculation of the xenon poisoning for 800 pile power level and 400 inhours of flattening.

9. Process Tube Materials
   Aluminum Alloys
   Sections of standard process tubing under creep test at Hanford now for 2000 hours have shown negligible dimensional change during the last 1200 hours at both 400 and 600 psi fluid pressure at 100° C.

   Aluminum alloys similar to 72S but containing 1.5 per cent to 2.5 per cent zinc were prepared and sent to Battelle for fabrication into sheet. These alloys will be checked as cladding materials for aluminum alloys now being evaluated in standard process water for which 72S cladding alloy is not adequate.

   It has now been decided to handle the creep testing of 2S aluminum at Battelle under the existing AEC contract between the Chicago office and Battelle. The local AEC has been requested to make the necessary arrangements.

   Zirconium
   Documents HDC-1722 and 1746 were issued. These precent current thinking with regard to the applicability of zirconium as process tube material and outline the program for evaluation and development of zirconium tubing, requesting assistance from the AEC to arrange programs at their development sites.

10. Control Rod Alloys
Samples of boron-stainless steel received from the Research Laboratories were analyzed chemically and found to contain the requisite amount of boron. A 1.3 per cent boron-stainless steel adequate for safety rod requirements appears to be feasible, and the Research Laboratory has been requested to concentrate on this composition. To date, they have not succeeded in alloying gadolinium with ferrous materials.

Microtensile specimens of titanium containing up to a reported 5.2 per cent gadolinium were received from Battelle for corrosion testing here. Purchase of apparatus for corrosion testing these alloys has been initiated.

After one month's testing at 600° C in carbon dioxide, a titanium specimen showed a weight gain equivalent to a surface oxidation layer 0.0038" thick. Several uncontrolled variables in this test may have caused this severe degree of oxidation, since for the first two weeks of testing this specimen showed negligible surface reaction and weight gain.

11. Third Safety System

A consultants contract is being arranged with the American Lava Comapny to investigate boron-containing ceramic mixes for balls for the third safety system.

Chemical analysis of glass balls purchased for evaluation in Test Project #21 indicated that the glass contained 11.9 per cent boron. A test of these balls by the Metallurgy Section showed them to have a crushing strength of about 1000 pounds at room temperature, to be unaffected by thermal shock up to 500° C., and to be resistant to softening up to 710° C under a static load of six pounds per square inch of projected ball area.

## III. ORGANIZATION AND PERSONNEL

Number of employees on payroll

| | |
|---|---|
| Beginning of month | 40 |
| End of month --- | 43 |
| Net increase | +3 |

## SEPARATIONS DIVISION

## I. SUMMARY

Separations Division design work proceeded substantially as scheduled. Discussions with Kellex Corporation management in New York were held to set a foundation for design responsibility and to place the Architect-Engineer relationship with G.E. Design personnel on a sound basis.

Design Division engineers visited the General Engineering and Consulting Laboratory in connection with the 432 Project to discuss the design, estimates, scope of work and division of responsibility between GE&CL and the Design Division, and the establishment of a sound basis for reporting progress.

Work authorities were issued authorizing Kellex Corporation to proceed with preparation of scope material for the Waste Metal Removal and Recovery Facilities to be completed by June 1, 1950, and to proceed with detailed design of engineered equipment and building alterations.

[redacted]

DECLASSIFIED

The date for the first concrete placement for 202-S Building, Project C-187-D, was set as "on or before May 15, 1950."

Approved by JS Parker

## II. STATISTICAL & GENERAL

### A. Design

(1) Project C-187-D, Redox Production Facility

During this month agreements were reached with Kellex to the effect that General Electric comments on Kellex designs would be so stated as to indicate changes in accordance with one of the following classes:

Class I - Required changes, to be made immediately.
Class II - Necessary changes; must be made, but are to be held so as not to delay current work; to be field-handled if possible.
Class III - Desirable changes; adoption optional; to be made if possible.

It was further agreed that Kellex would send to Richland designers of specific equipment items when required to furnish information necessary to General Electric approval.

The design work on 202-S is approximately 50 per cent complete, against a scheduled 53 per cent completion. It is expected that all design will be substantially completed by October of this year. As of April 29, 1950, out of a total of 1959 drawings scheduled, 615 have been received by General Electric for approval, 514 were scheduled for approval, and 445, or 22.7 per cent of the total, were approved. The bulk of the construction drawings is reasonably well on schedule with the exception of the process equipment (Class I vessels) drawings; however, with the aid of Kellex designers presently in Richland, to make corrections and furnish design basis information, it is expected that these will be available for construction starting the first week in May and finishing by the middle of June. Beyond these equipment items, detail drawings should flow rapidly and Kellex should be on schedule by the first of July.

The procurement of engineered equipment and material for 202-S is still not satisfactory from the schedule standpoint. Out of a total of approximately 370 requisitions to be written, 211 have been received by the Separations Division, 132 were issued to Procurement, and 102 purchase orders were placed. Part of the difficulty is due to the lack of requisitions and part is due to the preliminary nature of the drawings furnished with the requisitions. It appears to be necessary to expedite approval and to furnish "approved for construction" drawings to Procurement.



[redacted]

[redacted]



The Design work of the outside facilities being done by General Electric Company is approximately 48 per cent completed. The latest revised schedule calls for 50 per cent completion at this date and substantial completion by October, 1950.

A cost review of General Electric and Kellex design charges against estimates is being prepared. The presently authorized funds are $6,000,000 and the current estimate exceeds this amount by about 8 per cent.

Waste Disposal Facilities (Tank Farm)
Design is complete with the exception of field changes and "as-builts"

(2) Project C-198, 234-5 Program:

| Design | Percent Complete | |
|---|---|---|
| Phase I | Actual physical complete - 99% | Scheduled - 100%* |
| Phase II | Actual physical complete - 80.2% | Scheduled - 100%* |
| Phase III | Actual physical Complete - 8.5% | Scheduled - 92.2% |
| R. M. Line (Schenectady) | Overall design and fabrication of equipment | |
| | Actual physical complete - 66% | Scheduled - 92.1% |

* Phases I, II, and III percentages taken from 8-1-49 schedule. New estimates and schedules are being prepared.

Phase I
Only one more work order for Phase I remains to be issued. When this is done, probably by May 4, Phase I may be closed out.

Phase II
No work is being done on Phase II design at present.

Phase III
During the week of April 10 to 14, Messrs. R. S. Bell, J. M. Heffner, G. Thayer, H. E. Grant, C. T. Greswith, and E. F. Smith visited the General Engineering and Consulting Laboratory to discuss and report on the following:

1. Mechanical adequacy of the GE&CL design.
2. Better information for an installation re-estimate.
3. Adequate cost control of the 432 Project.
4. Scope of the work.
5. Division of responsibilities.

As a result of the discussions, work is now starting on the clarification of the scope, review of cost estimates, and the rescheduling of the entire project. The estimate of the cost of installation has been reduced somewhat because of the later information. GE&CL are to make more detailed monthly cost reports including estimated per cent physical completion of project. The division of responsibility between GE&CL and Richland is presently covered in considerable detail by informal agreement, but has not been formally approved while awaiting firm schedules covering installation by construction forces.

[redacted]

Architectural drawings of the new walls at the west end of the R. M. Line have been sent out for comments by the contact engineer.

A take-off of the structural material required for the R. M. Line Barrier has been made from preliminary GE&CL drawings, and it is intended that an order will be placed for the steel as soon as the final drawings are received. This would ordinarily be subcontractor material, but since a subcontract has not been let as yet, it is planned to order the steel by General Electric purchase.

Fabrication at Hanford of one assembly of the R. M. Line tool for task VI is 90 per cent complete. The temporary installation of the 400 ton press in 272-Z Shop is 95 per cent complete.

Sufficient information has been received from GE&CL for starting the Phase III ventilation and helium system drawings. These will start as soon as a draftsman is available.

(3) Project C-343, Rala Facility

Fund authorization for GE&CL design on the electrolytic cell was increased to $14,000 during the month. GE&CL has made the choice of cell type and are expected to make their major choices on methods of fabrication by the first week in May. Scope design drawings are scheduled for May 2 by GE&CL, at which time a design justification report has been requested.

A schedule for ordinary and special gaskets has been prepared. Test work to direct the choice of special gasket design has been initiated.

Scope work is completely approved on 291-T facilities; is expected to be completely approved on 222-T building facilities by the end of this month; and is approved on 221-T building facilities with the exception of Cell TB (Phase 5). Cell TB scope will be presented for management and AEC approval early in May.

During the month the tantalum procurement program was outlined and the Procurement Division requested to investigate and report on the procurement schedule for tantalum equipment. The report has not yet been received.

Sampler design is firm with respect to methods, but details of design are not yet firm, pending agreement on sampler size requirements.

During the month, Project C-343 has been divided into 8 phases for purposes of construction cost and schedule control. The first 6 of these phases cover work to be prosecuted by plant Project Engineering Divisions' forces and the last 2 phases to cover work to be prosecuted by an outside contractor on a CPFF basis. Design progress in all future reports will be reported for these phases. At present, the design completion on the basis of construction prints issued is as follows:

Phase 1 - Clean-up, temporary construction, and Cell 5 - 95%

Phase 2 - Mock-up - 60%
Phase 3 - Cell TA and outside lines - 20%
Phase 4 - Samplers and Building Addition to 221-T - 0%
Phase 5 - Cell TB - 0%
Phase 6 - Fan house and substation - 0% (AEC scope approval not yet otained. When scope approval is obtained, specification drawings will be prepared for fee determination purposes.)
Phases 7 and 8 - Laboratory - 0% (Scope not yet fully determined.) .
The drawing list for approval will be issued the first week in May.

(4) Project C-362, Waste Metal Removal and Recovery
Phase I - First Installation for Removal of Underground Waste.

On April 18, The Kellex Corporation was authorized to proceed with the preparation of scope material for the first removal system. No further progress has been reported to date.

Phase II - Installation of Removal Equipment at Remaining Cascades
No progress. Awaiting Phase I results.
Phase III - Pipe Line from 200-E to 200-W

East-West pipeline scope material has been received from the Power and Mechanical Division and will be issued for comment before May 1.

Phase IV - Conversion of U Area Buildings to TBP Process

The preparation of scope material is behind schedule by approximately one and one-half weeks. Part of this delay is attributable to insufficient drafting manpower and part to the relocation of several mixing tanks and related facilities required by excessive floor loading of the 271-U Building. Further delay may be anticipated if current chloride corrosion tests being conducted by the Technical Divisions are unfavorable.

The Kellex Corporation was authorized to proceed with the detailed design of the 277-U Mock-Up Building on April 25. At that time they were also instructed to proceed with the detailed design of certain structural and architectural alterations to the 221-U and the 224-U Buildings.

Phase V - Stripping of U-Area Buildings.

No progress to date.

(5) Project C-361, Metal Conversion Facilities
All three Fluor men assigned to this project received their "Q" clearances during the month and scope design has been started.

It is presently planned that Metal Conversion Facilities, if built at Hanford, will be installed in the existing 224-U Building. This

has the obvious advantage of eliminating the necessity for creating a new restricted operating area. Also full advantage can be taken of existing service facilities in the 224-U Building such as lunch room, locker, and change rooms, etc.

A preliminary design estimate of construction costs bases on use of 224-U has been prepared. This estimate indicates a construction cost of approximately $2,528,900. However, by building metal conversion facilities at Hanford, a saving of approximately $507,500 can be realized in the Waste Metal Removal and Recovery Plant. This comes about through consolidation of uranium concentrating facilities.

(6) Project C-187-E, Redox Analytical and Plant Assistance Laboratory
All construction drawings and specifications with the exception of cubicle details have been issued for construction.

Final approval by the Commission on all outline plans and specifications was received on April 20, 1950.

All equipment drawings have been completed by the Architect-Engineer and submitted to the General Electric Company for approval. Equipment specifications are being completed by the Architect-Engineer and resubmitted for approval. Procurement of special designed equipment will be initiated after review and approval by General Electric of the equipment drawings and specifications.

A final cost estimate for the Redox Laboratory was received from the Architect-Engineer on April 17, 1950. This estimate is being reviewed and checked by General Electric Company engineers and will be incorporated in a project proposal to be submitted about May 31, 1950.

Project proposal information will be completed by May 5, 1940 to be included in the over-all project proposal for the Redox Laboratory.

Final design for thisfacility is scheduled for completion September 22, 1950. Substantially all drawings will be completed for field issue by July 28, 1950.

(7) Health Instrument Control and Development Laboratory
The Architect-Engineer reports design of this facility at approximately 81 per cent complete. The estimated completion as of April 1, 1950, of 80 per cent was high and was actually reported as 72 per cent. Scheduled completion for design of this building including General Electric Company approval of the drawings and specifications is June 15, 1950.

B. CONSTRUCTION

(1) Project C-187-F, Redox Production Facility
Construction of the 202-S Building and 277-S Building was authorized on April 14, 1950.

Excavation for the 202-S Building is approximately 95 per cent complete. Concrete form work will be started about the first of May.

Site clean-up for the 277-S Building was completed April 28, 1950; excavation will be started about the first of May.

Waste Disposal Facilities (Tank Farm)
Invitation to bid for construction of the Tank Farm has been issued and bid opening is scheduled for May 9, 1950.

(2) Project C-198, 234-5 Program

| Construction | Percent Complete | |
|---|---|---|
| Phase I | (Portion after July 31, 1949) | |
| | Actual physical complete - 91% | Scheduled - 100%* |
| Phase II | Actual physical complete - 5% | Scheduled - 97%* |
| Phase III | Actual physical complete - 0% (excluding Schenectady work) | Scheduled - 100%* |

* Percentages taken from 8-1-49 schedule. New estimates and schedules are being prepared.

(3) Project C-343, Rala Facility

Construction phase breakdown for plant Project Engineering Divisions' prosecution has been mutually determined. Project Engineering scope cost and schedule estimates are to be provided for these 6 phases in the near future. Firm estimates on cost and schedule will be requested on Phases 1 and 2 as soon as scope estimates for all phases have been agreed upon.

Phase 1 - Clean-up, temporary construction, and Cell 5

Item 1 - Canyon clean-up is about 80% complete.
Item 2 - Equipment salvage is 100% complete.
Item 3 - Temporary construction is about 50% complete.
Item 4 - Cell 5 pipe jumper fabrication has been started.
Item 5 - The initiation of procurement of designed equipment is about 30% complete.

Phase 2 - Mock-up

Item 1 - Mock-up dummies are 30% complete.
Item 2 - Mock-up Cells are 20% complete.

Phase 3 - Cell TA and outside lines

Item 1 - Cell TA and Cell TA gallery. The modifications of equipment for Cell TA has been started.
Item 2 - Outside lines installation. Not started.
Item 3 - Service and sewer tie-ins. Not started.

Samplers, Cell TB, Fan House, Substation, and Laboratory are not yet started.

(4) Project C-187-E, Redox Analytical and Plant Assistance Laboratory

Construction of the 222-S Building is approximately 5 per cent complete.

Structural steel has been promised for shipment starting about May 15, 1950. All concrete walls and footing to first floor have been poured.

Procurement of construction materials is not leading actual construction by a safe margin; however, no substantial delays have been encountered due to lack of materials.

## III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

| | |
|---|---|
| Beginning of month | 103 |
| End of month | 106 |
| Net increase | + 3 |

[redacted]



PROJECT & RELATED PERSONNEL APRIL 1950

| | 3-31-50 | | 4-28-50 | |
|---|---|---|---|---|
| **GOVERNMENT EMPLOYEES** | | | | |
| Civilian Personnel - Atomic Energy Comm. | 346 | | 346 | |
| Civilian Personnel - G. A. O. | 8 | | 8 | |
| Total | | 354 | | 354 |
| **RICHLAND VILLAGE PERSONNEL** | | | | |
| Commercial facilities (Includes No. Richland) | 1011 | | 1054 | |
| Organizations, Clubs, Etc., | 63 | | 68 | |
| Schools | 386 | | 386 | |
| Churches | 26 | | 26 | |
| Total | | 1486 | | 1534 |
| **CONSTRUCTION SUB-CONTRACTORS** | | | | |
| Atkinson & Jones | 2402 | | 2718 | |
| Newberry Neon | 210 | | 199 | |
| Urban Smyth, Warren Co., | 131 | | 284 | |
| Hanley & Co. | 46 | | 74 | |
| Kellex Corp., | 409 | | 401 | |
| J. A. Terteling & Son | 72 | | 79 | |
| J. A. Troxell | 12 | | 4 | |
| Charles T. Main Inc., | 117 | | 119 | |
| No. Electric Mfg. Co., | 2 | | 3 | |
| J. Gordon Turnbull | 14 | | 14 | |
| Mc Corkle Const. Co., | 21 | | 22 | |
| Bergman & Lampson | 33 | | 34 | |
| Consolidated Western Steel | - | | 21 | |
| Flour Corp. | 12 | | 17 | |
| Booz, Allen & Hamilton | 3 | | 2 | |
| E. F. Hauserman | 6 | | 8 | |
| Haladay & Edworthy | 4 | | - | |
| Singmaster & Breyer | 1 | | 2 | |
| Mathews Bros. | 6 | | - | |
| R. A. Pringle | - | | 3 | |
| Roof Service Inc., | - | | 6 | |
| Chicago Bridge & Drum Co. | - | | 1 | |
| Rinst Engr. Co. | - | | 13 | |
| Total | | 3501 | | 4024 |
| GENERAL ELECTRIC PERSONNEL | | 7565 | | 7646 |
| GRAND TOTAL | | 12906 | | 13558 |

[redacted]