PRIVACY ACT MATERIAL REMOVED

HW 22610-DEL

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| | RICHLAND, WASHINGTON | |

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HW 22610 November 21, 1951

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GENERAL SUMMARY

Production Operations

All production forecasts were met or exceeded during the month, including the establishment of two new records of production in the Separations Section.

The increase in batch size in the bismuth phosphate plants, which was reported as feasible last month, was put into production this month.

Ruptured slugs continue to be annoying. There were 14 of them this month which required 345 hours of outage for removal.

Emission of iodine from the separations plants continued to approach more acceptable limits, although the deposition of radioactive particles from outside sources increased significantly throughout the Northwest.

Engineering and Technology

The substantial program for the improvement of the canning process continued to gather momentum.

Refinements in flux distribution and revaluation of limiting conditions permitted the attainment of still higher power levels at B, D, and F.

The experimental addition of mercuric nitrate to dissolver solutions in the separations plants has been successful in reducing the iodine content of ventilation exhaust to less than 5 curies per day.

An intensive effort to couple the product of the Redox plant directly to the 234-5 plant ("Recuplex"), thus eliminating the need for the 231 Building process, showed significant gains.

A general improvement in radiochemical analyses performed to control the separations processes was carried out during the month.

Personnel and Services

The turnover rate decreased slightly to 2.17%, while the total plant roll increased to 8993. At month end there were 1,045 employees registered under Selective Service and an additional 744 military reservists on the roll. There are currently 158 employees in military leave status.

There are 669 applications for housing pending.

A program for the accumulation of scrap metal yielded 250 tons during the month.

Two areas each completed another year without a lost time injury.



Certain formerly decentralized accounting functions were centralized during the month.

Expansion and Construction

Preparation for startup of the Redox plant continued, and the Manufacturing Department accepted most of Part A of the UO3 Project and the RMA line in the 234-5 Building. The Redox Analytical and Plant Assistance Laboratory is being prepared for occupancy.

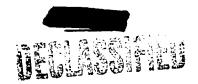
Beginning October 1, 1951 a modification in the Prime Contract eliminated the subcontracting of construction work by G.E. which was followed by certain changes in the organization and scope of activities of the Design and Construction Management Section.

Shortages of certain crafts and work stoppages of others continued to delay the progress of new construction.

Bids for the construction of the Pile Technology and Radiometallurgy Buildings in the Works Laboratory Area were opened. The apparent low bid was below the engineers' fair cost estimate.

DECLASSIFIED





STAFF

| General Manager | rout |
|---|-----------|
| Manager, Schenectady Office | rentice |
| Assistant General Hanager W. E. Jo | ohnson |
| Assistant to the General Manager, General Administration G. G. L. | ail |
| Assistant to the General Manager, Technical W. I. P. | atnode |
| Assistant to the General Manager, Salary Administration J. R. R | ue |
| Counsel | utler |
| Manager, Finance | mith |
| Manager, Employee and Public Relations H. E. C | allahan |
| Director, Radiological Sciences | arker |
| Director, Medical W. D. N | lorwood |
| Manager, Engineering | Freninger |
| Manager, Manufacturing | Fross |
| Manager, Utilities and General Services F. E. E | Baker |
| Manager, Community Real Estate and Services L. F. F | Huck |

| | | | EXEMPT | NO | N EXEMPT | | TOTAL |
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| General | | 2 | 2 | 1 | 1 | 3 | 3 |
| Design & Const. Sect | tion | 12 | 13 | 27 | . 26 | 39 | 39 |
| Construction Design | • | 226 | 553 +2 | 397 | 412 | 623 | 635 |
| No. Richland Fealty | • | 18 | 18 | 109 | 113 | 127 | 131. |
| Project Engr. | • | 75 | 74 | 12 | 9 | 27 | 53 |
| Technical Section | | _ | | _ | , | 2 | |
| Administrative | | 5 | 6 | 3 164 | 4 176 | 8 3 1 5 | 10 334 |
| Pile Tech. Separations Tech. | • | 151 106 | 158 109 | 65 | 63 | 171 | 172 |
| Technical Services | • • • | 39 | 39 | 154 | 147 | 193 | 186 |
| Analytical | | 113 | 113 | 26 8 | 264 | 361 | 377 |
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| Reactor Section Metal Preg. | | 57 | 65 | 355 | 338 | 379 | 403 |
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| RADIOLOGICAL SCIENC | ES DEPT. | | | | | _ | = |
| General | | . 4 | 3 56 | 2 | 2 | 6 193 | 5 192 |
| Records & Standards | | 59 45 | 20 42 | 134 69 | 136 71 | 114 | 1,3 |
| Biophysics | | 33 | | #4 | 46 | 77 | 81 |
| Biology | · · · · · | 33 | 35 | | | 1 1 | |
| FINANCIAL DEPT. | | | | • | 0- | | 22 |
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| EMPLOYEE & PUBLIC F | RELATIONS | 37 | 36 | 79 | . 7 7 | 116 | 113 |
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| Ceneral | | 16 | 16 | 12 | 12 :147 | 28 179 | 28 176 |
| Elect. Dist. & Tele | e. Sect. | 28 | 29 [°] 40 | 151 45- | 461 | 497 | 501 |
| Transportation Plant Sec. & Service | . | 40 | 40 | 47 | 701 | 721 | |
| Patrol & Sec. | . | 57 | 57 | 589 | 591 | 646 | 648 |
| Safety & Fire | | 42 | 41 | 108 | 109 | 150 | 150 |
| Office Services | | 26 | 27 | 270 | 280 | 296 V 28 | 307 5.18 |
| Purch. & Stores Sec | | 84 | 83 | 324 | · · 335 | 408 608 | 418 565 |
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| *Includes 55 Comm. | t II eman | | | | | | |

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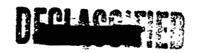
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| GRAND TOTAL | COMM. REAL ESTATE & SERVICES Supervisors Other Exempt Firemen Patrolmen Journeymen Servicemen Truck Drivers Power Operators Clerical Others Total | Supv Other Exempt Bus Drivers Journeymen Trainmen Servicemen Equipment Oners. Clerical Others |
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MANUFACTURING DEPARTMENT OCTOBER 1951

REACTOR SECTION

Total maximum pile operating levels were 40 MW above the previous high of last month. A total of 96.7 tens of metal was discharged during the month. There were 14 uranium slug jacket failures during October which required 345.3 hours of outage time for removal operations. On three occasions, the ruptured slugs were discharged within the scram recovery time, resulting in approximately 70 hours of potential outage time being saved. The rupture of a slug in tube 2959-F on October 24 resulted in a large quantity of water entering the graphite which caused considerable loss of production while the water was being vaporized and removed. The operating efficiency was 86 percent for the month of October. The production input was 103.4 percent of forecast while the output was 102.3 percent of forecast.

A severe decrease in the frequency and voltage in the BPA power system on October 10 necessitated the shutdown for all reactors. Operation was resumed within the allowable scram recovery time following resolution of the difficulty.

The special request program required 140 manhours for the month. Twenty-five tubes of special request material other than Chemical 68-56 were charged and discharged, and 13 casks containing irradiated samples were shipped off-site.

An additional 180 manhours were required for routine work on Chemical 68-56.

METAL PREPARATION SECTION

The forecasted total of 108 tons of acceptable pieces was exceeded by 1 percent resulting in a total of 109 tons produced. The canning yield of this production was 75.5 percent. The drop in yield from last month was attributed to the poor quality of cans received. The machining yield was 71.3 percent. The low yield is a result of very poor quality reds used. There were 128,000 pieces autoclaved before a failure was obtained which is the longest continuous period with no failures since start-up. The melt plant produced 28 tons of billets at a yield of 89.9 percent and a solid of 94.9 percent.

SEPARATIONS SECTION

A total of 143 charges plus two acid washes was started in the Canyon Buildings which represents a new record and was 101 percent of forecast. The total production completed was 102.6 percent of forecast being 149 regular charges plus 14 special charges through the Isolation Building, also a new record.

The average cooling time was 46 days with a minimum of 40 days being used. The average purity of completed charges was 99.1 percent.

Sufficient personnel was obtained to permit the Operations Unit, Separations Section to change from a six day week to a five day week schedule on October 1, 1951.



SEPARATIONS SECTION (Cont'd)

Effective October 19 the starting batch size was increased 10 percent, and the final batch size increased 8.7 percent.

Start up preparations of the Redox facility were continued with considerable difficulty being experienced with certain Redox connectors: (a) fracture of the screws of the one-inch connectors during impacting, and (b) the binding of the split ring washers on the 2, 3, and 4-inch connectors. Operating capacity tests have been completed. Ventilation balancing and testing with process solutions are yet to be done.

The Separations Section accepted most of the facilities under Part A of the UO₃ Project (C-361) on October 15, 1951. The RMA line, Building 234-5, was also accepted with certain exceptions.

GENERAL

Effective October 15, 1951, T. W. Hauff was appointed Manager - Process, a newly created position in the Manufacturing Staff. Process Units were established formally on the same date.

Personnel changes were as follows:

| Total on Roll September 30 | 2882 |
|----------------------------|------|
| Accessions | 127 |
| Separations | 48 |
| Total on Roll October 31 | 2961 |

C. N. GROSS, MANAGER MANUFACTURING DEPARTMENT

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MANUFACTURING DEPARTMENT PATENT REPORT SUMMARY FOR MONTH OF OCTUBER, 1951

Richland, Washington November 9, 1951

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

E. H. Kolts R. J. Browning) (Reactor Section)

R. D. Schilling (Reactor Section)

R. H. Albright (Metal Prep. Section)

R. H. Albright (Metal Prep. Section) Machine - Tower Model

L. M. Vik (Separations Section)

TITLE

Lubrication of the bearings on a steam turbine and its associated gear reducers regardless of their direction of rotation.

Scramming facilities for process tube effluent activity monitor.

Automatic Slug Component Preheating Machine - Open Pot Model

Automatic Slug Component Preheating (HW-22373)

Interface Locater Use of this device will enable one to locate change in color or sediment in a liquid in a closed tank.

C. N. GROSS, MANAGER

MANUFACTURING DEPARTMENT



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Section 10 verified by SF Accountability record.

V. D. Donihee



MANUFACTURING DEPARTMENT METAL PREPARATION SECTION OCTOBER 1951

I. RESPONSIBILITY

Instrument drafting and design personnel of the Plant Engineering Unit were transferred to the Engineering Department, effective October 15, 1951.

II. ACHIEVEMENT - OPERATIONS UNIT

Operating Experience

| Stat: | istics |
|-------|--------|
| | |

| | September | October | To Date 1951 |
|---------------------------------|-----------|-----------------|-----------------|
| Billets Produced (Tons) | 23 | 28 | 207 |
| Bare Pieces Machined (Tons) | 36 | 97 | 867 |
| Briquettes Produced (Tons) | 17 | 15 | 129 |
| Oxide Burned (Weight Out Tons) | 3 | 4 | 30 |
| Acceptable Pieces Canned (Tons) | 105 | 109 | 913 |
| Acceptable Pieces Canned (% of | 100.0 | 100.9 | |
| Forecast) | | | _ |
| Melt Plant Billet Yield (%) | 91.1 | · 39 . 9 | 89.2 |
| Melt Plant Solid Yield (%) | 94.8 | 94.9 | 94.5 |
| Machining Yield (%) | 74.7 | 71.3 | 77.2 |
| Chip Recovery Yield (%) | 37.4 | 88.1 | 38.0 |
| Canning Yield (%) | 76.4 | 75•5 | 80.6 |
| Autoclave Frequency (No./M) | •00 | •02 | .08 |

Activities

The Melt Plant, Chip Recovery and Slug Recovery Operations were continued throughout the month without incident. During the month, four tons of raw oxides were processed through the oxide burner.





The uranium machined during the month was predominantly "U" type material which had been rolled during June and August. The general quality of this material was poor. Defects consisted of rough ends averaging seven inches in length, irregular surfaces, seams, cracks and elipticity. Random samples of material rolled in September indicated some improvement in quality over material rolled in August.

Canning production was in line with the tonnage forecasted. The lower canning yield resulted from an increase in marred surfaces and AlSi on the outside of the can. This condition was attributed to the use of Victor cans. These cans exhibit variable outside diameters resulting in a poor fit of can to sleeve and appear to have a softer surface than the Alcoa cans, previously used. Some improvement in yield has resulted from lowering the canning pot temperature and by assuring a good can to sleeve fit.

None of the slugs tested for penetration during the month were found to be penetrated to within .015 of the outer surface of the can wall.

There was one autoclave failure during the month. A total of 127,725 slugs had been autoclaved since the previous failure, which exceeds the previous high figure of slugs processed without a failure by approximately 250 per cent.

The 305 test pile operated normally throughout the month. Two hundred sixty-five routine and 141 special tests were run.

Special Operations

During the month 5,538 poison, 1,364 "B" pieces and 601 pieces of chemical 10-66 were canned. In addition, 111 manhours were devoted to the fabrication of other special request materials.

Schedule Variance

The production of machined bare slugs was approximately three per cent below the forecasted amount and resulted from the failure to propure the forecasted manpower.

Reports Issued .

| ٠. | Number | <u>Title</u> | author | Date |
|----|----------|--|--|----------|
| ٠ | HW-22332 | . Suspected SE Discrepancy i | n W. E. Berg | 10-25-51 |
| • | : . | Production Lots 111-U and | | • |
| | | 178-U, Operations Unit, Metal Preparation Section | en e | |

Improvements

Adoptions

A procedure was developed to use copper-tin crystals to alloy bronze for use in the process furnaces. It is expected this will result in essential material savings.





Inventions and Discoveries

All people in the Operations Unit engaged in work which might be expected to result in inventions or discoveries have reported that no inventions or discoveries were made during the period covered by this report.

II. ACHIEVEMENT - PLANT ENGINEERING UNIT

Operating Experience

Power Statistics

384 Building

| Maximum steam generated | | 25,500 lb/hr. |
|---------------------------|------|---------------|
| Steam generated - Total | | 11,640 M lb. |
| Steam generated - Average | rate | 15,645 lb/hr. |
| Coal consumed | | 815 tons |

300 Sanitary and Fire System

| Sanitary water from 3000 Area | 25,002,900 ga | |
|-------------------------------|---------------|-----|
| Well water pumped - Total | 1,104,000 ga | ı. |
| (to Construction) | • | |
| Total water - Average rate | 585 gr | MI. |
| Chlorine residual | -49 pr | m |

White Bluffs Ice Plant

| Ice | manufact | ured | | | • | 126 | M | 16 |
|-----|----------|------|--|---|---|-----|---|----|
| | | | | • | | | | |
| | | | | | | | | |

Instrument Statistics

Current shop work loads consist of:

Man Hours *Man Weeks

| Instrument Machine Shop | 3491 5 |
|-----------------------------|--------|
| Electronic Fabrication Shop | 2572 9 |
| Mechanical Development Shop | 3000 3 |

*Based on a current 48-hour work week. Cancellation of Project C-3994 reduced the backlog of the Mechanical Development Shop by 223 man hours. An additional 600 man hours of work were cross-ordered to shops outside of the Instrument & Electrical Sub-unit.

Equipment Experience

Repeated failures have occurred to welding transformers used in the 313 Building for cap to can sealing. Increased production rates have increased the duty cycle which overloaded these units. A 200-ampere Inert Arc welder was installed at position No. 1 to replace the 75-ampere Atomic Hydrogen unit. Discussions with G.E. welding representatives resulted in specification changes in insulation of replacement coils for the present units, which will increase their capacity rating and bring them within the present duty cycle.

3

Improvements

Adoptions A revised exhaust system over seven furnaces in the 313 Building was installed. This materially helped remove fumes and heat.

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An electrically heated oven for curing graphite crucibles used in the 313 Building was installed. It is expected that this will enable attainment of much longer crucible life.

The H. M. Chamber, as used on this project for radiation monitoring. was redesigned to simplify fabrication. Appearance and operating characteristics are essentially unchanged.

Inventions and Discoveries

Inventions and discoveries reported from the Plant Engineering Unit for the month of October are as follows:

HW-22459 - Automatic Slug Component Preheating Machine Open Pot Model

HW-22373 - Automatic Slug Component Preheating Machine Tower Model

Plant Development and Expansion

Project Status .

Project C-199 - 300 Area Sewage Disposal System

Invitations to bid have been issued.

Project C-433 - Additions to 300 Area Power Plant

The Sub-contractor submitted a proposal for the use of Bailey Pneumatic Boiler Controls which was approved.

Industrial Engineering and Studies

Design efforts and procurement for the Temperature Mapping Equipment for the new 100-C Area was stopped on October 22.

Reports Issued

at Braker 2000 in the fig. 1

Number <u>Title</u>

Author Date

HW-22379 Instrument Development Report for M.T. Slind 10-9-51 September, 1951 March 1986 HW-22379

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III. PERSONNEL

Force Changes

| | Monthly | <u>Weekly</u> | <u>Total</u> |
|------------------------------------|-----------------|---------------|--------------|
| Beginning of Month End of Month | 61 <u>66</u> | 325 340 | 386 406 |
| Net Increase | 5 | 15 | 20 |

Safety Experience

There were no major or sub-major injuries during the month.

Radiation Exposure

No incidents of personnel over-exposure occured during the month.

W. M. Mathis

Manager

Metal Preparation Section

MANUFACTURING DEPARTMENT REACTOR SECTION OCTOBER, 1951

I. RESPONSIBILITY

Effective October 1, 1951, the responsibilities for the contact engineering functions of Project C-431-A (C Pile water area) and for 100 Area industrial engineering functions were transferred to the Process Unit from the Manufacturing Department, Plant Engineering Staff.

The H. I. Emergency Plan, contained in the Operations Master Evacuation Plan, was revised eliminating emergency supervisory duty by supervisors of the Radiation Monitoring Unit. This change was effective October 22, 1951.

II. ACHIEVEMENT

Operating Experience

The total reactor production (input) was 3.4% over the forecast and was 0.9% greater than the total production for September. A total increase of 40 MW over previously established maximum reactor operating levels was achieved during the month by improved temperature control techniques and annealing of the graphite moderator.

There were 14 uranium slug jacket failures during October. A total of 345.3 hours of outage time was chargeable to the removal operations. On three occasions, the ruptured slugs were discharged within the scram recovery time limitations permitting immediate resumption of operation. It is estimated that these discharges reduced the total potential outage time by approximately 70 hours.

Production summary:

| | <u>B</u> | <u>D</u> | DR | <u>H</u> | <u>F</u> | Total or Average |
|---|-----------------------|---------------------|---------------------|----------------------|-----------------------|------------------------|
| Reactor Time Operated Efficiency (%) Reactor Outage Time (Hrs.) | 81.8 | 87.4 | 91.0 | 95.6 | 74.4 | 86.0 |
| Plutonium Production Production Tests Total | 127.6 8.0 135.6 | 90.4 3.5 93.9 | 64.9 2.0 66.9 | 22.9 10.0 32.9 | 185.7 4.5 190.2 | 491.5 28.0 519.5 |



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Manufacturing Department Reactor Section October, 1951

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Production summary: (Continued)

| Model on | | | | | | | |
|--------------------------|------------------|------------------|-------|--------|----------|---------------------|--|
| | <u>B</u> | D | DR | H | <u>F</u> | Total or Average | |
| Reactor Unscheduled | | | | | | | |
| Outage Time (Hours) | 110.4 | 57.6 | 66.9 | 2.9 | 190.2 | 428.0 | |
| Metal Discharged (Tons) | 110.4 | 23.58 | 18.44 | 20.57 | 21.06 | 96.67 | |
| Water Pumped - Bldg. 181 | | المارية المستوار | 1 | | | | |
| (GPM Average) | 39,969 :. | 92, | 724 | 49,704 | 39,927 | 222, 324 | |
| Steam Generated (M lbs.) | 110,036 | 197, | .009 | 87,867 | | 505,697 | |
| Coal Consumed (Tons) | 7,072 | 13, | .200 | 5,776 | 7,462 | 33,510 | |

When an attempt was made to resume operation following the removal of a ruptured slug from tube 2959-F on October 24, it became apparent that a large quantity of water had entered the graphite moderator presumably through a break in the tube caused by slug ruptures. Loss of reactivity during subsequent operation necessitated a shutdown to adjust the permanent poison pattern. Following the resumption of operation it was necessary to operate at reduced power levels; significant quantities of water are being removed at month-end.

A decrease in the frequency and voltage on the B.P.A. power distribution system October 10 necessitated the shutdown of all reactors except DR, which was shut down automatically as a result of the low frequency.

Operations were resumed at all five reactors within the allowable scram recovery time following resolution of the difficulty.

Aluminum sulfate was substituted for ferric sulfate as a coagulant for water treatment in 100-F Area Filtration Plant beginning on October 10, as outlined in Production Test No. 105-473-P, Document HW-21924. The quality of water thus produced has been satisfactory. However, due to fluctuating power levels, the effluent water activity could not be accurately compared with past experience. The total activity and beta to gamma ratio at the retention basin outlet appear slightly reduced.

Equipment Experience

The general mechanical condition of the reactor components and equipment continued good throughout the month. A total of 1.3 hours of unscheduled reactor outage time resulted from equipment failures.

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Tubes 0890-F and 0893-F were removed during the month in a continuation of the program to isolate and repair leaks in these tubes. Conventional methods of tube removal failed, necessitating the removal of both tubes from the front face of the reactor. Examination of the tubes is in progress at month-end.

The six-inch service water line from the pump room of Building 183-D to the 184-DR Filtration Plant failed October 12, due to settling of a concrete saddle block. The line was out of service approximately 14 hours for replacement of the broken section. Leakage from the break caused



Manufacturing Department Reactor Section October, 1951

Equipment Experience (Continued)

settling of the ground over a large area. Exploratory excavation to determine possible damage to the nearby 30" make-up water line was performed and evidence of slight settling was found which necessitated recaulking of several joints.

One spare Pomona Pump was removed from the 181 Building in each of 100-H and 100-D Areas during October and made available for installation on Project C-431. Five similar units were removed from 100-F Area for this project during September.

During a routine check of turbine operation in the 190-DR Process Pump House on October 15 and 16, six turbine governors were found to have faulty controls. These units were checked, adjusted and repaired as necessary by the manufacturer's service engineer during July, 1951. The Worthington Turbine Company has been contacted relative to this unsatisfactory performance. Meanwhile, necessary repairs and adjustments have been made to faulty units.

Process pump motors No. 12 at 190-DR and No. 1 at 190-D failed on attempted startups during October. Motor No. 12 has been returned to service. Motor No. 7 at 190-D which failed during September was returned to service during October.

Two 40 mesh purge screens ruptured during a solids purge at the D Reactor. This resulted in plugging of the B and C riser crossheader screens of the reactor. The 40 mesh purge screens with 0.01" diamater stainless steel wire are being replaced by 32 mesh screen having 0.016" diameter stainless steel wire. This is expected to decrease screen failures prevalent in the past.

Improvements

The use of polythene bags over portable radiation monitoring instruments has reduced the number of instruments contaminated and the degree of contamination.

The following inventions or discoveries were reported by personnel of the Reactor Section during October:

Inventor(s)

Invention

E. H. Kolts)
R. J. Browning)

Lubrication of the bearings on a steam turbine and its associated gear reducers regardless of their direction of rotation.

R. D. Schilling

Scramming facilities for process tube effluent activity monitor.







Manufacturing Department Reactor Section October, 1951

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Plant Development and Expansion

Projects in which the Reactor Section played a significant part during the month were:

- M-608 (Differential Thermohm Systems for Power Level Measurements)
 The installation of this facility has been completed at B, D, and F Areas. The project is approximately 70% complete.
- C-472 (Thermocouple Equipped VSR Thimbles B and D Areas)

 Four thermocouple equipped thimbles have been installed, 2
 at B Reactor and 2 at D Reactor. The project is approximately
 75% complete.
- C-438 (Ball 3X Facilities for B, D, DR, H and F Piles)
 The project proposal was forwarded to the A & B Committee
 on October 29, 1951, for approval.
 - M-829 (105-D and DR Safety Circuit Interlock)

 The essential work on this project has been completed and the system was placed in-service on October 24.
- The design of the 100-C water plant and pile is approximately 75% complete and approved. The construction of the water plant was approximately 10% complete and that of the pile approximately 13% complete at month end. Graphite machining operations began October 15.

Following is a summary of significant Reactor Section studies active during October:

Charge-Discharge Operation

A study was made to determine possible methods or equipment for use in reducing charge-discharge time. It appears possible to reduce such time significantly by methods which can be effected relatively easily. A report summarizing the results of the study is to be issued.

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Contribution . I car

Area Slug Inspection

A slug inspection table was built and tested. This table permits a more critical slug inspection in the 100 Areas than present inspections allow, but is unsatisfactory from the standpoint of present slug handling and accountability procedures. It is planned to continue work along these lines.

Charging Machine Development

A charging machine patterned after the B Area design has been built and tested at the Building 108-D mock-up facility. The tests indicated that



Manufacturing Department Reactor Section October, 1951

Charging Machine Development (Continued)

the charging head will align the charging machine with the nozzle even when the charging table is misaligned. This machine has been recommended for use at all reactors.

Process Tube Effluent Water Monitoring System

A study was made to determine the possibilities of developing a system of effluent water activity monitoring which would give a more rapid indication of slug failure than does the present system. Document HW-22508 describing a proposed monitoring system is ready for issuance.

Reliability of Rubber Finger Rings

At 100-B Area, a study was made in an attempt to determine the reliability of rubber finger rings to measure radiation dose quantitatively. The results indicate the rings are unreliable and were reported to the Director, Radiological Sciences Department.

Reports Issued

Significant reports and documents issued in the Reactor Section during October were:

"Manufacturing Department Operating Standards - Reactor Section" - HW-17565.

"Monthly Report, Reactor Section - Operations, September, 1951" - HW-22368.*

"Reactor Section - Radiation Monitoring Technical Report - September, 1951." - HW-22429.

"Design Change "74-105-D and 105-DR Safety Circuit Interlock" - to file by K. R. Anderson, dated October 11, 1951.

"Development of a Pressure Monitor Time Delay Unit" - A. G. Dunbar to W. D. Gilbert, dated October 22, 1951.

"One Tube Power Calculator System", A. G. Dunbar to J. D. McCullough, dated October 5, 1951.

"Monthly Report, Reactor Section - Process Unit, September, 1951" - HW-22417.

* This report contains a list of documents describing ruptured slug incidents.

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Manufacturing Department Reactor Section October, 1951

III. PERSONNEL

Organization Changes

Effective October 1, 1951, all personnel engaged in contact engineering activities for the Reactor Section were organized into one group headed by K. T. Perkins.

. Force Changes

gagin in the state of the state Number of employees on the payroll during October, 1951:

| 1 Y Y . | Section General | Plant Engineering | Operations | Radiation Monitoring | Process | Section Total |
|----------------------------|--------------------|----------------------|------------|-------------------------|----------|------------------|
| Beginning Month End of Mon | 3 | 761 768 | 237 238 | 51 51 | 16 26 | 1068 1086 |
| Net Change | 0 | • 7 | • 1 | 0 | • 10 | + 18 |

The changes during the month consisted of 11 terminations, 17 new hires, 1 deactivation, 2 reactivations, 23 transfers into and 12 transfers out of the Section. 1.47 1.54

Safety Experience

One sub-major injury was sustained in the Reactor Section during October An electrician journeymen suffered three cracked ribs when he fell against a radiator. The injury is being reported separately.

Radiation Exposure

The badge and pencil readings of four Reactor Section personnel exceeded the permissible limit during the removal of tube 3465-B of October 23, 1951. A formal Special Hazards Investigation has been scheduled to investigate the incident.

An investigation was held on October 5 of an overexposure to a Plant Engineering Unit employee. The incident occurred at Building 105-D on September 30, 1951, while a vertical safety rod was removed from the pile.

Routine badge processing revealed an indicated exposure of 2 rep to a maintenance mechanic for the period October 3 through 13. To date, investigation has failed to show the cause for the high badge reading.

Training

The program for obtaining and training qualified supervisory personnel to fill future requirements was continued during October. Seventeen trainees are receiving on-the-job experience and sixteen Technical Graduates are on assignment under the Rotational Pool program.

REACTOR SECTION

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Richland, Washington November 5, 1951

MANUFACTURING DEPARTMENT

SEPARATIONS SECTION

CCTOBER, 1951

. RESPONSIBILITY

.4.

On October 10, 1951 the 2hl-TXR-115 tank and pits, the 2hl-UR-101 cascade, the 152-UR cascade diversion box, and the gantry crane included in the scope of Project C-362 were accepted by the Manufacturing Department - Separations Section with certain exceptions. At month's end the majority of these items had been rectified.

On October 20, 1951 the 2hh-UR Vault, 271-UR control house, 291-U stack, the 151-UR Master Diversion Box, and the 254-UR substation were also accepted by the Separations Section with certain exceptions. Work on the latter exceptions has begun and is expected to be completed early in November.

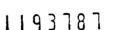
Except for C-Cell, Part A facilities of the UO3 project (C-361) were accepted on October 15, 1951 by the Section with certain exceptions. It is expected that these items will be satisfactorily taken care of early in November.

On October 15, the Separations Section accepted the RMA Line, Building 234-5. Some exceptions are still to be completed by construction forces.

ACHIEVEMENT

- A. Operating Experience
- 1. Production Statistics

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Separations Section

a. Operations

| • | B P | lant Acid Wash | T P | lant Acid Wash | Combi Normal | ned Acid Wash |
|--|------------------|----------------------|------------------|----------------------|-----------------|---------------------|
| Charges started in Canvon Bldgs. Charges completed in Conc. Bldgs Special charges-Conc. Bldgs. | | 1 0 | 66 68 | 1 | 143. 144 | 2 2 |
| Charges completed-Isolation Bldg Average Waste Losses Average MwD/Ton | 79 2.2 567 | o | 70 2.5 570 | 0 | 149*** 2.3 | 0 |
| Special charges-Isolation Bldg. Average purity completed charges Material balance thru Isolation Yield through process Average cooling time (days) Minimum cooling time (days) | 3 | | | | 99 | 9.1 9.7 7.3 |

*77 charges started in B Plant represent an all-time record.
**119 charges completed in the Isolation Building represent
an all-time record.

b. Power

| | September | October |
|--|--|---|
| Raw water pumped, grm Filtered water pumped, grm | 6,129 1,138 | 6,312 1,094 |
| Steam generated, lbs/hr Maximum steam generated, lbs/hr Total steam generated, lbs. Coal consumed, tons (estimated) Lbs. steam per lb. of coal | 80,080 132,000 57,658,000 3,383 8.52 | 101,323 158,000 75,384,000 4,478 8.42 |
| Waste Evaporation | | |

Gallons evaporated 382,732 2,666,911 Percent volume reduction 74.8 73.4

A total of 32 batches were processed at a rate of 400 gallons of condensate per hour. Clean-out of the sludge heel in the evaporator vessel, reducing the heel from approximately 2350 gallons to approximately 400 gallons, and preparing for trial re-evaporation of effluent from eva-crator bottoms, accounted for approximately 94 days down time. Evaporator clean-out



Separations Section

alone required 7 days. Necessary repairs to pumps and temporary piping, coupled with higher priority demands on maintenance personnel, required the addition lost time.

Trial evaporation of effluent from waste evaporator bottoms was carried out for a period of 64 hours during the month, a total of five batches being processed. This trial resulted in 30,250 gallons of feed being reduced in volume by an average of LL.2 percent at a rate of 336 gallons of condensate per hour. The indicated sludge heel in the evaporator increased 158 gallons, the rate of increase being approximately normal. As a result of the trial, it was concluded that re-evaporation can be performed economically and will be incorporated at a later date when there is less urgency to provide waste storage space.

Waste Storage

| | batches |
|--|---------|
| Metal Waste reserve storage capacity - T Flant | 561 |
| 1st Cycle reserve storage capacity - T Flant | 1137 |
| Metal Waste reserve storage capacity - B Flant | 935 |
| 1st Cycle reserve storage capacity - B Flant | 344 |

2. Activities

Suppression of Radio-Iodine in Dissolver Solutions

In order to limit the liberation of I131 from the T and B stacks to less than 10 curies per day, mercuric nitrate is being added to dissolver solutions at the completion of dissolving in order to fix the radio-iodine. Concentrations of mercuric ion of 5 x 10-4 M at B Plant and 1 x 10-3 M at T Plant have tentatively been set as standard. At month end a total of less than a to the atmosphere. a total of less than h curies per day were being exhausted

b. Increased Batch Size

Approval was received on October 19, 1951 to increase the starting batch size 10% and the final batch size 8.7%. Revised production schedules were issued to put this into effect immediately. As a result of the batch increase, the capacity of the plants has been increased a corresponding amount with a resultant decrease in operating costs and waste storage requirements per unit processed.



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c. Extraction UNH Concentration

Starting with Run B-11-09-BH-50 the UNH concentration in extraction was increased to 23% in an effort to reduce waste losses and decrease the quantity of waste stored. Processing under those conditions was continued through Run B11-10-DR-10 when it was decided to revert to the original UNH concentration of 21% because the extraction waste losses under the test were nearly 0.4% higher than normal.

. 3. Special Operations

a. Acid Washes

Data are tabulated below which indicate the percentage of product recovered from the completed acid washes in terms of a standard charge:

| Run | Extraction | Section 12 and First Cycle | 2nd Cycle | Total 221 Bldg. | Total thru Process | Preflush B, E & F Cells |
|-------------|------------|----------------------------------|--------------|-----------------------|--------------------------|-------------------------------|
| *B11-09-AW1 | 3-14 | 11.2 | 10.6 | 27.2 | 29.7 | 18.3 |
| *T11-09-AW1 | 5-4 | 16.09 | | 26.60 | 32.81 | 30.09 |

*The abnormally him activities of these runs (maximum on a PR can was 1700 mr/hr) precluded normal processing in the Isolation Building. They were recycled and incorporated in subsequent runs.

4. Schedule Variance

Actual production of regular material through the Isolation Building was 102.6 percent of the forecast made at the start of the month. Material actually started in the Canyon Buildings was 100.5 percent of the amount forecasted. Seventy-seven runs were started in B Plant and sixty-six in T Plant, the latter being lower because of lost time incurred while investigating and repairing leaks in the system.

B. Equipment Experience

1. Operating Continuity

a. The inspection of cells in the location of process leaks and the repair of those leaks resulted in the T Canyon Building losing time to the extent that operations were III hours behind schedule on 10-19-51. At that time the change in batch size and the reassignment of one charging of metal



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Separations Section

from T Plant to B Plant resulted in the revised schedule of 66 runs which was satisfactorily completed.

2. Inspection, Maintenance and Replacement

Redox Connectors

After fracture, during impacting operations, of three 1" connector screws, it was discovered that the Type 440-A high chrome steel possessed unsatisfactory metallurgical properties. Four hundred new 1" screws of Type 4140 carbon steel more resistant to shock in the heat-treated state are being fabricated by the Crane Company and are scheduled for shipment via air express not later than November 17.

After experiencing trouble with a 4" connector, it was revealed that the split ring washer in the 2", 3" and 4" connectors was binding in the retaining groove in the screw. This is being remedied with a lubricant composed of Molykote and grease which can be applied with the connector in place.

b. Waste Line Failure Investigation

The first cycle waste line which failed between 221-B and diversion box 154-BX on 9-15-51 was partially uncovered in an effort to determine the cause of the failure. However, radiation readings ranging to 120 R/hr were encountered at a depth of four feet and the work was discontinued. About 18 inches of earth remained over the pipe.

c. Tunnel Door - B Plant

During the spotting of a flat car transporting a precipitator tank agitator and motor, the voke of the assembly engaged the bottom of the B Canyon railroad tunnel door seriously damaging the lower part. Temporary repairs were made to return it to service awaiting receipt of parts. The cause of the incident was attributed to the downward drift of the door after contacting the limit switches coupled with poor visibility for the trainmen as a result of darkness.

C. Improvements

Adoptions

a. In order to lower run time cycles in the Concentration Buildings, time cycles in critical sections, particularly in D Cell, F Cell, and B and E Cells, were examined in detail. A one hour reduction in F Cell time cycle resulted from the

elimination of the F Cell flush-backs after a study indicated there was no abnormal product hold-up in the F-l tank. By making minor changes in the chemical addition rates, centrifugation rates, and cake removal procedures, the longest cell time cycle was lowered to about eight hours.

- b. Although it was first thought that the dissolver off-gas during Coating Removal should be by-passed around the filter, a three month operating test has determined that this off-gas does not tend to plug the off-gas filter and by-passing is not necessary.
- c. In T Plant, the 5-9 to 5-6 jet assembly was replaced with one with a dip tube 2½ feet shorter to facilitate the settling of cell drainage water that is high in product content. The shorter dip tube is baffled on the bottom and slotted to draw from the sides. All attempts to dispose of cell floor drainage wastes down to the 8000 lbs. (approximate) heel left by this arrangement have been very satisfactory to date. On one occasion three-fourths of the water in 5-9 tank, containing approximately 10% of a standard run, was removed with a product content of 0.01% of a standard run. The settled residue containing the bulk of the product can be returned to the process. The innovation was made midway in the series of product leaks described above, and proved to be of great value during the balance of that period.

2. Inventions or Discoveries

L. M. Vik - Interface Locater - A device to locate change in color or sediment in a liquid in a closed tank.

D. Plant Development and Expansion

1. Project Status

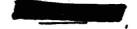
a. Redox.

Troubles experienced with the connectors have been mentioned previously in this report. Cold runs, scheduled to start on 11-15-51, will probably be delayed until after the replacement connectors have been installed.

Operating capacity tests have been completed. Ventilation balancing and leak testing with chemicals are yet to be done.

b. TBP - Froject C-3'2

Revised construction schedules extend the completion dates for most of the major facilities by two or more months.



Separations Section



Because of the continuing lag in construction as compared with scheduled Project completion, delivery dates for essential materials were again revised during the month.

c. .UO3 - Project C-361 (Parts A and B)

Authorization to construct Part B facilities was given to the Atkinson-Jones Company on October 9, 1951.

Project Proposal C-361, Part II, Revisions II, dated October 12, 1951 has been forwarded to the Appropriations and Budget Committee for their consideration. This proposal includes Part B facilities revised to eliminate segregation facilities, a cost review as of August 31, 1951, and an estimate for completion of Part A and Part B facilities. The total estimated expenditure is \$1,952,000, a reduction from the \$2,200,000 approved for the C-361 Project.

Part A of the Project is scheduled for physical completion by November 20, 1951 and Part B by March 1, 1952.

E. Pertinent Reports Issued

| Document | <u>Title</u> | | Au | thor |
|--------------|---|----|----|---------|
| Unclassified | October Monthly Report - Separations, Plant Engineering | R. | T. | Jessen |
| HW-22620 | October Monthly Report - 234-5 * Building, Operations | ٧. | R. | Charman |
| HW-22593 | October Monthly Report - Separations, Operations | ٧. | R. | Charman |
| HW-22591 | October Monthly Report - Separations, Radiation Monitoring | Α. | R. | Keene |
| HW-22524 | Increased Batch Size | R. | c. | Grant |
| HW-22210 | Increased Capacity of Bismuth Phosphate Plants | R. | s. | Bell |

III. PERSONMEL

A. Organization Changes

The shift organization was changed in the Canyon Buildings on 10-15-51, in that a second Chief Operator was assigned to each shift to replace the Shift Supervisor. The Shift Supervisors will be reassigned to other facilities.



Mr. a. S. San

B. Force Changes

1. Number of employees on roll

| | Monthly Roll | Weekly Roll | Total |
|------------------------------------|--------------|--------------|-------------|
| Beginning of month End of month | 257 263 | 1092 1161 | 1349 |
| Net Increase | <i>‡</i> 6 | / 69 | <i>‡</i> 75 |

2. Personnel Changes

| | Monthly Roll | Weekly Roll | Total |
|--|-------------------------|------------------------------------|-------------------------------------|
| Transfers in Reduction of Force Transfers out Reactivates New Hires Terminations | /8 0 -1 0 0 | 415 -1 -5 43 439 -9 | #53 -1 -6 #3 #39 -10 |
| Weekly to monthly Removed from Payroll Monthly to Weekly | /1 0 -1 | -1 -3 -4 | 0 -3 0 |
| Net Increase | ,, , , ,46 | / 69 | <i>‡</i> 75 |

3. Work Schedule

Effective October 1, 1951 the Operations Unit returned to a five day week work schedule with the exception of those personnel connected with construction activities.

Effective October 15, 1951, all personnel in the Radiation Monitoring Unit resumed a five day week work schedule.

Approximately 45% of Plant Engineering personnel worked overtime to reduce backlog of work resulting from increased load of new facilities.

C. Safety Experience

Two sub-major injuries occurred to members of the Plant Engineering Unit during October. A broken thumb resulted from inadvertent insertion into a ceiling exhaust fan and face burns were sustained when an asphalt melting pot flashed upon lifting the cover.

D. Radiation Exposure

During the pumping of first cycle waste effluent from 109-TX tank to 118-TX tank, the pump hit soft sludge about 3 feet higher (in 109-TX {

Separations Section



tank) than expected. While the condition was discovered in a very few minutes, high radiation levels on pump and piping resulted. Normal drainage of the system, after shutting off the pump, provided considerable reduction in radiation levels. Flushing of the pipe and pump resulted in further reduction. The cutting out of pump packing, which was also caused by the incident, caused spillage of waste slurry on the ground near the pump. Removal of contaminated soil and cleaning of the pump enabled a return to normal radiation levels.

Two cases of uncontrolled radiation exposure occurred to A and J personnel working under the supervision of Minor Construction in an excavation adjoining the 2hl-B tank farm. The incident was formally investigated by the Radiological Sciences Department.

Metal waste was diverted to 241-111BY tank during the month. Radiation levels up to 225 R/hr were encountered during the work on 154-8X box. The cause of the higher levels was a small leak in a metal waste connector. The radiation levels were reduced to about 75 R/hr by flushing through the box sprays with 1200 gallons of 10% sodium bicarbonate solution and an equal amount of water. The actual jumper changes were made without incident and with good contamination control.

Manager

Separations Section

RS Bell: OVS:mvk

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TECHNICAL SECTION

October 1951

11/9/51

SUMMARY

Pile Technology Unit

The total force of the unit has increased from 319 to 334 the net increases occurring in Engineering and Metallurgy.

During the past month experiments were started to determine the degree of safety afforded by various neutron absorbers in the plutonium critical assembly.

An investigation has been started to determine the discrepancy in measurements of the cadmium ratio and buckling in the exponential pile. These studies include a check of the behaviour of the instruments and the variation of the thermal neutron spectrum up the axis of the pile. The diffusion length of graphite has been checked for an intermediate sized pile and the results have been compared with those obtained for the sigma and the DR and H piles.

The resolving power of the crystal diffraction neutron spectrometer for the xenon cross section studies is satisfactory. A determination of the separation of iodine from the other gases in the xenon generator indicates that less than 0.05 percent of the iodine had passed the charcoal trap.

Additional measurements of Brookhaven concrete have been started. The gamma ray attenuation is being measured with an air filled ionization chamber. Experiments have been conducted to measure the decrease in rupture stress due to a high neutron exposure.

The design for the experimental TEM installation is progressing. Prints of several circuits have been prepared and some necessary equipment is being procured as rapidly as possible.

Evidence has been obtained to show that exidation of pile graphite is greatest at the surfaces most accessible to the gas atmosphere. Quantitative interpretations of weight gains and losses due to irradiation were difficult because the temperature varied as much as 70 °C. during the experiment.

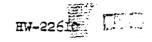
Indefinite results were obtained from a preliminary test attempting to use induction heating to duplicate pile temperatures. Some canned slugs were sent to the General Engineering Laboratory to be drilled for thermocouple holes by ultrasonic equipment. These slugs will be used in a production test to measure temperatures of slugs during pile operation.



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. Technical Section

DECLACORIED



The equipment for a laboratory recirculation experimental program and for a program to study the effect of operating variables on film formation rates is being constructed.

An experiment to test the corrosion rate of 2S aluminum slugs by process water at temperatures of 80-150 °C. has been started. Three reports describing the data obtained from the metallurgical examination of irradiated slugs have been issued during the past month. Since some minor alterations in flowsheet are being planned for the 20C Areas corrosion tests are being made to determine the effect of these changes on the dissolver materials.

The mockup for the final vertical safety rod and third safety system tests is being completed. Work continued on the designs for the charging and discharging machines to be used in C Pile. A project proposal for a rear face television monitoring equipment is awaiting approval.

The experiment to determine the correlation between distortion from thermal cycling and from irradiation is continuing. Samples have been sent to Knolls Atomic Power Laboratory for the thermal cycling tests.

The results from a test in which some four and eight inch slugs were canned with a longer can-sleeve preheat indicate that this method will give fewer non-seats with less penetration of can walls. Experiments have shown that the vertical agitation in the bronze bath is unnecessary. Additional tests are continuing on welding cap wetting and heat treatment.

Additional space has been obtained for the plutonium metallurgical laboratory. The various instruments needed for this laboratory and for the Radiometallurgical Laboratory are being obtained and calibrated.

Refinements in flux distribution and re-evaluation of limiting conditions made possible the attainment of higher power levels in B. D. and F Piles this month.

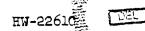
Plant service work this month included X-ray diffraction studies and examinations of stainless steels.

The special irradiations of the high pressure water channel and gamma irradiation of non-metallic materials are proceeding routinely. Leaks occurring in some of the water cooled test holes may necessitate the replacement of defective assemblies. Planning of a remotely operated test hole has been started.



Technical Section





Separations Technology Unit

Mercuric nitrate additions (10⁻³M) to dissolver solution have reduced the iodine content of the canyon building ventilation exhaust air (T or B) to less than 5 curies per 24 hour day. A series of processoperational modifications has improved the decontamination factor through the canyon buildings. Through the application of recent critical mass data the maximum batch size through the bismuth phosphate process has been increased to 108.7 percent of the previous batch size. A high rejection rate in the Purification and Fabrication Building due to surface imperfections was reduced by improved process and operating control procedures.

Plant Assistance and operations personnel are continuing capacity tests on Redox installed equipment. A high pressure drop in the Redox sand filter was reduced to normal by the removal of a one-foot layer of "G" sand. The Metal Recovery Plant Assistance group has prepared start-up and shakedown run plans for the UO3conversion plant which was accepted recently by the Separations Section. The Uranium Recovery Technical Manual was carried to 87 percent completion.

Redox—Development has been concerned mainly with coupling processes as characterized by the "Recuplex Process". Testing of the Fenske Stacked Extractor has revealed good stage efficiencies but variable capacity. Excellent capacity and efficiency is evident from early 3-inch pulse column studies with "Recuplex" solutions. Specifications for plant-scale Purex pulse columns were prepared and forwarded to O.R.N.L. Silica filtration procedures for slag and crucible dissolver solutions were worked out successfully in the semiworks. Construction of the Hot Semiworks was carried to 30 percent completion.

In the Research Laboratory, intensive effort has been given the development of "Recuplex" flowsheets and at present two alternate methods have been successfully demonstrated by laboratory counter-current batch methods. Measurements indicate that small but measurable amounts of chloride ion are formed in CCl4-TEP mixtures as a result of bombardment from plutonium. Decontamination data obtained with acid-deficient ANN scrub solutions in Burex systems point to a significant increase in ruthenium decontamination. Copper sulfide scavenger has been found to remove ruthenium by decontamination factors of up to 600 from dissolver solutions.

In the 234-5 development laboratory studies of the precipitation of Pu IV oxalate indicate good settling characteristics and low losses. Studies of the Los Alamos procedures for dissolving slag and crucible are under study and indicate recoveries of only 50 percent or better. Modifications giving better yields have been worked out but result in a potentially more corrosive environment.

Analytical Unit

Several additional methods for control of the Redox and Metal Recovery processes have been developed and tested during the month. A turbidometric procedure was found most suitable for the determination of chloride in recovered nitric acid. Conditions have been selected to allow application of an improved model flame photometer to the determination of sodium



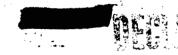
in process streams and a micro procedure involving measurement of sedimentation volume was found adequate for evaluation of the solids content of IAF samples.

Further improvements in the chromatographic separation of fission products in UO3 product preparatory to beta counting have permitted a recovery of 87% of the fission products free of all uranium and all but 1% of the UX1 activity. Work is in progress to find cut whether the beta counting disc may also be used for gamma counting through use of a new scintillation counter of higher counting efficiency than the standard Shonka chamber.

Several samples of uranium oxide and oxide spiked with beta or gamma emitters of high and low activity have been counted at the K-25. Hanford and KAPL laboratories. The study yielded widely different absolute beta counts from the separate laboratories although partial agreement was obtained with high energy emitters when the results were calculated relative to the pure uranium oxide. The necessity of using the same geometry during counting and of establishing a uniform mounting procedure was apparent. The gamma results at Hanford and K-25 where Shonka counting was employed were in good agreement but the KIPL results, obtained with a scintillation counter disagreed quite widely especially with high energy gamma radiations.

It is expected that final acceptance of the G.E.L. mass spectrometer for P-10 use will take place during the first week in November. Discussions with Los Alamos personnel resulted in the relaxation of the stringent P-10 product specifications requested by that site. Since there is little need for conducting high precision and high accuracy product impurity determinations, it was agreed to discontinue work on the development and installation of in-line sampling techniques.

Because of the recently reported improvements in design of the vacuum counter (ASVP) and the substitution of stainless steel for platinum as a sample mounting medium .it was necessary to recalibrate all of the ASP counters which are used for the control of the Separations Process. Very carefully prepared standard discs were evaluated on two ASVP counters whose geometry could be physically measured. In turn these discs were used to calibrate the control laboratory counters and the geometry established thereby was 50.00% ± 0.2%. The application of this value will necessitate revision of the presently used isotope correction chart for which steps are now being taken. Following the test above, personnel in the control laboratories assayed a standard solution which was also calibrated on the ASVP counter. The results of these analyses established correction factors to compensate for bias in the control laboratory results. These were +1.4% in the 231 Bldg. Laboratory and +0.74% in the 222-B and T Laboratories. Important by-products of the work were: (1) confirmation of the theoretical calculation of source size correction for sample discs (2) confirmation that the backscattering from stainless steel is not affected by the presence of uranium and (3) determination that the precisions of reported process control results with respect to the average value (not corrected for systematic bias) are for the AC solution $\pm 1.01\%$ and for the 6-3-MS solution ± 4.00 and $\pm 3.13\%$ in the 222-B and T Laboratories respectively.





Technical Services Unit

Laboratory Equipment Design activity was largely devoted to preparation and installation of gloved boxes and associated remote control laboratory equipment for the Redox Analytical and Plant Assistance Laboratory (Bldg. 222-S). The apparatus for the Analytical Line (consisting of a primary sampling station and a succession of assay stations) was being installed although some components were incomplete. Installation of operating accessories for the multicurie cells continued. All non-exempt designers and draftsmen assigned to Technical Services were transferred to the D & C Services Unit on October 1. The affected personnel will continue to work directly with Equipment Design but on an assigned basis.

The ventilation system for Bldg. 222-S the Redox Analytical and Plant Assistance Laboratory, was accepted from the contractors on October 16, 1951, with minor exceptions. Final construction acceptance is now complete and laboratory equipment is being readied for operation. Design work for temporary subdivision of a portion of the multicurie wing for use as laboratories (Phase II) is now complete. Investigation into the causes of the yellow discoloration of the marbelized white rubber tile floor covering continued. Preliminary laboratory analysis indicates the discoloration may be the result of improper drying of the sealer since a hydrocarbon, which discolors with age, was found in both the sealer and a discolored tile but not in the adhesive or a new tile.

The basement walls of the Radiochemistry Bldg. in the Works Laboratory Area are nearing completion and the stack base and a portion of the entry way have been cast.

Construction of the Library and Files and Badge House in the Works Laboratory Area was started by the L. H. Hoffman Construction Company.

Bid assemblies on the Plot Plan & Utilities (exclusive of the Badge House), and sewage disposal facilities for the Works Laboratory Area were made available to the contractors on October 3. Bids are to be opened on November 7.

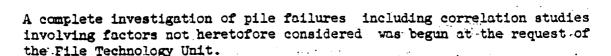
Negotiations with the Dix Steel Building Company for Architect-Engineer services on Phase II design of the Mechanical Development Building in the Works Laboratory Area are expected to be completed early in November.

Bids for construction of the Pile Technology and Radiometallurgy Bldgs. in the Works Laboratory Area were opened on October 10. The L. H. Hoffman Construction Company, Portland, Oregon, was apparent low bidder with their bid of \$2,840,000 for Alternate C which covered construction of both buildings. The engineers' fair cost estimate covering this work was \$3,207,400.

Plans were initiated to expand the catalog file now maintained by Bldg. 3706 Material Control to provide increased coverage for the Units using this service.

The second card programmed electronic calculator was delivered this month. The new model is more flexible because of the enlarged control panel provided.





A statistical study was begun to determine the effect of canning bath compositions temperatures and submersion time on the base thickness (non-seal rejects), and minimum can wall thickness (penetration of aluminum-silicon) of canned uranium slugs. A mathematical method was derived whereby expansion-temperature change equations may be obtained routinely.

A means of predicting U-235 content of uncanned fuel slugs from reactivity in the 305 Test Pile was developed by fitting a hyperbolic equation to the analysis of four dissolved pieces.

The regular semi-monthly reports of certain Kr-85 computations were completed and forwarded to the A.E.C. The requested re-evaluation of present computations was completed and results were forwarded to the A.E.C. The method of re-calculation was based on pile power data, as have all previous calculations. As of September 30, 1951, the re-evaluation differed by less than 0.1% from the figure previously reported for that data. This indicates that no significant numerical errors have been incurred in the routine calculations since April 30, 1950, the date of the original evaluation by this power data method. Comments, as requested by the A.E.C., on a critique of 1) the current basis and 2) proposals for more accurate bases for the computations are being prepared, with the cooperation of the Pile Technology Unit.

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Mark Conference (1980) in the conference of the



November 5, 1951

PILE TECHNOLOGY UNIT

OCTOBER, 1951

VISITORS AND PUSIVESS TRIPS

| Visitor | Date | Address | Purpose |
|------------------|------------|---------|---|
| Dr. E. C. Pitzer | 10-3/10-51 | KAPL | General discussions on corrosion problems |
| D. H. Marquis | 10-5-51 | GEL | Discuss canning |

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| Visitor | Date | Address | Purpose |
|-------------------------------|-------------|---------------------------------|---|
| C. E. Weber | 10-16/19-51 | KAPL | In-Pile experiments, heta experiment, Hanford water-cooled irradiation for future works, and P-10 consultation |
| R. E. Githens W. G. Baxter | 10-15/18-51 | GE, Cak Ridge | Discussions on insulation, thermocouple cali- bration and proposed experiments |
| J. B. Sampson | 10-15/19-51 | KAPL | Discuss pile physics and pile operations |
| D. H. Ahmann | 10-22/25-51 | KAPL | P-10 consultation |
| M. Norby | 10-19/20-51 | IMI repair man from Richland | Repair of IBM machines |
| L. C. Caddy C. O. Reiser | 10-17/18-51 | University of Idaho | Inspecting equipment used by two Pile Tech. personnel who are submitting their thesis to the University of Idaho for a Master's Degree. |
| J. E. Draley | 10-29/31-51 | ANL | Obtain information on the corrosion of aluminum alloys in process water |
| R. Koehler | 10-17-51 | GEL | P-10 consultation |
| Name | Date | Place Visited | Purpose |
| Robert H. Leyse | 10-1/31-51 | GEL & KAPL | Follow shop construction C-110 at GEL and to discuss in-pile experiments at KAPL |
| Paul A. Carlson | 10-1/2-51 | ANL | P-10 consultation |
| Linton W. Lang | 10-3/5-51 | KAPL | P-10 consultation |
| Daniel 3. Lovett | 10-3/5-51 | Brookhaven Nat'l. Lab. | Technical discussion on graphite |



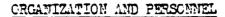


| Name | Date | Place Visited | Purnose |
|--|--------------|--|--|
| William M. Harty George E. McCullough Herbert F. Zuhr | 10-9/9-51 | Los Alamos Natil. Lab. | P-10 Consultation |
| J. R. Townsend | 10-8/12-51 | M-ray diffraction school, New York | Attend X-ray diffraction school |
| M. D. Fitzsimmons | 10-8/12-51 | ANL | Discuss future irradi- ations in the P-13 facility |
| John F. Fletcher John F. Sullivan | 10-10/31-51 | GEL & KAPL | P-10 consultation |
| Joseph H. Bach Willis L. Schalliol | 10-10/12-51 | Wash., D.C., A.E.C. T-3 Bldg., and Sylvania Electric Products Co., Bayside, N.Y. | Zirconium Symposium Meeting and Consultations on powder metallurgy |
| Robert J. Schier | 10-10/12-51 | KAPL | Conference on metal- lurgical work |
| William K. Kratzer | 10-11/13-51 | ANL (Site D) | Observe metal fabrica- tion |
| Donald E. Davenport W. John Czeroff Paul F. Gast | 10-11/13-51 | North American Avi- ation Atomic Energy Research Dept. | Conference on pile physics |
| R. B. Socky Ray Ward L. J. Chockie | 10-15/19-51 | Metals Congress Meeting | Metals Congress Meeting |
| Paul H. Reinker | 10-16-51 | E.I. duPont deNamcu & Co., Inc., Wilmin ton, Delaware | rs Discussion of prob- g- lems in pile design |
| D. L. Condotta | 10-17/31-51 | GEL & KAPL | P-10 consultation |
| Daniel B. Lovett Leslie A. McClaine Lamar P. Bupp Paul H. Reinker | 10-17/19-51 | Pattelle Memorial Institute | Tech. discussion on graphite |
| Leslie A. McClaine Lamar P. Bupo Paul H. Reinker | 10-22/21:-51 | KAPL & AML | Tech. discussions on graphite |



| Name | Date | Place Visited | Euroose |
|---|-------------|--|--|
| Lawrence J. Chockie | 10-22/24-51 | ANL | Consultations on metal polishing in their hot cell |
| ™. K. Kratzer | 10-22/26-51 | ANL | Observe metal fabrica- tion |
| R. Werd | 10-23-51 | A.E.C., Wash., D.C. | Discussion on dimensional stability of fuel elements |
| D. H. Curtiss | 10-23/27-51 | American Crystallo- graphic Association, Chicago, Illinois | Meeting of the American Crystallographic Association |
| C. V. Larrick P. F. Gast G. L. Lynn W. P. Stinson | 10-24/27-51 | American Physical Society, Chicago | American Physical Society Meeting |
| K. L. Sanborn | 10-9/12-51 | Electro-chemical Society, Detroit | Electro-Chemical Society Meeting |
| O. J. Wick | 10-10/19-51 | American Society for Metals, Detroit | American Society for Metals Meeting |
| Raymond L. Dickeman | 10-29/30-51 | ANL | Tech. consultation on experimental physics |
| George C. Fullmer | 10-29/30-51 | ANL | Discuss Henford operational problems and check on status of ventilation of scintillation detector. |
| J. F. Music | 10-29/31-51 | Univ. of Minnesota Univ. of Chicago | Ph.D. recluiting trip |

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|--|-----------------------------------|---|
| Physics Engineering Metallurgy Pile Applications P-10 Administrative | lil 57 53 71 72 15 | 11 74 63 71 71 14 334 |
| | · 247 | 224 |

Physics: One physicist and a technical graduate were hired. One physicist terminated and the Chief Staff Physicist transferred to Technical-General. A physicist transferred in from Pile Applications and a laboratory assistant transferred to P-10.

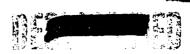
Engineering: Three engineers and one laboratory assistant were hired. An engineer transferred in from the Reactor Section, a technical graduate transferred in from Radiological Sciences, and a laboratory assistant transferred in from Community Services. One engineer transferred from Pile Applications, a technical graduate transferred to Retallurgy, a steno-typist transferred in from Administrative, and an engineering assistant terminated.

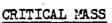
Metallurgy: One metallurgist and two laboratory assistants were hired. An engineer transferred in from Technical Services, one engineer assistant transferred in from Instruments, two technical graduates transferred in from Management-General, one technical graduate transferred in from H. I. Development, one technical graduate transferred in from Analytical, one transferred in from Engineering, one technical graduate transferred in from P-10, a technical graduate transferred to Administrative, and a steno-typist transferred in from Utilities and General Services. A technologist transferred to the Analytical Unit.

Pile Applications: One technical graduate was hired and one technical graduate transferred in from P-10. A physicist transferred to Physics and an engineer transferred to Engineering.

P-10: A laboratory assistant was hired, two laboratory assistants transferred in from Administrative, and one laboratory assistant transferred in from Physics. A steno-typist transferred in from Design and Construction, one general-clerk terminated, an engineer assistant transferred to Administrative, an engineer transferred to Technical Services, a technical graduate transferred to Pile Applications, and one technical graduate transferred to Metallurgy. One laboratory assistant transferred to Separations Section.

Administrative: An engineer assistant transferred in from P-10 and a technical graduate transferred in from Metallurgy. Two laboratory assistants transferred to P-10 and a steno-typist transferred to Engineering.





Experiments on the conditions of criticality for the untamped 18 inch diameter spherical reactor were completed during this month. A series of experiments with lithium and sulphate ion were run to investigate further the relative effects of changes of absorption and of moderation.

A review of nuclear safety problems indicated that some experiments should be undertaken to determine the degree of safety afforded by neutron absorbers such as stainless steel shafts, cadmium spiders, and control rods in processing vessels. An approximation of the plutonium equivalent of a 1.87 inch diameter stainless steel cylinder placed along the diameter of the 18 inch sphere was made by concentrating the fuel until criticality was obtained and comparing this mass with that of a similar fuel without the presence of an absorber. In similar fashion, a 1.75 inch diameter cadmium filled cylinder was measured. It appears that the change in critical mass is roughly proportional to the degree of blackness of the absorber; thus, the increase in critical mass, due to introduction of the 1.75 inch diameter cadmium rod is about 16.5 per cent while the increase corresponding to the introduction of the 1.87 inch diameter stainless steel rod is about 10 per cent. The cadmium rod is totally black; the steel rod is about 60 per cent black.

Critical mass data for which complete results have been received are listed below:

18" Stainless Steel Schere, Untamped,
by Liters, 580 MwD/t, 75° F.

| Critical Mass | Total NO3-/liter |
|---------------|------------------|
| 1095 | 76.12 |
| 1132 | 107.8 |
| 1167 | 148.4 |
| 1235 | 199.2 |
| 1347 | 285.8 |

Preliminary work has been started to provide a graphite reflector for the 12 inch spherical reactor. The reflector will surround the reactor with the thickness of graphite equivalent to l_2 diffusion lengths. Cost and fabrication schedules are being prepared.

IMPROVED PILE STRUCTURE

Exponential Experiments

Last month it was reported that the buckling of the wet seven inch lattice calculated from indium foil measurements of the flux was lower than the value obtained from EF, counter measurements. A similarresult has now been obtained for the dry seven inch lattice. An additional difficulty presents itself in the fact that the cadmium ratio shows a marked decrease

up the axis of the pile when reasured with indium feils and with the small one inch BF3 counter, but it is nearly constant when measured with the large three inch EF3 counter. Two lines of investigation have been started in an effort to trace down the cause of these discrepancies. In the first, a thorough check of instrument behavior has been made, in particular the dead times of the BF3 counters and their associated circuits have been measured. The results of this investigation are that neither in the case of the BF3 counters nor in the case of the Geiger tubes used to count the indium foils are the counting losses large enough to account for the observed discrepancies. The second investigation has been concerned with the variation of the neutron spectrum in the lattice. A method has been devised of measuring the variation of the thermal neutron spectrum up the axis of the pile. Pyrex gla ss sleeves of varying thicknesses are used over EF2 counters, the variation of counting rate with varying thicknesses of glass sleeve then leads to information on the thermal spectrum. Present experiments are only qualitative since the boron content of the Fyrex glass is not known with accuracy. In addition, the relaxation length is being measured with gold foils. These two measurements described above have not yet been completed.

Since the diffusion length of graphite as measured in the sigma pile is about ten per cont shorter than that obtained in the DR and H measurements, advantage was taken of the opportunity of measuring an intermediately sized pile when the graphite for the bottom half of the Savannah River pile was laid up in the 101 Building. The stack of graphite was approximately 15 feet square and eight feet tall. The only holes in the stack aside from process tube holes were four vertical rod holes. Three different source positions were used, (in the center of the top face, center of the side face, and in the center of the pile to check the effect of different corrections for source placement. The exact calculations of the diffusion length are now being carried out by the Theoretical Physicists but preliminary values indicate near agreement with DR and H measurements. The first set of measurements gives L = 61 cm. for an effective graphite density of 1.60. This compares with values of 54 cm. in the Hanford standard pile, 60.5 cm. in the H Pile moderator, 58.3 cm. in the DR Pile moderator. Three hundred and five DIH values for all of these graphites are very high, that of DR Pile being slightly less than the others. The discrepancy between the standard pile and laid up moderator values suggests that either the difference between neutron behavior in large and small piles is not understood or that the measurements made in the large pile are not the same as those in the small pile.

General Lattice Design

The crystal diffraction neutron spectrometer has been put into operation and investigation of the characteristics of the instrument has been made. Sodium chloride and lithium fluoride crystals are used to diffract the neutrons.



The resolving power of the instrument is a measure of the smallness of the range of neutron energies which the instrument may be set to detect. Quantitatively, the resolving power is given by the fraction: (range of energies detected)/(mean energy in this range) = $\triangle E/E$. A table of the resolving power is given below for three energies:

| <u> 3</u> | E |
|-----------|--------|
| 1.0 ev. | 47.0 % |
| 0.1 ev. | 13.0 % |
| _0.01 ev. | 3.4 % |

A measurement of the energy spectrum of the beam of neutrons emerging from the DR Pile was made. The peak of the distribution was found to be at 0.1 ev. It thus appears that a good measurement of the xenon cross section as a function of neutron energy can be made for the range of thermal energies of significance in the Hanford piles.

In connection with the xenon generator the problem of the separation of iodine from other gases generated in the fission process arises. It is planned to make this separation with the use of a charcoal absorber. Tests have been conducted to measure the efficiency of absorption of iodine by charcoal. Three iodine samples were exposed in the neutron flux in H Pile. Iodine from the first sample was collected directly; four half lives after the exposure, the counting rate of 500,000 counts per minute was obtained on the 0.4 mev. Il28 gamma radiation. The second smaple which was exposed for the same time was collected through one-third gm. charcoal. Two half lives after exposure, no activity above background could be detected due to the 0.4 mev. gamma ray. The third sample was collected through one gram of charcoal. In this case no detectable activity attributable to I120 was found; however, impurity activities showed up. Nevertheless, calculations made to determine the maximum amount of iodine present but undetectable because of the interfering impurity radiations showed that less than 0.05 per cent of the iodine was passed by one gram of charcoal. It appears, therefore, that this degree of separation is satisfactory for the purposes of the xenon experiment.

Preparations have been undertaken for moving the xenon-krypton separation system to the 305 Building. Several changes and improvements are to be made before the system is moved.

Containers for exposing the carbon sample to be used in the C^{12} cross section measurement have been designed. Present plans call for an exposure of 0.1 grams of carbon, 0.002 grams of $CoCO_3$, and 0.001 grams of metallic cobalt—three separate capsules—all of which are enclosed in a process tube can. One year of exposure in a neutron flux of about 3 x 10^{13} neutrons per cm²/sec will increase the amount of C^{13} present by about one per cent. The cobalt is expected to have an activity of about 10^{9} disintegrations per second.





A stabilized power supply has been designed for the beta ray spectrometer. Work has been initiated along the lines of investigating the general problem of gamma rav spectrometry and in particular the application of scintillation counting techniques. Much of the basic spectronic equipment is similar to that assembled for the xenon problem. Additional equipment such as anthracene and stilbene crystals, differential pulse height analyzers, coicidence amplifiers and power supplies have been ordered. Investigation of one of the chief problems involved in obtaining good pulse height resolution-that of securing good optical coupling between the crystal and the photomultiplier-has been started. Ideally, one desires to collect 100 per cent of the light emitted by each scintillation and to spread that light uniformly over the photo-cathode. A thermo setting transparent plastic "light pipe" placed in good optical contact with both a sodium iodide crystal and a 5819 photomultiplier with the use of mineral oil gave resolutions of lh to ló per cent for the 669 kev. cesium 137 gamma ray line. Experiments are also under way to determine the effect on resolution produced by changes in tube voltage and amplifier gain parameters. The indications are that there is an optimum tube gain and external amplification combination for each particular phototube assembly.

Large Scale Pile Structure

The number of effective tubes versus the number of actual tubes in a cylindrical pile with the Hanford lattice has been calculated. This calculation shows that the ratio of effective tubes to actual tubes increases by about four per cent when going from a 2000 tube to a 3000 tube pile.

SHIELDING STUDIES

A value of 6.6 cm. for the average neutron relaxation length in the Brookhaven concrete reported last month has been verified by an independent measurement. All flux values through the intensity range of about 100 were duplicated within experimental error.

A small difference has been found between measurements taken at the DR Pile facilities and those taken in the A test hole at D Pile. This difference has no effect upon shield design; however, because it is greater than experimental error, it will be investigated. Gamma ray attenuation measurements in Brookhaven concrete have been begun. These measurements are being made with a ten cc. ionization chamber which is air filled, has graphite walls, and a boron lacquer coating to capture gamma ray production within the chamber itself. The measurements are continuing at months end.

Portland concrete samples with gravel aggregate which had been given a total exposure of 1.3 x 10¹⁰ neutrons per cm² were tested this month. The avarage decrease in rupture stress due to the above exposure was about 30 per cent. There was no significant change in Young's modulus.



The effect of temperature on Masonite is being investigated; the initial tests will be made by heating the Masonite at 100° C. for a period of months and periodically testing samples from the group. General trends to date are as follows:

- 1. The modulus of elasticity decreases with time of heating.
- 2. The modulus of rupture decreases.
- 3. The rupture stress increases.

OPERATIONAL PILE PHYSICS

The production test for the study of fringe tube enrichment effects is being rewritten to specify use of unbonded fuel slugs.

A formula has been obtained for the temperature distribution due to a point source of fission neutrons in an infinite block of graphite. This result has been applied to calculate the temperature distribution near an enriched slug for spherically symmetric boundary conditions.

An investigation has been made of methods of eliminating the present wide variations in the reactivity effect of product pushes, which cause considerable difficulty in the maintenance of efficient permanent flattening patterns. An evaluation of the possible production gains and of the cost of such a discharge scheduling system will now be made.

Technical approval has been given to the final draft of C-pile automatic temperature recording equipment specifications.

IBM Company has indicated that the system evolved at this site for transferring temperature information from perforated tape to punched cards was satisfactory to them. Accordingly, procurement of the necessary IBM components has been instigated. Considerable progress has been made in the detailed circuitry for the experimental installation to be put in an older area. Prints have been prepared of the multiple contact plate for the data conversion circuit and of the data converter-recorder circuits. Some difficulty has been encountered in obtaining satisfactory delivery on relays ordered for this project. A small number of slow response relays which could be delivered in six weeks were ordered to facilitate fabrication and initial testing. These will be replaced for eventual operation by faster relays which could not be delivered before six months.

The card feeding mechanism of the summary punch installation at 105-DR caused considerable difficulty this month. Humidity changes which cause swelling of the data cards contribute to this trouble. The machine has been resoured to working order.

Considerable work was done on the delayed neutron monitoring equipment undergoing test at H Pile. Both chambers and scalers were checked by bench test and reinstalled. No new simulated rupture test was run due to the equipment difficulties. The equipment was moved to another crossheader, and a test tube was chosen which is expected to be retained as a dummy tube indefinitely.

At the request of the Heat Transfer group, the heat production due to gamma rays in the steel base plate for C Pile has been investigated. It has been shown that the fraction of heat produced by gamma ray absorption in the steel base plate is only slightly greater than the ratio of plate thickness to thermal shield thickness.

GRAPHITE STUDIES

Pile Graphite - Distortion - Production Test 105-458-P

A graphite bore diameter traverse taken through process tube channel 1185-H showed the central region vertical diameters to be three to five mils undertolerance while the horizontal diameters were within tolerance dimensions. The contour of this tube was considerably rougher than tube channel 1191-H which was measured five months ago. Both channel 1185-H and 1191-H had far less exposure than tube channels 1188-B and 3574-D which were measured and reported last month.

Controlled Temperature Exposure of Graphite - Production Tost 105-403-P

The exposure history of graphite at various temperatures was normal for the month with average temperatures of 130°, 165°, 175°, and 200° C. A second facility is being prepared for in-pile installation.

Graphite Burnout - Production Test 105-25-P

The third set of graphite samples exposed in an open process channel in the F Pile were discharged after five months contact with the pile gas. The temperature range over this period varied as much as 70 degrees; this makes an evaluation of the rates of burnout difficult; however, best calculations based on a mean temperature of 395° C. indicate a weight loss of 0.5 per cent/1000 days for samples in the center of the pile. Fringe zone samples showed a weight gain amounting to 0.2 per cent/1000 days at about 185° C. This behavior was observed with past fringe zone samples and has been attributed to the polymerization of various carbon exides or to the decomposition of carbon monoxide.

Two of the graphite samples removed from the center of the process tube channel were composite pieces with a central core of graphite completely incased by an outer shell of graphite. The weight loss per unit weight of the center core was in both cases about one-fourth of the loss for the





entire assembly. This is the first evidence that oxidation of pile graphite is not uniform throughout the mass of the bars but instead is greatest at the graphite surfaces most accessible to the gas atmosphere. A mechanism of this type makes evaluation of burnout effects difficult and means that specific oxidation rates are considerably higher than indicated by results reported on a uniform weight loss basis.

Graphite - X-ray Diffraction Studies

The components of the North American Phillips X-ray diffraction apparatus have been installed and aligned. Calibration studies have been completed for sample displacement and thickness variations. Evidence is available to show that the diffracted line shape of the OO2 reflection is a function of the sample thickness; thin specimens exhibit a more symmetrical line shape. This is important because line shapes in the past have been associated with the interpretation of radiation damage; this study is being continued to check the validity of line shape interpretations.

A careful check shows that the Co axis changes with irradiation, reported in the past with a less accurate 90° Norelco spectrometer, are identical with results determined on the new instrument.

Graphite - Surface Studies

The surface characteristics of a graphite specimen which had been exposed in the pile in an oxygen atmosphere were found to be considerably different than virgin or pile graphite samples studied earlier. The sample surface area was $1.35 \text{ m}^2/\text{g}$, which is larger than that obtained on solid pieces measured in the past. The surface area was independent of outgassing temperature in the range $25 - 450^{\circ}$ C., and the pore size distribution indicated some predominance of pores with radii of 60 and 160 Å as well as the usual 20 Å size.

A considerable number of these measurements will be required to establish the significance of these findings.

Off-Site Developments

The second meeting of all Atomic Energy Commission sites interested in radiation damage to graphite was held at the Battelle Memorial Institute on October 17 and 18 with P. H. Reinker, L. P. Bupo, L. A. McClaine, and D. B. Lovett representing Hanford. Discussions centered around data accumulated and new work initiated since the previous meeting in April. The next meeting is tentatively set for April or May at the Argonne National Laboratory.

Controlled Gas Atmosphere Experiment - Project C-410

The effect of pile radiation on the C-CO-CO₂ reaction is to be investigated under controlled conditions of temperature and pressure.





The heater facility for the C Test Hole at the DR Pile has been assembled, except for the step plug, at the General Engineering Laboratory. Water flow tests have been completed and internal heat distribution tests are continuing at month end.

Testing of the gas system mock-up continued during October. Considerable time has been required for obtaining calibration data for the gas analyzers. The carbon monoxide and carbon dioxide analyzers were calibrated over the full range. Numerous difficulties were encountered with the water vapor analyzer, and it is being returned to the vendor. The oxygen analyzer is being rechecked for a leak in the analysis cell system.

HEAT TRAMSFER STUDIES

Boiling Consideration Studies

An investigation is in progress to determine the feasibility of increasing the pile power limits based on boiling considerations by the use of suitable tube instrumentation which would permit practically instantaneous detection of abnormal cooling conditions. If such conditions could be detected, it is possible that the present emphasis on available header pressure can be reduced. That situation would exist, however, only in the case wherein the instruments could be relied upon to activate an automatic shutdown device in the event of abnormalities.

Scram Delay Time Following a Panellit Alarm

A document will be issued during the coming month covering the calculations of permissible scram delay times following a panellit alarm. A recommendation will be made that the present 20 second delay time be reduced.

A preliminary investigation has been made of the possibility of using a time delay relay in the panellit system to shut down a pile automatically after a specified time delay following a panellit alarm. A discussion of the time delay panellit alarm system was presented in "Automatic Time Delay Relay for Panellit System Alarm," W. D. Gilbert, HW-22185, October 22, 1951. A production test will be issued to test the suitability of such a relay for use on the piles.

Slug Temperature Studies

Preliminary tests have been run on the full scale mock-up to determine the slug circumferential temperature distribution for the C Pile process tube geometry. The tests were made at 160 KW and 30 gpm flow. Heater tube temperatures were recorded at 16 equispaced points around the circumference at four longitudinal positions. In this preliminary test, it was found that at the downstream end of the tube the temperatures varied from 196° to 214° F.



Extensive calculations have been made to determine surface, axial, and end can temperatures of the present slugs for various possible water flows and power levels. Curves illustrating the results will be included in "Technical Activities Report - Heat, Water, and Mechanical - October, 1951".

Slug Thermal Stress Experimentation

A study was made to determine the feasibility of using induction heating methods to duplicate pile temperature gradients in the slugs. Various tests could then be made to determine slug stability.

Initially, a survey was made to determine from theory and calculation whether the slug temperatures resulting from the use of existing induction heating facilities could be predicted. The conclusion was reached that reliable predictions could not be made.

A preliminary experimental test was then made with the 311 Building induction heating facilities. Tests were conducted on both canned and uncanned slugs with indefinite results. The slugs could not be heated to the desired temperatures; however, there were indications that much higher temperatures could be obtained by the use of more efficient coil designs. Consequently, the investigation is continuing and the coil design problem is being attacked by both theoretical and experimental methods.

An investigation is also being made of the use of electrical resistance heating to establish pile temperature gradients in slugs. Such heating will apparently generate a temperature distribution in a slug within one or two per cent of that existing in the pile.

Slug Performance Studies

It appears that preliminary information on slug performance at higher levels might be obtained through the use of enriched, uranium slugs. Specifically, such slugs might be exposed in a pile with heat generation rates appreciably higher than those of surrounding slugs. Such action would yield preliminary information on slug temperatures, stresses, corrosion, and metal distortion without seriously disturbing the operation of the remainder of the pile.

Measurement of Uranium Slug Temperatures - Production Test 105-111-P

Special thermocouple slug assemblies are being prepared to measure the difference between central and surface slug temperatures during pile operation, the temperature drop across the slug film, heat generation after pile shutdown and slug temperature after water flow interruption following pile shutdown. Conventional methods of drilling the small thermocouple holes have been unsuccessful. Accordingly, canned slugs have been sent to the General Engineering Laboratory for drilling by ultrasonic methods using "Cavitron" equipment. Three slug thermocouple assemblies are essentially complete except for the uranium slugs.



A special thermocycling autoclave for testing the required non-standard welds has been fabricated and installed in the 31h Building. Additional testing is necessary on the slug failure alarm and autoclave shutdown switch until a satisfactory filter mesh size has been determined and increased pressure alarm sensitivity has been obtained.

C Pile_Insulating Layer

Additional calculations are being made on the effect of an insulating layer between the bottom tube row and the thermal shield in C Pile. Heat generation and tomperature calculations were originally based on a cast iron plate one-half inch thick. The plate has since been changed to three-fourths inch, and the original calculations are no longer valid.

WATER STUDIES

100-D Flow Laboratory

The Atomic Energy Commission Directive authorizing the additional funds necessary for the completion of the Water Quality Experimental Facilities has not been received. The high temperature corrosion equipment in the laboratory was put into operation during the month and coverage on a 2L-hour basis was started so that this experiment would receive sufficient attention.

100-F Flow Laboratory

Results from the Slug Abrasion Test show that the abrasive effects of cold process water on aluminum slugs are negligible after two months of exposure at flow rates up to 36 gpm. The Can Difference Test has been discharged and the slugs are now being measured for film formation and corrosion rates. The equipment for a laboratory recirculation experimental program is being constructed. This system will be used to collect data that are needed to design an in-pile recirculation test.

Fundamental Film Formation Studies

The equipment necessary to study the effects of the wariables of turbulence, temperature, water impurities, and flow surfaces on film formation rates is now being constructed. It is expected that this equipment will be put into operation late in November or early in December.

Sodium Dichromate Elimination Test - Production Test 105-453-P

The two tubes which are being supplied with dichromate-free water in H Pile were recharged with uranium slugs on September 29, 1951. The system has operated normally since that date. No significant data are yet available.





The Alum Coagulant Test - Production Test 105-173-P

This test was started on October 10, 1951. The results to date on this test have been favorable. While there have been minor operating difficulties in the actual water treatment procedure, the effects of this type water on the pile have been satisfactory. The film formation rates with this water to date have been negligible and the effluent activity has been below that of ferric sulfate treated water with comparable power levels. The low film formation rate allowed the purge scheduled for October 23, 1951, to be omitted, and operation to be continued. It was during the continuation of the operating period that F Pile reached the highest power level yet attained by that pile.

The design of the activated silica equipment for Part II of the test has been completed and drawings are now being made. The Project Proposal will be submitted for the construction of the equipment at the end of the 30-day period required by the Production Test.

Activated Silica and Ferric Sulfate Coagulation

The study of the possibility of using activated silica as a coagulation aid for ferric sulfate coagulant has been completed, and it appears that this method may be safely used in pile operation and could result in a considerable increase in filter capacities. A production test is being prepared to cover the operational testing of this process in 100-H Area.

Experimental Corrosion Facilities

Construction has started on both the Fifty-Tube Corrosion Mock-Up and the Induction Heating Facility. It appears that work on the fifty-tube mock-up will be scriously delayed because of failure to place the order for rotameters in sufficient time. Work on the induction heating facility is on schedule, and it appears that this project will be completed by December 10, 1951.

Corrosion Studies

The high temperature corrosion test is now underway with corrosion rates of 2S aluminum slugs being measured at temperatures of 80, 95, 115, 135, and 150°C. This test utilizes standard dimension process tubes and slugs and preheated process water. The test is designed to obtain information on the effects of both time and temperature on corrosion rates. Production Test 105-407-P, Supplement A, which authorizes the removal and metallurgical examination of a process tube which has contained magnesium dummies, is nearly completed. The tube has been removed and the metallurgical examination is underway. The results of this test will be published during the coming menth. The test to determine the effect of neavy metal ions present in the process water on corrosion rates is now underway.





MECHANICAL DEVELOPMENT

Charging and Discharging Program

A redesign of the pressurized discharge machine has been started. This model will incorporate improvements which have been shown necessary by development tests to date. It will not provide for segmented discharge as does the present equipment.

The unpressurized charging machine will be improved by the addition of several redesigned parts and a lubrication system for the neoprene seal which has been restricting the charging speed.

Process Tubes, Gun Barrels, and Nozzle Connectors

A bullet-nosed tool has been designed which will solve the most difficult part of gun barrel replacement which is the entry of the gun barrel into the graphite. This gun barrel bullet nose will be tested on the outlet gun barrel of process tube 4380-F.

Flexure tests of various types of flexible pigtail connectors are continuing and promising results have been shown by the Atlantic Hose connector.

A study is in progress to determine if a floating crossheader would be a feasible means of eliminating pigtails.

Horizontal Control Rods

The lubrication and galling problem associated with the C Pile horizontal rod gland, mentioned last month, has been minimized by the use of a graphite gland sleeve lubricated with water. A new gland design, employing oil—impregnated graphite, is to be life-tested during November and is expected to yield satisfactory results. The full-scale horizontal rod mock-up is nearing completion in the 189-D Building. The late delivery date for the prototype rod for C Pile will delay the start of testing.

A study of the horizontal rod conversion problem for the present piles is underway. Several promising designs which provide super-flexible rods are under consideration.

Vertical Safety Rods and Third Safety System

The graphite packing has been erected at the White Bluffs Tower and the rod mock-up is being readied for the final VSR and Ball 3X tests, required for confirmation and final adjustment of the C Pile design. Tests of the hydraulic shock strut arrangement, which replaces the present springs, will be the first phase of the test. Investigations of lubricants for the rubber seal are continuing.



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Slug Can Damage Studies

Approximately one-half of the 760 slugs to be charged through the piles for rib damage determination have been reweighed and microscopically examined. The depth of rib scratches averages between one and two mils, while maximum gouge depth was found to fall between 0.6 and 0.7 mils. Thus far, no evidence of charging machine damage has been detected, despite intentional efforts to misalign the machine on the nozzle.

Two thousand uranium slugs were charged through a flow lab process tube to study impact damage due to the charging machine. Sixteen hundred of these have been reinspected, frost-tested, and autoclaved without evidence of significant damage.

Other Tests and Programs

Approval is being sought for a Project Proposal covering a rear face television monitoring system. A dual camera installation will permit viewing either the area on and above the elevator or the area below the elevator. A monitor (screen) and control station would be situated on the front elevator with an auxiliary viewer in the control room.

Final approval is also being awaited on the method of removing the P-13 Pressure Assembly at 100-H. Informal agreement as to technique of removal has been reached with those persons most directly concerned with this problem.

Investigations of the bursting strength and pressure drop characteristics of the C Pile crossheader strainers are under way at the 189-D Laboratory. A design study has been initiated to improve the water-cooled test hole facilities for the Graphite Group in connection with the graphite studies program.

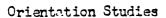
METALLURGY OF URANIUM

<u>Fabrication</u>

The Sylvania Electric Products Company has agreed to furnish a number of uranium slugs of Hanford dimensions prepared by powder metallurgical methods. Some of these slugs will be subjected to metallurgical tests, and the remainder will be irradiated in the 105 piles after lead dip canning.

Results of experimental rolling of uranium, preheated in a salt bath, indicate that salt bath preheating may be used advantageously for production rolling at Simonds. Seven rods continuously finish-rolled after a preheat in salt at Lackawanna have been received for tests to determine whether the lithium carbonate from the salt bath is removed from the uranium turnings in the chip recovery process.





Orientation measurements on material for Production Test No. 313-105-1-11, designed to correlate pile behavior with the crystallographic orientation of alpha rolled uranium, have been completed. Samples which were taken adjacent to those for orientation measurements will be sent to Knolls Atomic Power Laboratory for thermal cycling tests. The results of these tests should demonstrate whether a quantitative correlation exists between distortion from thermal cycling tests and pile irradiation.

METALLURGY OF PLUTONIUM

During October arrangements were made for some needed additional space for work on the metallurgy of plutonium. Plans for the best use of the room made available are almost complete. As laboratory equipment continues to arrive, it is installed and calibrated as rapidly as possible.

Studies are being made to determine whether the Bausch and Lomb Research Metallograph may be adapted to determine the thickness of thin oxide films on metal through study of the degree of polarization of reflected light. The use of a cathodic etching technique for specimens also is being studied.

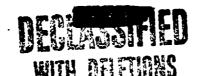
METALLURGY OF HANFORD STRUCTURAL MATERIALS

100 Arca Corrosion

The original purpose of cladding process tubing with 72S aluminum was to protect the 2S parent metal from perforation should severe corrosion occur during pile operation. Incidental to protecting the process tube, it was believed that the cladding would also afford some protection to the slug jackets. Observations have shown that the 72S cladding on process tubes has suffered no measurable attack during the period in which the piles have been operating, whereas the slug jackets are measurably corroded. Laboratory tests previously reported indicate that 2S and 72S have approximately the same corrosion rate when not electrically coupled; therefore, the inference from the in-pile observations is that the 2S is corroding and thus is protecting the 72S under the conditions of pile operation. A series of electrochemical studies which have been started during the past month have shown that when 2S is at the higher temperature, it is sacrificial to the 72S in process water. The effect of the system temperature upon these results has not been fully established.

A report (HM-22365) was issued summarizing flow laboratory corrosion tests, conducted at Hanford prior to 1951, on various metals and alloys in pile process water.





New Pile Taterials

Measurements of the mechanical properties of samples of boron stainless steel safety rod material for C Pile have shown that both the strength and ductility of sand cast specimens, furnished by the vendor, are lower than was specified for this material. Samples of castings from permanent molds were considerably higher in both strength and ductility but did not meet the yield strength specification.

A thorough review of all aluminum alloy data is in progress to determine the feasibility of producing process tubes possessing better mechanical properties and resistance to corresion.

CANNING DEVELOPMENT

Eight-Inch Slug

Cap Wetting

Good cap wetting was obtained by using a submerged lead bath preheat and scraping the preheated cap in a cup under the AL-Si surface.

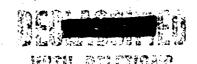
Prewetting the caps in a fluxed Al-Si bath and using the pre-clad caps in canning also gave good results. 305 Pile tests indicated no carry-ever of flux into the pre-clad caps.

Welding

Further welding closure experiments indicate that a dcuble grocve in the cap, with a crimped can wall, makes possible a good weld which covers the Al-Si. Sixty slugs will be welded by production welders to further evaluate the closure.

Bronze Bath

Data were obtained to indicate that the vertical agitation in the brenze bath, which is done by hand after completion of the herizontal mechanical agitation, can be eliminated with assurance of complete slug transfermation and adequate wetting of the slug by the brenze.





Data also were obtained to indicate that slugs transformed in bronze in the high bota range (760° C.) show no significant difference in crystal structure from those processed at 735° C.

Fuel Element Development

Emphasis during the menth was placed on establishing criteria for uranium slug jackets at present and probable future operating environment of uranium slugs in the reactors and establishing a firm list of materials for investigation in a jacketing development program. A review of available literature on possible uranium protective systems is underway to take advantage of previous work performed on this problem during the original program which led to the development of the current Al-Si protective system.

Current observations on slug ruptures are being fellowed closely to assist in firming the required criteria.

Heat Treatment

The effect of salt bath temperatures on the grain size and distortion of four-inch uranium slugs were determined. Water quenching from temperatures between 680° C. and 710° C. resulted in less warp and a smaller grain size than quenching from 750° C. Although the lower heat treating temperature improves the structure of the metal, the longer immersion time would necessitate a complete change in present operating procedure. Heat treating in salt at 750° C. permits the use of bronze bath procedures with minor modifications.

J Slug Canning

Fifteen pieces of J material have been canned by sizing the can to the slug (HW-22523). The canned pieces were bubble tested and inspected for defects visually and fluorescepically.

Correlation of Process Control Data with Ruptured Slugs Cannod December 15,

Further examination of 300 Area records show that some slugs were rejected around December 15 for "holes". Apparently, Victor cans were used and during the month of October, 1951, when Victor cans were again used a somewhat similar situation arese with canning difficulties and many rejects. One autoclave failure also occurred in October, 1951.

RADICMETALLURGY

Ruptured Slugs

Thirteen ruptured slugs and one slug which may be reptured were set aside for examination in the Radiemetallurgy Laboratory. Preliminary data on



HW-22610

ruptured slugs are now reported by Area Engineering which also has the responsibility for canning the slugs for shipment to Radiometallurgy. This change of responsibility was based on the need to devote more time to the metallurgical study of the failures.

Preliminary metallographic study indicates that a fissure in the aluminum cap was the probable cause of the failure of the slug, canned August 7, 1951, in tube 2068-H.

A report presenting data on the first 51 failures has been issued as document HW-223hh, and an interim report regarding the slug failure in tube 1572-D has been issued as document HW-22hhl. A report on the examination of the irradiated slugs which were canned December 15, 1950, has been issued as document HW-2250h.

Equipment

Six specimens of stainless steel, brass, and 2S aluminum, which were given a high polish on a Lapmaster polishing machine, have been supplied by the Crane Packing Company. These samples will be examined metallographically to determine whether the Lapmaster is suitable for polishing radioactive materials.

Experiments were conducted to evaluate the use of lead glass shielding in connection with the Zeiss Metallograph. A 10½ inch thickness of 6.4 g/cc lead glass was tested between the light source and the objective lens and between the objective lens and ocular lens. Satisfactory filter factors, resolution characteristics, and shielding are provided by this glass.

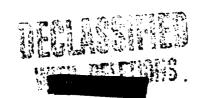
TRITIUM PRODUCTION



No personnel exceeded the working limit for internal tritium contamination during the month and very few urinalyses exceeded the limit of detection.

TRITIUM DEVELOPMENT

DECLASSIFIED
WITH DELETIONS

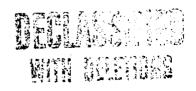


HW-22610

Experimental Extractions

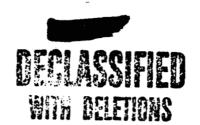
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Applied Research Activities



21.

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Construction Ligison

The necessity and desirability of continuing construction of all phases of Project C-412 were investigated; as a result of this survey, existing facilities will be used on a short time basis for outgassing metal vacuum tanks and for processing air-centaminated product in Glass Line No. 2; production models of both facilities were canceled.

Construction activities continued during the month on the following items: the "hot" instrument and maintenance shop, the urinalysis laboratory, welding service lines, building air monitoring and ventilation, air mask lines, the metallurgical laboratory, and the product storage building.

SPECIAL IRRADIATIONS

High Pressure Water Channel - AMLM-140

The behavior of water, prototype fuel and structural materials is being investigated under conditions simulating those of the STR as closely as is possible in the Hanford piles.

Operation was routine during October

Gamma Irradiation of Non-Metallic Materials - Production Test 105-246-P

Non-metallic materials are being irradiated by the fission product gammas from exposed uranium pieces. Irradiation has continued using the metal placed in the sample baskets on September 22. Other metal is now available in the Storage Area and replacement is scheduled for November 3.





Life Test of Fission Chambers - DPW-101

A life test under pile conditions is planned to evaluate the pessibilities of using fission chambers for monitoring the pile neutron flux. The in-pile sample holders are being fabricated by duPont from drawings propared at Hanford. Special fittings have been supplied by the requesting organization for use in the special front face nezzle which is to be made and tested here.

Orcep Rate of Zirconium - WAPD-M-105

The creep rate of zircenium is being investigated under pile conditions. One irradiated slug assembly was discharged during the regular menthly shutdown at 100-7 Area. Difficulties in charging resulted in damage to the new slug which was, therefore, discharged and the tube leaded with dummy pieces.

Special Irradiations

Monthly statistics on the Special Request Program are tabulated below:

| P-10-A picces charged | 246 |
|------------------------------------|-----|
| P-10-A pieces discharged | 976 |
| P-10-A pieces being irradiated | 691 |
| Special Request Samples charged | 152 |
| Special Request Samples discharged | 113 |
| Samples on hand awaiting charging | 321 |
| Samples now being irradiated | 496 |
| Samples awaiting shipment | 67 |
| Samples shipped during September | 32 |

Remotely Operated Tost Hole Facility for 105-C

Preliminary rough design and layout sketches have been made for a test hole facility operated from the outer rod room. This arrangement will permit the charging and discharging of samples during pile operation, allowing exposures of any desired time length. The "A" test hole at 105-C has been chosen as the most convenient location for installation. To accommodate the proposed equipment, an additional step plug in the rod room wall has been requested and approved as a construction field change.

Water Cooled Test Holes

The controlled temperature water supply to the D test hole in DR Pile was satisfactorily tested and indicated a sample temperature of 70°C. ±0.5°C. could be maintained. When attempting to charge this test hole, a leak in one of the test tubes was found. A cosium sample apparently ruptured in the B test hole in H Pile necessitating the unleading of the entire test hole. Unless in-pile repairs can be effected, both of these assemblies will need to be replaced.



100 AREA PROCESS CONTECL

Again now maximum newer levels were attained at 3, D, and F Piles this menth as the result of refinements in flux distribution and some re-evaluation of limiting conditions. Operation was maintained near maximum levels at DR Pile, but some reduction was necessary at H Pile due to distortions introduced by the discharge of all the remaining H-10 lead at one time. The flattening efficiency of the piles, defined as the equilibrium newer level divided by the maximum level possible with current operating limits and available reactivity, average 88.5 per cent at menth's end.

Progress on the change-over from P-10 to the thorium program is about 50 per cent complete at this time. At the request of the Atomic Energy Commission, estimates were made of the amount of product from this program that could be delivered on specified dates. The accuracy of such estimates depends directly on the preliminary yield results reported by the customer.

There were no unusual physics effects neted during pile operations this menth. Receivery was made within the allowable serum time in about 40 per cent of the ruptured slug shutdowns experienced. An apparent water leak continued to be in evidence at F Pile. Further efforts to correct the condition were made during the last shutdown of the menth, but start-up measurements indicated at least 170 inhours to be taken up in water.

Nine irraidated parcess slugs which could not be salvaged in the regular manner were sawed in two in the Radiometallurgy Laboratory, and the uranium pertiens were returned to the Reactor Section for processing.

A report on the metallurgical study of the cause of the failure in a Vertical Safety Red at 100-B has been issued as document HV-22363.

A representative summary of the reactivity status of each of the operating piles at the end of this menth is given below:

| <u>Pile</u> | 3 | D | DR | F | <u>H</u> |
|--|---|---|---|--|---|
| Centrol Rods Xenen P-10 1066 SR Plant Assistance "B" Program Dummy Columns | 140 637 147 263 (268) 33 20 107 15 | 157 660 321 90 (90) 45 0 29 | 163 691 140 130 (140) 20 0 80 21 | 150 699 135 169 (164) 46 13 99 | 93 687 107 0 62 38 60 30 |
| Hot Reactivity | 1352 | 1389 | 1245 | 1354 | 1077 |
| Cc Allowance | <u>-335</u> | -1:06 | -222 | <u>-1:70</u> | <u>-130</u> |
| Cold Reactivity | 1027 | 983 | 1023 | ১৯়া | 91,17 |

| STNCS | 1951 |
|----------|----------|
| RUPTURED | OCTCBER, |

| स् झा | 63 | | | | Сар | c_{ap} | v | | - | _ | Side Failure | | Side | | |
|---------------------|--------------|----------------------|-----------------|------------|------------|----------|----------|----------|----------|-----------|-----------------|----------------|------------|----------|-------|
| TYPE OF FAILURE | Side | Cap | Cap | Cap | Side & Cap | Side & | Sid | Cap | Cap | дър | Side F | * | Cap & Side | * | |
| CL.NNING Dr.TE | 11-2-50 | 11-7-50 | 12-15-50 | 2-1-51 | 2~6~2 | 2-13-51 | 12-21-50 | 1-8-50 | 1-31-50 | 15-5-1 | 12-27-50 | * | 6-6-51 | * | |
| LOCAL | 67 | 58 | £ 1 | 51 | †19 | 35 | 36 | . 61 | 35 | <i>₹</i> | 1 99 | O [†] | 农 | 63 | |
| SLUG | 317 | 39 (est.) | स | 33 (est.) | 1,5 | 22 | 214 | 64 | 34 | Ыц (est.) | 75 | 32 | 17 | 57 | , , , |
| SLUG POWER KW | ™ 2.0 | 6,1 | 3.7 | 7.1 | 0*9 | 6.8 | 7.0 | 5.5 | 11.6 | 6.2 | 3.7 | 6.1 | 1.6 | 3,1 | |
| TUBE POVER KN | 349 | 200 | 168 | 319 | 321 | 345 | 336 | 273 | 206 | 313 | 293 | 276 | 363 | 307 | |
| TUBE EXPOSURE | 951 UM | ¦ ⇔lju | 320 | 603 | 139 | 65 | 914 | 375 | 262 | 795 | 547 | 181 | 321 | 670 | |
| DAYS IN PILE | - 283 | 596 | 244 | 215 | 219 | 221 | 592 | 275 | 170 | . 270 | 272 | 273 | 122 | 281 | |
| LATE OF FAILURE | 10-1-51 | 10-5-51 | 10-8-51 | 10-9-51 | 10-13-51 | 10-15-51 | 10-15-51 | 10-17-51 | 10-19-51 | 10-20-51 | 10-22-51 | 10-24-51 | 10-26-51 | 10-31-51 | ; |
| TUBE NO. | 1261-F | 3961 ₄ -B | 4374 <u>r</u> B | 2867-F | 21,65-D | 3276-DR | 11,89-F | 0859-D | 3491-н | 2164-B | 3465-13 | 2959-F | 1166-DR | 3467-В | , |

* Data not available



CEEL .

Reactivity effects were normal except for F and H Piles. At F Pile, an unknown amount of water leaking into the pile graphite has reduced the available reactivity considerably. At H Pile the discharge of the remainder of the H-10 load increased the available cold reactivity substantially, but also resulted in considerably cooler graphite in some regions of the pile. As a result the hot reactivity increase was quite small.

PLANT SERVICE WORK

An investigation of connector screw failures was conducted for Redox personnel. Examination of the hardened stainless steel parts which had failed under the force of impact loading revealed a steep hardness gradient along the screw at the point of failure. A low alloy steel of high impact strength is being considered as a replacement material.

Ten corrosion tests were made on stainless steels to be used in the construction of the Hot Semiworks facilities.

X-Ray diffraction studies were conducted to identify unknowns submitted by Chemical Research and Radiological Sciences.

INVENTIONS

All Pile Technology 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. 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.

Signed

G. E. McCullough

Head, Pile Technology

GEMcC:lgd



November 7, 1951

SEPARATIONS TECHNOLOGY UNIT

MONTHLY REPORT

VISITORS AND BUSINESS TRIPS

E. B Sheldon and R. L. Folger of duPont visited Hanford October 15-17 for discussions of 234 5 recovery problems.

George Watt, Consultant, University of Texas, visited here October 22-26 for research and development consultations.

- Drs. D. H. Ahmann and J. F. Flagg, Knolls Atomic Power Laboratory, visited Hanford October 22-25 regarding Redox assistance to Hanford problems.
- S. G. Thompson and W. A. Jenkins, Jr., University of California Radiation Laboratory, visited here October 24-27 and October 23-25, respectively, to work out methods for obtaining Americium.
- N. B. Garden, University of California Radiation Laboratory, visited here October 24-26 to inspect laboratory facilities and consult on problems of remote handling.
- J. T. Stringer and F. R. Roesinger attended a G.E. Bearing Committee meeting in Fort Wayne, Indiana October 8-10 and visited General Engineering Laboratory October 10 11 to discuss the G.E.L. Long Range Bearing Program.





- R. P. Smith, G. L. Flint and J. B. Work visited Mound Laboratory October 10-12 for technical discussions on coating procedures. Mr. Flint attended the American Society for Metals meeting in Detroit October 13-17. He also visited Argonne National Laboratory October 18-19 for consultations on plutonium metallurgy.
- R. E. Olson visited Stearns-Rodgers Company, Los Angeles, October 22-24 for engineering consultations on pulse generator performance.
- F. J. Leitz visited the duPont Company October 29-30 to discuss gaseous waste problems. He also visited Pennsylvania State College October 23-29 to recruit BS-MS personnel.

ORGANIZATION AND PERSONNEL

Personnel totals are as follows:

| Administration | September | October |
|----------------------|------------------|----------------|
| Administration | 2 · | 2 |
| Special Assignment | 3 | 4 |
| Research | 41 | 41 |
| Chemical Development | 82 | 7 9 |
| Process | li li | 46 |
| • | 172 | 172 |

Administrative-General: One Chemical Engineer was added as a new hire.

Research: One Chemist was added as a new hire and one Chemical Engineer was transferred to Development.

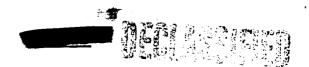
Development: One Draftsman I, one Draftsman II, one Designer II, and one Draftsman Trainee were transferred to D&C. One Chemical Engineer transferred from Research.

Process: One Chemical Engineer was added as a new hire and one Tech. Grad was transferred from Purchasing-Inspection.

BISMUTH PHOSPHATE PLANT ASSISTANCE

Canyon Buildings - 221

Both B and T Plants are operating routinely at the newly established standard concentration and volumes of 2.5 g/l bismuth in extraction, 42 per cent volume in the first decontamination cycle and 49 per cent volume in the second decontamination and cross over cycles (based on September 1, 1946 volumes). The average Canyon Building waste loss corrected for americium and curium for 95 runs (B-11-09-DR-1 through B-11-10-F-31) at B Plant processed under the new standards was 1.58 per cent compared to 1.40 per cent for the control series. The average corrected Canyon





Building waste loss for 87 runs (T-11-09-DR-1 through T-11-10-F-22) at T Plant processed under the new standards was 1.82 per cent. No abnormal process difficulties have been experienced with the new volumes.

Mercuric nitrate additions to dissolver solution (Production Test 221-T-15B and T) to suppress the evolution of radioiodine into Canyon Building exhaust ventilation air has been continued at both B and T Plants. Radioiodine evolution from metal solution containing 10^{-4} M mercuric nitrate in the dissolver at T Plant averaged 10.6 curies/24 hours/1281 curies dissolved based on eighteen samples taken down stream of the sand filter. The concentration was increased to 5 x 10^{-4} M and the evolution was reduced to 6.86 curies/24 hours/1256 curies dissolved based on six samples. The mercury concentration at T Plant was again increased to 10^{-3} M. One sample obtained with this concentration shows 1.2 curies of 1^{131} evolved per 24 hours. At B Plant the results of thirteen samples averaged 1.68 curies/24 hours/1212 curies dissolved while using 5×10^{-4} M mercuric nitrate concentration. Eleven samples taken previous to the use of mercuric nitrate at B Plant averaged 3.96 curies 1^{131} evolved to the Canyon Building ventilation air per 24 hours per 1099 curies dissolved.

The high gamma activity of 19-4 P solutions at B and T Plants contributing to the excessive activity received at the Isolation Building indicated a need for improvement of Canyon Building run decontamination. The canyon Building log of gamma decontamination factor (LDF) was consequently increased by a factor of approximately 0.20, largely through the use of a second (Ce-Zr) scavenger precipitation and centrifugation in the first cycle by-product sections. At T Plant 23 per cent UNH concentration in extraction, extended digestion periods and additional cake washing in all product sections, and rapid phosphoric acid addition in the second cycle by-product section resulted in no improvement in the decontamination. Seventeen runs processed with these special procedures resulted in an average Canyon LDF of 4.64 compared to 4.77 for the previous 36 normal runs. When the extended digestion period in all sections and extra cake wash in extraction were discontinued and the other special procedures maintained the average LDF for eleven runs returned to 4.78. A second scavenger precipitation and centrifugation procedure in the first cycle by-product sections were combined with the extra cake washing the first and second cycle product precipitations and rapid phosphoric acid addition in the second cycle by-product precipitation. The average LDF for nine runs markedly increased to 5.07. At present both plants are operating with 21 per cent UNH in extraction, two scavenger precipitations and centrifugations in the first cycle by-product sections and rapid phosphoric acid addition in the second cycle by-product sections.

The beta activity released to the ground has shown no significant increase since the combination of second cycle waste and cell drainage in the 110-111-112 cascade system in both B and T Plants.

Thé revised batch size limits specified in Recommendations for Revised Process Batch Size Limits, V. R. Cooper to File, HW-22295, were adopted on October 19, 1951 starting with Runs T-11-10-F-36 through B-11-10-D-46. The new limits



provide for 110 per cent of the previous starting batch size and 108.7 per cent of the previous maximum batch size. No apparent change in waste losses or decontamination have occurred due to the new batch size on six runs through the Canyon Building at B Plant and five runs at T Plant.

Concentration Buildings - 224

Seven runs, processed at B Plant under Production Test 224-B-6 with barium sulfate additions to the bismuth phosphate by-product step, resulted in an average maximum PR Can radioactivity reading, and log gamma decontamination factor of 136 mr/hr and 6.73 respectively compared to 293 mr/hr and 6.34 for the control runs. The total Concentration Building waste loss was 0.41 per cent for the test runs and 0.47 per cent for the standard runs. Iron analyses of the lanthanum fluoride product precipitation waste effluent averaged 0.12 and 0.13 grams per liter for test and control runs respectively; indicating that the presence of sulfate ion has not initiated severe corresion. No difficulties with barium carry-over to the Isolation Building was experienced on the runs to which barium sulfate had been added. Small amounts of barium sulfate precipitated in the Isolation Building, however, on runs following the barium sulfate addition when sulfate was not added to the run in the Concentration Building. Currently runs are being processed routinely at both plants with additions of commercial barium sulfate (USP Grade) in addition to the double precipitation and centrifugation of cerium and zirconium scavengers in the first cycle by-product step of the Canyon Building and double lanthanum fluoride precipitations and centrifugation in the lanthanum fluoride by-product step. Under these conditions the maximum FR Can radioactivity readings at B Plant have averaged 43 mr/hr. At T Plant corresponding data are 72 mr/hr average. The ten runs processed immediately preceding the use of any of these procedures averaged 277 mr/hr maximum readings.

Slow drainage of the F-10 Tank at T Plant prompted the dredging of the tank bottom with a plow-like instrument. About a quart of black grease-like crud was removed through the drain hole and collected in a stainless steel beaker. Approximately two to three quarts of 60 per cent nitric acid were added in an attempt to partially dissolve the material. Analysis showed the product content to be approximately 9 per cent of an average run. The material will be recycled to the E-4 Tank.

Isolation Buildings - 231

The fluoride content of three batches of P-1 solution was determined to be 0.4 to 0.6 g/l. It is possible that this results in high Ia content in the AT solutions which were 10,000 PPM in Ia vs. 360 to 1300 calculated on the basis of simple displacement and detection. Further data relating to this problem are being correlated.

The lead-cadmium filled "spider" in the S-1 still of Cell 4 failed by corrosion. A review of the nuclear safety provided by these "spiders" resulted in a decision to eliminate them as an adequate safety factor exists in the tank without the spider.

SR

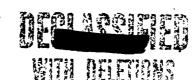


A total of 392,511 gallons of first cycle waste was evaporated to a volume of 102,440 gallons of concentrate, and 290,071 gallons of condensate were discharged through the cribs from batches T-11-09-W-43 through T-11-10-W-18. This amounts to an overall volume reduction of 74.0 per cent. An average overall evaporation rate of 642 gal/hr was maintained during this period, neglecting an 8 day shutdown for evaporator sludge heel removal.

The sludge heel in the evaporator was measured as 2300 gallons following T-11-10-W-3. After the overhead line from the evaporator to the condenser was blanked off, four acid flushes using a total of 9,000 pounds of 60 per cent HNO₃ during a period of approximately 3 days reduced the heel to 555 gallons, after which regular evaporation was resumed. Approximately 13,690 gallons of acid flush slurry were sent to the 116-TX Tank.

PURIFICATION AND FARRICATION PLANT ASSISTANCE

RG Line





Quality Control

Process Recovery

The processing of 60 lots of concentrated (SN-3) solutions by the addition of 2 lots of SN-3 per batch of SN-2, prior to the hydrogen peroxide addition and evaporation, has demonstrated a virtually complete destruction of

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oxalic acid and a more efficient removal of iodine as the volume of 50 per cent hydrogen peroxide was decreased through the range of 2.5 to 2.2 liters (an average iodine removal of 99.8 per cent was obtained with 2.2 liters of hydrogen peroxide as compared to 99.6 per cent for 2.5 liters and the previously measured value of 97.5 per cent for 2.6 liters of peroxide).

PEDOX PLANT ASSISTANCE

Operations and capacity tests on plant equipment were continued by the Separations Section. Water boil-up tests made on the Waste Concentrator, Condensate Stripper and Condensate Evaporator indicate an instantaneous capacity averaging 5.6 tons of uranium production per day for the three units based on two uranium and three plutonium cycles in operation. Water capacity test data obtained by the Separations Section are being extrapolated to metal production conditions by Redox Plant Assistance. These data will be summarized and issued at an early date in Document HW-22541 "Potential Redox Capacity", by E. R. Irish.

The sand filter was retested for pressure drop after removal of the "E" sand hold-down layer and one foot of the "G" sand. A pressure drop of 7.3 inches of water across the filter was observed at an air flow rate of 38,000 cu.ft. per min. This pressure drop is within the designed limitations as compared with the excessive 10.3-inch drop sustained prior to removal of the above sand.

During an eight day period three one-inch connector bolts were snapped off below the hexagonal head while being impacted. Metallurgical examination revealed that the vendor's annealing techniques used on the type \$40-A\$ steel created a sharp boundary between the hardened and unhardened portion of the bolts. Failures have occurred at this boundary. In view of the element of risk involved by assuming no recurrences of breakage, negotiations are currently being made with the Crane Company to replace the total of 361 one-inch stainless-steel connector bolts (two-inch and larger bolts are considered satisfactory) with type \$4140-A\$ steel. Replacements will be made in the dissolver and feed preparation cells first in order to expedite metal solution treatment studies.

URANIUM RECOVERY PLANT ASSISTANCE

The first cascade of the 241-U Tank Farm and the 244-U Process Vault has been accepted by the Separations Section with minor exceptions.

Most of the instrument testing on the graphic panel boards in 221-U Building has been completed. About 25% of the canyon tanks are in place with about 45% of the total number having been through mock-up. Practically none of the canyon piping has been installed.

Cells A and E of the 224-U Building and the pot unloading and ventilation systems have been accepted by the Separations Section with exceptions. Major exceptions include improvement of vacuum on the pot unloading system, and



incomplete lagging in A Cell. It is anticipated that calcination shakedown runs will be started during the week of November 15 using "cold" UNH solution presently stored in the 321 Building tank farm. A run plan for these initial operations has been issued by the U.R. Plant Assistance group to the Separations Section for comment.

On October 25, the preparation of the Uranium Recovery manual was about 87% complete. Four additional chapters were completed during the month, bringing the total number of chapters completed to date to seventeen. The remaining seven chapters of the manual are in the final editing stage.

REDOX AND METAL RECOVERY DEVELOPMENT

Process Studies

Two tentative Recuplex flowsheets were published during the month (No. 8C, HW-22330, and No. 12A, H.W.-22404) incorporating conditions designed to facilitate the operation of the Fenske extractor with uranium as a stand-in for plutonium. Recuplex Flowsheets HW #1 and HW #2 are currently being prepared in conjunction with Chemical Research for use in pulse columns.

Chemical Engineering Development

Recuplex Solvent-Extraction Studies. During the month twenty-eight Recuplex process solvent-extraction studies with CCl₄ as the diluent were carried out in the 20-stage, Fenske Stacked Extractor in 321 Building. These included thirteen A Extractor and eight C Extractor flooding determinations, and two A Extractor and five C Extractor stage-efficiency studies made using uranium as a stand-in for plutonium. Highlights of new findings from these studies are as follows:

- 1. Low uranium losses and adequate stage efficiencies are obtainable under the conditions of the Tentative Recuplex Flowsheet No. 8C (EW-22330) for both the A and the C Extractors, with filtered actual slag-and-crucible solution used as AF'. In the A Extractor uranium losses in 17 stages were approximately 0.03%, while estimated Murphree aqueous-phase stage efficiencies ranged from about 40% to over 90% ("overall" stage efficiencies ranged from 17% to 70%). In the C Extractor, uranium losses in 20 stages, under Flowsheet No. 8C conditions, ranged from 0.03 to 0.15%, while estimated Murphree solvent-phase stage efficiencies ranged from about 30% to 80% ("overall" stage efficiencies ranged from 9% to 65%).
- 2. The flooding performance of the extractor was highly erratic under several sets of Recupiex flowsheet conditions as well as in experiments in which pure CCl_h was contacted counter-currently with 390 g/l Al(NO₃)₃·9H₂O or with distilled water. For example, in one run (reported last month) under Flowsheet No. 8B conditions, using slagand-crucible AF' (prepared using uranium vice plutonium), with the interface at the bottom, O.31-inch amplitude, and 400-cyc/min frequency,





the extractor operated without flooding at flow rates as high as 1600 ml/min, sum of both phases. In another run made during the current report period under the same conditions, the extractor flooded at rates as low as 220 ml/min (sum of both phases).

Partly because of the above-mentioned erratic flooding behavior of the extractor and partly in view of the favorable Recuplex results obtained by Chemical Research with a one-inch-diameter pulse column, current studies in the 20-stage, Fenske Stacked Extractor were completed at the month's end and the Recuplex solvent-extraction experimental effort was redirected to a three-inch-diameter glass pulse column. While complete results of the first three-inch pulse column runs are not available at this writing, preliminary observations (with slag-and-crucible solution prepared from chemicals) indicate that the flooding capacity of the A extraction section can be as high as 500 gal/(hr)(sq ft) sum of both phases, and that the H.T.U. value ("overall water-film" basis) is approximately 1.0 ft.

Purex Pulse Column Specifications. The following report was issued during October, based on experimental studies in pilot-plant "hot" pulse columns conducted at Cak Ridge National Laboratory, and on full plant scale pulse column studies conducted at Hanford Works using unirradiated uranium:

HW-21624, Purex Pulse Column Specifications, by R. L. Stevenson and G. Sege, dated September 18, 1951.

Process Chemistry

Laboratory Filtration Studies - Recuplex Process. The studies of slag and crucible solution filtration were extended to include the use of glass cloth without filter-aid as the filter medium, in place of the sintered stainless steel plate and filter-aid used in studies reported previously. The solutions used were prepared as before, from uranium fluoride crucibles, according to the Los Alamos procedure. At filtration temperature of 85°C., an average filtration rate of 9 gal/(hr)(sq ft) was obtained using Corning Fiberglas 183 Cloth (the type used by Los Alamos), compared with 11 gal/(hr)(sq ft) for National G-201 Cloth, and 20 gal/(hr)(sq ft) for Hy-Flo Super Cel and sintered stainless steel. When Corning 183 Cloth was used at a filtration temperature of 105°C., the average filtration rate increased to 20 gal/(hr) (sq ft).

"Mini" Mixer-Settler - Recuplex Process. A series of runs was undertaken to determine the operability and rangeability of the 1/4-inch Miniature Mixer Settler under 8-B Recuplex Flowsheet conditions using uranium as a stand-in for plutonium. Entrainment of AX into the AW stream was noted at a total throughput rate of 6 ml/min and an agitator speed of 3200 rpm. Complete flooding occurred between 7 and 8 ml/min at 3200 rpm. At this agitator speed U losses in the waste ranged from 0.02 to 0.20 per cent as the throughput rate was increased from 1.2 to 7.6 ml/min. Waste losses less than 0.08 per cent (0.004 g UNH/liter) were obtained at agitator speeds of 2800 rpm or greater, at 3 ml/min total throughput rate; waste losses increased rapidly to almost 0.4 per cent (0.019 g UNH/liter) as the agitator speeds were reduced to 2200 rpm. The volume of the CCl4 layer in the settling chambers was



never sufficient for sampling purposes except at the lowest agitator speed used, 2200 rpm.

Head-End Treatment - MnO₂ Centrifugation. The Redox head-end treatment study was completed with a special run made for the benefit of the Hot semiworks group. The feed was prepared as before, according to flowsheet, and the strike was made at 75°C. The first portion of the centrifugation was done at 4150 rpm (1200 G's) without the baffle. Hold-up times of as long as 60 minutes failed to produce clear effluents, an estimated 10% of the MnO₂ being carried over with the effluent.

The second half of the batch was centrifuged under the same conditions with the baffle replaced in the centrifuge. At 1200 G's a hold-up time of 10 minutes produced a turbid effluent while residence times of 11 minutes or greater produced clear effluents. The installation of a baffle in the Hot Semiworks centrifuge has been recommended.

Mechanical Development

Filtration of Slag and Crucible Solution. Dissolution of crucibles and associated slag (from uranium reductions) has been performed in 5-crucible batches in the 321 Building semiworks equipment under conditions approximating the Los Alamos procedure. The dissolutions were accomplished without difficulty. Filtration of slag and crucible solution, using 2.5 g/l of Hy-Flo Super Cel filter aid and a 1/8 in. precoat of filter aid on an "F" porosity sintered stainless steel filter plate, was accomplished at rates which will satisfy the expected plant requirements. Silica content of the filtrate has been satisfactory, generally 10 ppm or less. The disengaging time of the filtrate (specific gravity of 1.2) when contacted with organic phase (15% TBP in CCl₁₄) ranged from 30 to 33 seconds. (The arbitrary upper limit for disengaging time is usually taken as 60 seconds for satisfactory column performance.)

Removal of the filter cake from the filter element has been accomplished by backwashing with mixed water and compressed air at 10 lb/sq.in.ga. Viscosities of water slurries of the backwashed cake have been determined using a Brookfield viscosimeter with a No. 1 spindle, and range from approximately 12 centipoises for a 6/1 volume ratio of water/settled solids to approximately 20 centipoises for a 1/1 ratio.

Corrosion Studies. Type 309, 304ELC, and 347 stainless steel, and Pyrex and cobalt glass have been evaluated by the Metallurgy group for resistance to both vapors and liquids of boiling slag and crucible dissolver solution. The evaluation was carried out by exposing the samples to 18 complete dissolution and digestion cycles carried out by the Los Alamos dissolution procedure (ANN present at the beginning of the cycle), using fragments of crucibles and associated slag from uranium fluoride reductions. Each cycle required 24 hours. Metal samples were as parent metal and parent metal sensitized by holding at 1250°F. for one hour followed by a water quench.







Except for the case of the sensitized Type 309 stainless, corrosion rates are not considered excessive (rates of penetration equal to or less than 0.003 in/mo). The higher rate of corrosion of the sensitized unstabilized Type 309 stainless steel (0.02 in/mo) would have been expected.

Potter Flow Meter. A rotating wane type of instrument (range: 3.5 to 90 gal/min) intended for installation in the cross-country waste line of the metal recovery plant, has been operated for 331 hours in concentrated, neutralized RAW at 82°C. The accuracy of flow measurement was checked against a 0 to 50 gal/min glass tube rotameter mounted in series with the Potter instrument. During the first week of operation, deviations of flow rate from average flow as measured by the rotameter were less than 2%. After one week an unexplained shift occurred and maximum deviations up to 16% from average occurred. The deviation could be attributed to inaccuracy either in the Potter meter or in the rotameter. Because of the high capacity of the Potter meter, calibration is difficult in existing equipment. A smaller Potter meter will be obtained for further development studies.

Peerless 4"-LA-No. 1. A four-stage deepwell turbine pump equipped with process-solution-lubricated cast iron bearings and an SAE 1020 cold rolled steel shaft has been evaluated in a slurry which simulated the conditions in the Metal Recovery Process slurry accumulator (200 Area underground waste). The cast iron bearings duplicate the bearing material specified for the slurry accumulator deepwell turbine pumps. The pump was operated intermittently, 8 hours on, 16 hours off, for 507 hours and for 110 hours, 1 hour on and 1 hour off, at a speed of 1750 rev/min and an unrestricted discharge flow of approximately 45 gal/min. Operation was smooth and uneventful over the entire 617 hour period.

General Engineering Laboratories Submerged Motor-Pump. A five horsepower stainless-steel-encased electric motor close-coupled to a Peerless regenerative turbine pump has operated 30 days in water at a speed of 1750 rev/min and a discharge flow rate of 4.5 gal/min. After 21 days, a defective stellite lower bearing journal was replaced with a Type 309 stainless steel sleeve. Wear of the Graphitar 41 sleeve bearings over the test period was less than 0.0005 in. The water solution has been replaced with simulated Redox 2AF (hexone absent) having a specific gravity of 1.21. The initial shut-off head is 232 ft. of pumped solution and the horsepower required at shut-off is 4.7.

HOT SEMIWORKS

Construction of the Hot Semiworks is 30 per cent complete. During the month concrete was poured for the walls and roof slab of B Cell and the six cell cover key blocks for the Hot Process Building, the ventilation air filter walls and cover blocks, the first and third floor slabs for the Solvent Handling Building, and the footings and foundation walls for the Aqueous Make-Up Building. The sanitary sewer and tile field were completed. The sanitary and raw water lines were laid and tested. Finishing of concrete walls in the Hot Process Building cells is approximately 50 per cent complete. Work was started on the outside electrical lines and equipment installation in the Gas Preparation Building.





SEPARATIONS PROCESS RESEARCH

234-5 Investigations

The use of gaseous hydrofluoric acid in 234-5 operations for converting plutonium(III) oxalate to plutonium tetrafluoride leads to many corrosion problems. An investigation into the feasibility of replacing hydrofluoric acid with a less corrosive fluorinating agent such as Freon 12 has been initiated. Freons are chemically quite inert at room temperature but are quite active fluorinating agents at temperatures of ca. 500°C. Freons 12, 22 and 114 are being investigated with uranium trioxide and ceric oxide as plutonium "stand-ins". Although a substantial amount of analytical data is still lacking, it appears as though both uranium trioxide and ceric oxide are rapidly and quantitatively converted to uranium tetrafluoride and cerous fluoride at 500°C. using Freon 12. The uranium tetrafluoride is badly caked under these conditions while the cerous fluoride is a free-flowing powder.

Recuplex Investigations

Two additional counter-current Recuplex runs have been demonstrated in the laboratory. Run #18 tested Flowsheet 11 (no aluminum nitrate in the combined Redox concentrate and Bismuth Phosphate F-10-P (CAF), slag and crucible solution (CAF) diluted with an equal volume of water, water scrubbing and sulfate stripping). Six extraction, two scrub, and six stripping stages were used with volume ratios CAS:CAF:CAF:CAX:CCX:CCP of 20:100:133:155:17:17. The plutonium losses in the CAW and CCW were 0.1% and 0.01%, respectively. The plutonium concentration in the CCF was 108 g/l. The high plutonium concentration in the CCP and the relatively high loss in the CAW was partailly due to the CAF containing 20 g/l Pu instead of the nominal 10 g/l. During the run, a study was made of the effect of varying the volume flows of CAS. At a CAS flow of 27, sufficient nitric acid was removed from the CAP to cause plutonium to precipitate in the CCP (the CCP should be ca. 1 M HNO2 to prevent plutonium precipitation); at a CAS flow of 17, plutonium losses to the CCW were excessive. Examination of the stage data indicated that aluminum nitrate should be present in the CAF.

Run #19 tested Flowsheet 13 (plutonium reflux-type operation). Seven extraction, one scrub and six strip stages were used, with volume ratios CAS:CAF:CAF:CAX:CCX:CCP of 28:100:114:128:43:14. The plutonium losses in the CAW and CCW were 0.01% and 0.006%, respectively.

Data on the decomposition of carbon tetrachloride due to alpha bombardment indicate that chloride is formed at ca. 0.01 g/l/hr at 22 g/l Pu in the organic phase which contained 15% TRP. Data also indicate that the CCP stream might contain a maximum of ca. 0.2 g/l Cl.

Work is in progress on the analysis of silica residues from slag and crucible dissolution.





Recuplex Process - Pulse Column Studies

The applicability of the pulse column to the Recuplex Process was satisfactorily demonstrated under extraction column (CA) conditions. Good operability was observed at a volume velocity of 600 gal/sq.ft./hr. and flooding was approached at 800 gal/sq.ft./hr. An HTU of approximately 1.0 ft. was calculated for uranium from a run with 15% THP in carbon tetrachloride, an "undiluted" feed-scrub solution and an organic to aqueous flow ratio of 1/3. The corresponding uranium loss for the 1-in. diameter x 65-in. column was approximately 0.5% of the feed.

On the basis of the uranium stripping runs reported in HW-19145 more difficulty can be expected in the stripping operation than in the extraction process. The poor stripping is due largely to the great density difference between the phases which results in a short residence time (large throughput capacity) but small transfer. Column studies are under way with compound plates with 0.027" diameter holes.

Adsorption Decontamination of the Redox IAU Stream

Activated alumina has been found to adsorb fission products from a hexone solution corresponding to Redox IAU with a decontamination factor of 100 for gross beta and 100 for gross gamma. These decontamination factors held for a capacity of 80 volumes of organic stream to 1 volume of adsorbent at which point a breakthrough seemed to occur. Cerium, zirconium and niobium were particularly well adsorbed. Uranium was only slightly adsorbed and could be quantitatively stripped by a dilute HNO3 in hexone solution. Plutonium(VI) adsorption was similar to that for uranium. Plutonium(IV) was strongly adsorbed, but could be stripped by tributylphosphate. Preliminary experiments indicate that the alumina can be decontaminated by aqueous washes and then reactivated.

Pulse Column Research

Since wettability of plates is an important property relative to column throughput and coalescence, it is significant that flame sprayed polythene is preferentially water wet in the Purex Process system. Double-faced plates of stainless steel-fluorothene perform more satisfactorily in the valve-actuated pulse column than do double plates with one side flame sprayed with polythene. A fluorothene surface obtained from a fluorothene emulsion paint was also found to be strongly organic wet. Teflon has been reported in the literature as being neither aqueous nor organic wet. These observations suggest that a more thorough investigation should be made on surface wetting characteristics of various possible materials of construction since all earlier research on double-faced plates by the Chemical Research group has been done with plates made from fluorothene sheet.

Solvent Research

Tetraethyl ethylene diphosphonate is miscible with water and forms an insoluble compound with uranyl nitrate. Diethyl trichloromethyl phosphonate hydrolyzes slowly in the presence of water.





Both cyclic and linear silicones have been investigated as diluents for tributyl phosphate. Silicones of low viscosity were chosen for study since these should give good column throughput capacity, but these same silicenes have a relatively low flash point such that they are not significantly less flammable than hydrocarbons of the kerosene class. Uranium extraction behavior by TEP is about the same when diluted by silicones as when diluted by hydrocarbons or carbon tetrachloride. Fission product decontamination does not appear to be as good with silicones as with carbon tetrachloride. Viscons, high-boiling silicones, are not satisfactory as diluents due to the formation of three liquid phases in the presence of uranyl nitrate and tributylphosphate.

Purex Decontamination As A Function of Acidity

A study has been conducted to determine whether an improvement of decontamination would result from operation of the Purex extraction column under acid deficient conditions with aluminum nitrate replacing nitric acid as salting agent, i.e., conditions analagous to the acid deficient Redox IA Flowsheet. The distribution behavior of uranium, plutonium(IV), plutonium (VI), gross beta activity and gross gamma activity, as well as certain specific fission products (ruthenium, zircopium, niobium and cerium) into 30% THP-AMSCO 125-90W was determined as a function of acidity and salting strength. Aluminum nitrate concentrations ranged from 0.50, to 1.5 M for acidities of 0.5, 0.2, 0, -0.1 and -0.2 M.

The results indicated that the distribution of ruthenium, zirconium and niobium into the organic phase decreased with decreasing acidity but increased with $Al(NO_3)_3$ concentration. The distribution coefficients, E2, of uranium and of plutonium(VI) were also somewhat lower from acid deficient conditions; however, a separation factor, defined as the uranium or plutonium(VI) distribution ratio divided by the corresponding fission product distribution ratio, was, in the case of ruthenium, about one hundred fold higher for 0.2 M acid deficient solutions than for solutions of the same $Al(NO_3)_3$ concentrations but 0.2 M in nitric acid. The extraction of zirconium and niobium from the acid deficient solutions was too small to permit meaningful analyses. The data indicated that recovery of the plutonium, as well as uranium, can be obtained from 0.2 M acid deficient solutions about 1 M in $Al(NO_3)_3$, provided the plutonium is maintained in the +6 oxidation state.

The Scavenging of Fission Products From Process Streams

It has been found possible to remove about one third of the gross gamma activity and almost all of the ruthenium activity from aqueous uranium solutions by the precipitation of copper sulfide. Thus, passage of hydregen sulfide for two hours through a solution 1 M UNH, 0.5 M HNO3, 0.025 M Cu(NO3)3 containing 2% Hanford level fission product activity (about seven months old) precipitated 99.82% of the active ruthenium, yielding a ruthenium decontamination factor of 580. A repetition of the experiment gave a ruthenium decontamination factor of 600. Other experiments indicated that higher UNH concentrations and lower acidities resulted



in somewhat poorer ruthenium removal. Upon prolonged passage of hydrogen sulfide, some plutonium was precipitated; however, this was removed by washing the copper sulfide precipitate with dilute nitric acid. Analysis of two such precipitates for plutonium, after washing, showed that only 0.3 and 0.025%, respectively, of the initial plutonium was associated with the precipitate.

Ion Exchange Decontamination of Redox Concentrator Distillates

A beta decontamination factor of about 20 was obtained when a solution simulating the combined distillate from the various concentrators in the Redox Flant was passed through an hydrogen-free Dowex-50 (cation exchanger) resin column. When the effluent from this column was then passed through an hydroxylform TRA-400 (anion exchanger) column, an additional beta decontamination factor of about 100 was obtained, giving an over-all beta decontamination factor of about 2000 for the two columns. This compares to an expected decontamination factor of about 400 for the second evaporation stage in the Redox Plant.

At the volume flow rates used in these laboratory experiments, beds containing 10 to 15 cubic feet of each resin would be adequate to process the output of concentrator distillates from the Redox Plant. To date, about 2400 gallons of solution per cubic foot of resin have been passed through the columns without appreciable change in the decontamination factor.

Heat Generation in Redox Waste Storage Tanks

Calculations show that, if 600 MWD 60 day cooled uranium is processed in the Redox Plant, the heat generated by radioactive decay in the concentrated, neutralized aqueous waste will be sufficient to evaporate two to three thousand gallons of water per day per storage tank (750,000 gallons) at the time the tank is filled. In laboratory experiments on the evaporation of concentrated, neutralized, aqueous Redox wastes, a concentration factor greater than two was obtained before the mixture solidified at near the boiling point. Thus, an appreciable saving in storage tank space could be made if the water evaporated by the heat generated within the tank was removed and discharged to ground instead of refluxed as is presently planned. Means whereby such distillates could be economically removed, further decontaminated if necessary, and discharged to ground are under consideration.

Decontamination of Bismuth Phosphate Process Second Cycle Waste

Addition of 0.03 M Cu⁺⁺ to acidic Second Cycle Bismuth Phosphate waste produced a substantial improvement in the decontamination obtained on subsequent neutralization and removal of alkaline insoluble materials; improvement factors (DF obtained on neutralization in the presence of copper/DF obtained on neutralization in the absence of copper) as high as 20 were obtained, producing a supernatant containing about 1.5 uc per liter. Most favorable results were obtained when the waste was neutralized to a pH about seven.

Precipitation of cupric sulfide in the acidic waste was not effective in removing activities present.



234-5 PROCESS DEVELOPMENT

Plutonium Peroxide Process

Seven experiments, in each of which a 0.5 g quantity of plutonium was precipitated as the peroxide have shown a decrease in the bulk density of the alcohol washed, peroxide filter-cake with an increase in strike temperature, the values ranging from 0.41 g/cc Pu at 20°C. to 0.21 at 50°C. An increase in sulfate concentration from 0.15 to 0.5 M was also accompanied by a decrease in bulk density, from 0.41 g/cc Pu to 0.30. It appears from these preliminary experiments that present plant conditions for the second cycle peroxide precipitations are nearly optimum with respect to obtaining small filter cake volumes.

Spectrochemical analyses of buttons from hydrofluorinated peroxides prepared by precipitation from partially neutralized simulated IIHP solutions (10-12.5~g/l Pu), indicate metal resulting from material processed through a single plutonium peroxide strike will give adequate purity with respect to those impurities which are expected to be present in the Redox IIHP streams.

Methanol used in the washing of plutonium peroxide cakes, increases the ease of handling of the peroxide and resulting PuF_{ij} . It does dissolve appreciable quantities of plutonium and would have to be recycled with the H_2O_2 supernates to the 224 Building where it would be oxidized with $KMnO_{ij}$. One liter of methanol is used per batch of peroxide, but one half that liter is held-up by the cake—Consequently, it will be necessary to destroy only one-half liter of methanol per batch of peroxide.

Plutonium(IV) Oxalate

Five laboratory runs were processed from plutonium nitrate to plutonium metal by way of $Pu(C_2O_{\frac{1}{4}})_2$ and $PuF_{\frac{1}{4}}$ to determine the effect of solution temperature and sulfate concentration upon precipitation losses and oxalate properties and to determine the purity of metal obtained from AT solution by this procedure Oxalate precipitated at temperatures of 40 to 65°C. settled more rapidly, filtered more rapidly and had slightly lower plutonium losses (0.14 - 0.20 per cent) than an exalate precipitated at room temperature (0.23 per cent). Precipitation of Pu(IV) exalate from a simulated Recuplex product solution containing 0.6 M sulfate resulted in a loss of 3.65 per cent. A single run simulating RG line wet chemistry conditions wherein Pu(IV) exalate was precipitated instead of Pu(III) exalate resulted in a loss of 0.5 per cent and a cake density of 0.5 g Pu/ml.

Two Recuplex product samples were received from Chemical Research and processed to plutonium metal. One, a plutonium nitrate solution prepared by reflux-type Flowsheet #10, behaved normally through a peroxide precipitation and subsequent dry chemistry, giving a 92 per cent metal reduction yield. The other, a sample of Pu(III) oxalate resulting from slag and crucible recovery, behaved abnormally during the hydrofluorination and gave a metal yield of only 78 per cent.





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Plutonium material balances from the dissolution of thirty laboratory-scale reduction curcibles with their associated slag have shown that the Los Alamos procedure of dissolving with a nitric acid-aluminum nitrate solution may leave as much as 50 per cent of the plutonium undissolved. Dissolution with 6 to 12 M HNO3 with an average digestion time of two hours has given 100 per cent recoveries and offers hope of a process which will permit the silica residues to be discarded without further treatment.

Attempts to strike material balances for plutonium in those experiments in which the Los Alamos procedure was used have thus far failed to show better than a 61 per cent recovery. Of the plutonium recovered, 33 to 53 per cent has been found in the silica residue by a process of digestion with concentrated HI, followed by hydrofluorination. An early experiment in which six crucibles were dissolved in 10-11 M HNO3 containing only 0.25 M ANN gave an 83 per cent recovery of the plutonium assigned to these particular reduction residues.

The solutions resulting from dissolution in mitric acid contain rather high HF concentrations (up to 0.6 M) and pose a corrosion problem. Two crude experiments, dissolving a laboratory crucible in 6 M HNO3 and producing a solution containing 0.2 M HF, gave corrosion rates for stainless steel coupons in the liquid phase as follows:

| Stainless Type 347 | 180-192 | Mil | penetrat | ion/year |
|-------------------------|---------|-----|----------|----------|
| Stainless Type 309 SCb. | 147 | 11 | 11 | 11 |
| Stainless Type 309 | 250-350 | n | 17 | 11 |
| Pyrex glass Type | 175 | 11 | II . | 11 |

It is possible that corrosion can be controlled by reducing the F concentration with ANN to the point where its attack upon the dissolver will be unimportant, but where it will still be effective in dissolving Pu metal and oxides. It is planned to investigate this possibility.

RM Line Assistance

To obtain data on the effect of leakage of hood air into the hydrofluorination furnaces of the RM line, four plutonium peroxide samples were hydrofluorinated with controlled leaks of oxygen or air of known moisture content, and the resulting fluorides were reduced to plutonium metal. It was concluded that the entry of any moist air into the furnaces would be undesirable but that an air leak equivalent to as much as 25 per cent of the furnace gas flow could be tolerated without lowered reduction yields - although rough surfaces of the buttons indicated the probability of increased losses. If, as now appears probable, higher rates of air leakage exist, lowering of the moisture content of hood air might reduce plutonium losses.

Plutonium - lanthanum separation by plutonium peroxide precipitation

A preliminary investigation of the plutonium peroxide process used in the Isolation Building indicates that fluoride ion, found present in three samples of P-1 solution in concentrations of 0.3 - 0.5 g/l, has no effect upon the separation of lanthanum from plutonium.





Removal of HF from air

The studies on HF removal from an air stream by sodium fluoride and charceal systems were completed. The maximum efficient capacity of the charcoal for HF absorption was 0.1 gram HF/gram of charcoal. The total capacity of the sodium fluoride absorber was higher (0.4 to 0.5 gram HF/gram NaF), but prevention of channelling in bed formation proved difficult.

Recuplex process

Equipment arrangement studies have demonstrated that the Recuplex processing equipment can be installed in Room 221 of the 234-5 Building.

A comprehensive report, which will present the five phases of the Recuplex feasibility investigation, i.e., dissolution and solution preparation of the slag and crucible material, solvent extraction process, waste treatment, corrosion studies, and the adequacy of the 234-5 Building facilities to accommodate the processing equipment, is in preparation.

INVENTIONS

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

| J. | F. | Facer, | |
|----|----|--------|--|
|----|----|--------|--|

B. Weidenbaum

Report of Invention - "The Dissolution of Flutonium from Metal Processing Wastes"

I. M. Rehn

The Use of Adsorbents for Decontaminating Organic Streams Containing Uranium and/or Plutonium.

R. L. Moore

The Use of Cupric Sulfide as a Scavenger for Ruthenium.

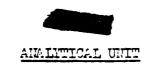
P. M. Brown W. H. Reas 235 Operations. The Replacement of Hydriodic Acid by Hydrogen Peroxide or Other Reducing Agents.

R. B. Richards, Head

Separations Technology Unit

RER/fmf

10/8/51



OCTOBER 1951

November 7, 1951

VISITORS AND BUSINESS TRIPS

- R. B. Fenninger and R. J. Hale of the du Pont Company, Wilmington, Delaware, and Aiken, South Carolina, respectively, spent October 1-4 at the Hanford Works studying laboratory equipment, construction and analytical methods.
- J. F. Flagg, KAPL, was here October 23-24 to discuss the separation of impurities in uranium.
- T. E. Usher, General Engineering Laboratory, Schenectady, spent October 29-31 at Hanford discussing mass spectrometer work.
- R. J. Browns spent October 1 at the Consolidated Engineering Corporation, Pasadena, California, discussing mass spectrometer design.
- A. H. Bushey spent October 8-9 at Los Alamos Scientific Laboratory, Los Alamos, New Mexico, discussing P-10 product specifications.
- M. B. Leboeuf spent October 29-30 at ORNL in consultation on the latest developments in counting instrumentation.

ORGANIZATION AND PERSONNEL

Personnel totals in the subdivisions are summerized as follows:

| | • | September 30 | October 31 |
|---|--------------|----------------|----------------|
| Analytical Service Analytical Research Administrative | DECLASSIFIED | 335 37 3 | 333 37 3 |
| Unit Totals | | 375 | 373 |



ANALYTICAL SERVICE

General

Effective October 1, the Chemical Development Service Laboratory and Chemical Research Service Laboratory were combined to form a single sub-group of the 300 Area Control and Special Services group. The nomenclature, Research and Development Service Laboratories, will be used.

Work Volume Statistics

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

| | September | | October | | |
|--------------------------|-----------|----------------|---------|----------------|--|
| | Samples | Determinations | Samples | Determinations | |
| Process Control - 200 | 5,743 | 13,612 | 5,171 | 13,024 | |
| Process Control - 300 | 594 | 941 | 663 | 1,198 | |
| Water Control - 100, 700 | 975 | 3,888 | 1,526 | 4,370 | |
| Research & Dev. Programs | 1,360 | 3,133 | 1,873 | 3,648 | |
| P-10 Control | 198 | 1,975 | 429 | 4,282 | |
| Process Reagents | 2,456 | 3,477 | 2,031 | 2,671 | |
| Essential Materials | 882 | 1,625 | 237 | 985 | |
| Special Samples | 329 | 4,409 | 417 | 5,630 | |
| Totals | 12,537 | 33,060 | 12,347 | 35,808 | |

After a one-week shutdown in September, the P-10 laboratory returned to normal operation. This major factor, plus gradual increases in research and development, canning operation and special spectrographic work accounts for the increase in analytical workload.

100 Area Control

The Production Test No. 105-473-P was initiated at 100-F Area on October 10 for the purpose of confirming tests which indicated that the capacity of the 100 Area filter plants could be increased by employing alum as a coagulant rather than the currently used forri-floc. Of major importance were the concurrent effects of alum congulated process water on pile tube film formation and effluent water activity. It was necessary to provide analytical assistance on a 24 hour/day basis for two weeks at which time normal operating conditions were attained and straight day laboratory operations were resumed.

Plans have been made to replace the motor driven magnetic field supply on the Consolidated Neir mass spectrometer because of the frequent shutdowns due to motor burn-out. An electromagnet whose field intensity can be varied with the input voltage will be installed as soon as the new G. E. spectrometer is operating satisfactorily.

Forty-two samples of mixture gases, (He-CO, He-CO, He-O, N2-O, and N2-CO2) were analyzed with the P-10 mass spectrometer at the request of the Pile Technology Unit in support of the graphite burn-out test being carried on at 100-D Area.



S



200 Areas Control (Separation and Motal Fabrication Processes)

Annilytical assistance was provided in tracing a leak in the 221-T Building which was disclosed by high levels of activity in the cell drainage waste water. Other special service analyses showed that the nitric acid used to transfer the waste from the 242-T evaporator had not acidified the bulk of the waste solution in the storage tank.

Difficulties with the Falling Drop apparatus for specific gravity determinations at the 222-B Building Laboratory (September report) have been evereement and the apparatus is again in good working order. An immersion type heater and mixer with a scaled nercury control was installed to replace the electronic control and heater. The shaft arm lifting motor was also replaced because of worm goars.

Statistical evaluation of data from the analyses of the last 138 AT samples showed that the checking limit on deplicate iron determinations should be increased from ± 2.0% to ± 3.2% of the average result. This change was placed in effect September 18 and will decrease the number of reruns without reducing the accuracy of the plutonium assay which is corrected for iron content.

At the request of the Sepretions Technology Unit, a proposed "Elutricated Filter Aid" procedure is being checked in the 231 Building Laboratory. A measurement of the settling rate of the hyflo supercel in water will determine if this filter aid has had sufficient washing to remove the very finely divided fiber threads and thus allow for faster settling time and reduce the possibility of plugging the filter blocks. Another request for special analytical service from this group concerned the determination of barium by counting and spectrographic means, barium being added as a scavenger in the 224 Building.

A major effort has been expended to refine the plutonium specification assay procedure used in the 234-5 Building Laboratory. Two persons per shift were assigned to the procedure and a rigorous training program imagurated. Although the number of reruns is still high (approx. 35%) some improvement has been shown since adoption of the training program, new rerun limits, routine titrant standardization, inspection of equipment, etc. However, because of the limited number of experienced personnel in the laboratory as a whole, the backlog of analytical work has not yet been reduced.

To check the possibility that unknown impurities or tantalum might be the cause of the pits and inclusions observed in the metal castings, complete spectrographic analysis of all button samples previously submitted during the month and tantalum analysis on runs Z11-9-47 and Z11-9-52 were requested by the Separations Technology Unit. Tantalum was separated from plutonium by the addition of HF to an HCl solution of the sample. The plutonium precipitated as the fluoride while the tantalum remained in solution. Spectrographic analysis of this solution compared to similarly treated spiked samples and standards gave conclusive evidence that tantalum was not present to more than 100 ppm.

Spectrographic service was provided on several other fronts. Two of the recently submitted P-11 samples gave evidence of precipitation upon standing but did not show abnormal impurity contents. One AT and one second cycle product cake solution sample from the 231 Building were submitted by Separations Technology Unit for complete spectrographic amplysis, with cadmium and load of

particular interest, the analytical results confirmed previous suspicions that the spider in the still had correded. Spectrographic analysis of run T-48, the last run processed prior to discovery of the difficulty, as compared to run B-56, processed in different equipment, revealed no abnormal impurity content. Another example of special service comprised the determination of chromium and aluminum contamination level on 41 simulated Redox Process samples, the data to be used by the Separations Technology Unit in evaluating the possibility of coupling Redox and 234-5 Processes with one intermediate peroxide precipitation.

Flushing of the R. M. line at the 234-5 Building with nitric acid of varying concentrations was performed during the month to check sampling techniques, agitation, etc. Twenty-six samples were submitted to the laboratory for analysis.

200 Area Control (Extraction Processes)

The target date for the start of "cold" runs in the 202-S Building has been set back to December 1, 1951. This should enable the Inboratory to be in a better position to provide service utilizing the equipment designed for "hot" runs, and thus gain valuable information on the operability of the equipment without its being exposed to contamination.

The major repositioning moves of Junior Caves, Sectional Fume Hoods, and Auxiliary Exhausts in Roems 4-A and 4-B were completed during the month, and the rooms are now ready for installation of the Amplytical Line equipment. Assembly and testing of the Oil-Displacement Primary Sampler, Falling Drop Specific Gravity Apparatus, Dilution Track and Tunnels, etc. began on October 24, 1951. All equipment needed for the complete assembly of one line is on hand except for the timing units for the Falling Drop Apparatus which are scheduled for November 15 delivery.

The X-Ray Photometer and Hanford Fluorimeter were received and are being calibrated. All Analytical Unit counting instruments are now in operation. Geometry and shift standard tests are being made routinely on the ASP instruments, and shift standard tests are being made routinely on the ASO and BGO instruments. Some difficulty has been encountered in obtaining geometry results within the limits $(50.5 \pm .15)$, on three of the ASP instruments; however, this trouble should be resolved shortly. Calibration data for the Shonka instrument have been completed, and the instrument is ready for use.

The laboratory has received method write-ups for all analytical determinations on radioactive samples except those listed below. Preparation of these write-ups will be expedited by development personnel so that training in these methods can be conducted in November.

- 1. Specific Gravity by Falling Drop Method
- 2. KMnO4 and MnO2 for the Various Feed Preparation Samples
- 3. No by the Flame Photometer
- 4. Fe (II) and Fe (III) for the Waste Treatment Samples
- 5. Na₂Cr₂O₇ by Spectrophotometer

The Process branch of the Separations Technology Unit has requested analytical work in connection with Recuplex runs wherein unapply is used as a restant in for





plutenium in the slag and crucibles. Applicable methods for the requested uranium, silicon, magnesium, and calcium determinations are available and steps are being taken to provide the equipment, methods and personnel needed for this work.

300 Area Centrol and Special Services

Several new standard plates for impurities in uranium have been prepared by the Spectrographic Central group. By using CP chemical exides mixed with the uranium and gallium carrier, the time consuming and difficult handling of solutions was eliminated together with inherent inaccuracies. The limit of sensitivity has been reduced for the elements listed below. The possibility of obtaining some high purity uranium in the near future will enable even further lewering of the limits.

| | 014 | New |
|----|-------|---------|
| Cđ | 1 ppm | 0.2 ppm |
| Co | 100 " | 10 " |
| Mg | 10 " | 1 " |
| Mn | 5 " | 2 " |
| Mo | 20 " | 10 " |

An investigation of spectrographic methods for determining Fe and Si in uranium metal and oxides is being made to circumvent the lengthy wet chemical
methods. Lower sensitivities of approximately 50 ppm have been obtained for
Fe and Si. Standard spectrographic curves based on analytical data from wet
chemical methods are being prepared for the determination of boron in boron
steel alloys, the application of which should reduce analytical time considerably.

Aluminum nitrate assay again became a problem on the basis of poor analytical checks between the Hanford Works Essential Material Laboratory and the General Chemical Co., Hedges Works Laboratory. At a meeting arranged by the Purchasing group with a representative from the New York office of the General Chemical Co. and the plant chemist from Hedges, it was agreed that their method of calculation was once again in error. This was quite obvious since a factor had been emitted due to a typographical error. Some question as to the validity of one of their standards was also admitted. The situation is expected to clear up with verification of the new calculation by their Standards Laboratory.

The investigation of the cause for the discolored floor tile in 222-S Building has been completed. Results of comparative studies of carbon tetrachloride extracts from the Stafes scalar, Rebbins floor adhesive, discolored tile, and a control tile indicates quite definitely that the scalar was causing the difficulty. Employing a Cary Recording Spectrophotometer, identical curves were obtained in the ultraviolet region from the Stafes scalar and the discolored tile. The major absorption bands which checked were 3775A, 3590A, 3380A, 3225A, and 2900A; these points according to American Petroleum Institute data compare favorably with 4-9 Dimethylpyrene. The curves from the Robbins adhesive and the control tile showed absorption lines similar to those obtained from the carbon tetrachloride. It was determined that floor waxes and cleaners had no effect, but that ultraviolet light from fluorescent lighting fixtures caused a slight surface discoloration.



Research on the activity coefficients of UNE in the presence of other salts in extraction columns has continued within the Separations Technology Unit. At present sodium nitrate is under consideration. As a result, a large number of samples are being submitted to the Research and Development Service Laboratory for sodium determination with no more than 1% bias and 1% difference in duplicate determinations expected. The gravimetric method for sodium, using zinc uranyl acetate, has been quite satisfactory, recoveries on standards being 99.6% and duplicate determinations agreeing within 0.2%.

Many unusual analytical services were rendered during the month. Several instances follow. Three more samples of boron stainless steel were received from the Reactor group for boron analysis; results were slightly lower than the values reported by Esco Co. but within specifications set by the Reactor group. Potassium in blood serum was determined for the Clinical Laboratory of Kadlec Hospital; the standard gravimetric procedure with zinc uranyl acetate was used. Several samples of Sand and Anthrofilt have been received from the various 100 Areas Fower groups for particle size by sieve analysis. Two cylinders of Argon gas from the 300 Area Slug Preparation group were submitted for oxygen and water analysis to see if one of these two ingredients might be responsible for poor welding. No oxygen or moisture was found in either cylinder. A sample of Limonite, which is to be used as an aggregate for high density concrete shielding, was submitted by the Reactor group for complete analysis. A sample ingot of tin recovered from Hanford scrap by the U.S. Bureau of Mines was submitted through the Purchasing group for specification analysis. Results showed that the tin assay was 0.3% below the specification of 99.9%; other impurities determined (Cd, S) were found to be within specification. An experimental slug can from ORNL ruptured in the pile and a high cesium content was anticipated in the cooling water. The laboratory confirmed this by showing that virtually all activity was due to cesium.

Methods Control

The following table summarizes the results of the routine geometry determinations made on all of the ASP and IDL counters in the Area Control Laboratories. These geometries are based on plutonium mounted on platinum discs which were calibrated with the ASVP chambers used prior to May, 1951 using the "pie plate" technique. With these discs the accepted value for the ASP units is 50.5% ± 0.15. The IDL instruments are maintained at a geometry which will give stable operating characteristics.

| | Alpha | Counter Stand | ardizations | | |
|----------------|-------------|----------------|-------------|----------------|-----------|
| | | Septo | nber | Octob | er |
| Laboratory | Instrument | Av. Geometry | No. Tests | Av. Geometry | No. Tests |
| 3706 | ASP | 50.48 | 34 | 50.45 | . 73 |
| | IDL | 50 .5 0 | 19 | 50 . 46 | 20 |
| 222 - B | ASP | 50.47 | 77 | 50.51 | 104 |
| 222 -T | ASP | 50.48 | 113 | 50.50 | 117 |
| 231 | ASP | 50.50 | 57 | 50.51 | 58 |
| 234-5 | IDL-1 | 51.02 | 7 | Out of Se | rvice |
| | IDT-S | 50.99 | 3 | 50.97 | 27 |
| | IDL-3 | 51.07 | 29 | 50.88 | 29 |
| | ASP | 50.47 | 16 | 50.50 | 32 |
| | | T. | nrai | AMAITIFA | |



The investigation to determine the geometry of the ASP instruments for plutonium mounted on stainless steel was continued. This geometry is one of the factors required in order to convert the laboratory data on plutonium analyses to a gram basis. Two steps were involved in this investigation: (1) the counting of stainless steel discs with ca. 1.5 x 10⁵ d/m in both the ASVP and ASP instruments, and (2) the standardization of plutonium solutions using the ASVP instrument and subsequent analysis of these solutions by control laboratory personnel using the area laboratory ASP instruments. The first step gives a direct geometry comparison which is expected to be free of any errors due to the manipulations required in aliquoting and in mounting the plutonium on the steinless steel discs. The second would include these errors and the difference would be a measure of any bias in the analytical method.

In establishing geometries, four stainless steel discs were prepared having ca. 1.5 x 105 d/m of plutonium mounted in the center of the disc in a circle having a diameter of 0.9 cm. To measure any possible effect due to area over which the activity is spread, four additional discs were prepared similar to the first set but with the plutonium mounted in a circle of 1.9 cm diameter. The ASVP instrument is known to be affected by the area of the source, however, the ungnitude of this effect can be calculated and an appropriate correction applied. The use of two different source areas permits evaluation of the validity of this calculated correction. The eight discs were counted on the two ASVP instruments in 3706 Building using the new vacuum attachments which incorporate improvements in design recommended by UCRL. Thereafter they were counted on all of the laboratory ASP instruments. The results, expressed as geometry of the ASP instruments, are tabulated below:

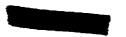
| Laboratory | Av. Geometry of ASP | 5 Precision | | |
|------------|---------------------|-------------|--|--|
| 231 | 50.000 ± 0.205 | ± 0.410% | | |
| 222-B | 49.924 ± 0.199 | ± 0.398% | | |
| 222-T | 49.954 ± 0.201 | ± 0.402% | | |
| Overall | 49.953 ± 0.193 | ± 0.386% | | |

A statistical evaluation of the data indicated a slight lack of precision in the ASVP calibration at the very low counting rates which was due to an electronic disturbance. The variance between types of discs (large and small mounts) was smaller than the expected counting error, indicating the calculated correction for area of source is correct for the ASVP instrument and area of source has negligible effect on the ASP instrument.

For the second step, a pureplutenium solution (ca. 9 g Pu/l) was standardized in the 3706 Bldg. Laboratory by five chemists, each mounting 25 micro liter aliquots of the solution on four stainless steel discs. A dilution of this solution of ca. 1/10 was made and this diluted solution standardized in the same manner. The same two ASVP instruments were used in this standardization as for the calibration of the eight stainless steel discs used in the first step.

Calibration of Pu Solution on ASVP Instruments

| : | Av. Value d/m/ml | Proc. of Av. Value |
|-------------------|--------------------------|--------------------|
| Original Standard | 1.4179 x 10 ⁹ | ± 0.228% |
| Diluted Standard | 1.7062 x 10 ⁸ | ± 0.370% |





In the 231 Building Laboratory twelve analysts prepared two primary dilutions each by diluting 100 micro liters of the original standard to 10 ml., a secondary dilution from each primary by diluting one ml. to 10 ml., and mounting 50 micro liter aliquots from each secondary dilution on two stainless steel discs.

Aliquets of the diluted standard were analyzed in the 222-B and 222-T Laboratories by 30 analysts each proparing two dilutions of 25 micro liters to 10 ml. using 5 N nitric acid as diluent and mounting two 25 micro liter aliquets from each dilution on stainless steel discs. The above procedure was repeated using a diluent containing 3.3 g/l of uranium, 5 N in nitric acid, and 0.02 N in sulfuric acid, thus permitting evaluation of the effect of the major constituents of the 6-3-MS sample on the plutonium assay. The results obtained in this latter step were corrected for the alpha count due to the uranium.

Results of Amalysis by Area Laboratories of Solution Standardized on ASVP

| Laboratory | Solution | Av. Volue | % Proc. Av. | Av. Geometry |
|------------------|-----------------------------------|--|-------------------------------|--|
| 231 | Original | 6.9915×10^8 | ± 0.290 | 49.310 ± 0.182 |
| 222 - T | Dil. No U Dil. U present Dil. Av. | 8.4445 x 10 ⁷ 8.4386 x 10 ⁷ 8.4416 x 10 ⁷ | ± 1.000 ± 0.90 ± 0.84 | 49.493 ± 0.528 49.459 ± 0.491 49.476 ± 0.454 |
| 222 - B | Dil. No U Dil. U present Dil. Av. | 8.4945 x 10 ⁷ 8.4578 x 10 ⁷ 8.4762 x 10 ⁷ | ± 1.434 ± 1.471 ± 1.368 | 49.786 ± 0.737 49.571 ± 0.752 49.679 ± 0.704 |
| 222-T & 222-B | Av. | 8.4577 x 10 ⁷ | ± 0.835 | 49.571 ± 0.453 |

Ratio Geom. by Same Disc (ASP/ASVP) to Geom. by Same Solution (True Geom./Apparent Geom.)

| Laboratory | Sclution Sclution | Ratio | Prec. Ratio |
|---------------|-------------------|--------|-------------|
| 231 | Original | 1.0140 | ± n.nn55 |
| 222-T | Dil. Av. | 1.0097 | ± 0.0102 |
| 222-B | Dil. Av. | 1.0049 | ± 0.0149 |
| 222-T & 222-B | Dil. Av. | 1.0074 | ± 0.0095 |

The analysis of the solution standardized on the ASVP instruments gave "apparent" geometries for the ASP's somewhat lower than the "true" geometries obtained by the counting of discs standardized on the same ASVP instruments. Also, as expected, there was greater variation in the results. Statistical evaluation indicated the chemist to be major source of error in 222-T and 222-B Laboratories; the variance in dilution and disc preparation, while also significant, was of lesser magnitude. The major source of error in the 231 Laboratory was disc preparation. Of major interest was the fact no significant difference was detected between the dilutions prepared with 5 M nitric acid and those containing uranium and sulfuric acid in addition, thus confirming Analytical Research work which indicated the backscattering from stainless steel is not affected by the presence of uranium.





South of the



Analytical Unit

From the foregoing it is concluded that the geometry of the ASP counting instruments should be revised from 50.5% to 50.0% when stainless steel discs are employed as a sample mounting medium. Further a factor should be applied to each laboratory building control results to compensate for the still unexplained bias in the method.

Statistical analysis of the above standard sample data indicates that reported process control results on starting and ending (6-3-MS and AT) Separations Process solutions have precisions with respect to the true value (after within-laboratory correction for systematic bias) as follows:

| Laboratory | Solution | Prec. Rep. Answer |
|------------|----------|-------------------|
| 231 | AT | ± 1.01% |
| 222-T | 6-3-MS | ± 3.13% |
| 222-B | 6-3-MS | ± 4.00% |

Another factor used in converting laboratory results from c/n/ml to grams of Pu is the specific activity of the plutenium. A comparison of the specific activity computed using 50.5% geometry and a 2% correction factor for stainless steel (equivalent to using a 49.50% geometry) with that given by the curve now in plant use relating TPC/TU to specific activity is given below:

| Run Scries | B-11-09 | T-11-09 | B & T-11-09 |
|--|----------|----------|-------------|
| No. Determinations Av. % Difference % Proc. Individual % Proc. Average | 62 | 62 | 126 |
| | + 1.053% | + 1.577% | + 1.324% |
| | ± 3.63% | ± 4.77% | ± 4.25% |
| | ± 0.46% | ± 0.60% | ± 0.39% |

Revision of the geometry of the ASP instruments from the present 50.5% on platinum (49.5% on stainless steel) will require revision of the plant curve relating specific activity to TPC/TU.

The recovery of plutonium from analytical wastes of the 234-5 Laboratory continued in a normal manner. During the month 505 grams were processed.

Safety and Special Hazards Control

In a return to normalcy, a sharp drop from 23 to 12 minor injuries in the control laboratories was noted. The evacuation of all buildings during fire drill tests was satisfactory. Steam boths have been installed in the 271-T and -B laboratories for evaporation of salvents. Steps have been taken to drive out poisonous spiders from several of the laboratory locker rooms. Safety and Special Hazards procedural arrangements have been agreed upon by the group occupants of the 222-S Building Laboratory.

Data on laboratory survey and contamination are surmarized below:

| | 555-B | 222-T | <u>231</u> | 234-5 | R & D |
|---|-------|-------|------------|-------|-------|
| No. Days N. C. W. | 31 | 41 | 14 | 28 | 9 |
| % No Contamination Work | 3.0 | 3.8 | | 1 2.4 | |
| Survey Work (Hours) | 186 | 231 | 89 | 99 | 65 |
| Non-Regulated Items Contaminated | 155 | 102 | 510 | 112 | 5 |
| No. Cases Floor Contamination | 15 | 11 | 42 | 17 | 0 |
| Air Contamination - No. Above Tolerance | | | | | |
| Alpha | 2 | 0 | C | 3 | 0 |
| Beta | Ú | Ó | 0 | · • | 0 |

The cases of above telerance air samples were not reported by the Survey Services Unit at the time the condition was noted, thus making it impossible to ascertain the exact cause. However, it is known that no unusual incidents occurred and that correct techniques and standard procedures were being followed.

At the 222-T Laboratory a carton of used stainless steel discs being carried to the Dry Waste Crib for disposal slipped from the carrying tongs, fell, and contaminated the black-top walkway up to 760 mrep/hour including 10 mr/hr. No personnel contamination resulted and the walkway was easily cleaned under a formal SWP.

One plastic and two paper type disposable SWP coveralls were tested in the 231 Building Laboratory. From the results of the tests it was concluded that none of the apparel would be satisfactory for laboratory use. Essentially, the high degree of flammability, transparency and ineffective resistance to normal laboratory analytical reagents make the clothing unacceptable for the proposed use.

ANALYTICAL RESEARCH

Metal Recovery Process

Some months ago a group of samples consisting of uranium oxide and oxide spiked with beta or gamma emitters was distributed for radiocounting assay to the K-25, Hanford and KAPL Laboratories. The results have now been evaluated. The purpose of the study was to evaluate counting techniques at K-25 and Hanford so that fission product analysis of uranium oxide shipped from the former site would be on a common basis. Each of the three laboratories employed a somewhat different beta instrument geometry, and although the instruments were calibrated against a standard radium disc in each case, widely different beta counts were obtained. A recalculation of the results in such a way as to relate the fission product beta count to the beta count obtained from the sample of oxide in equilibrium with its daughter products brought the results into much better agreement, especially in these cases where the beta activity was of high energy. Nevertheless, the results emphasized the need for employing identical instrument geometry if results are to correlate. The poor precision obtained at each site stresses the need for investigating mounting techniques and agreeing on a common procedure. Some preliminary work on the letter line at Hanford has served to evaluate the extent to which the presence of uranium oxide attenuates beta and gamma radiations of various energies. Comparative gamma counting results showed a satisfactory agreement between K-25 and Hanford, in both of which cases the Shonka counter was employed. KAPL results obtained with the scintillation counter differed appreciably, especially in those cases where ACC higher gamma energies were involved.



Continuing research on the method for separating fission products from uranium (which contains the beta-gamma activity U-237) and uranium daughters has led to an improvement in the technique previously described in that the entire separation may be effected chromatographically by use of a single wash solution rather than two separate ones. A sample containing 100 mg. of uranium in 250 ul. may be treated with an acetane-nitric acid mixture on a paper pulp column so as to remove all of the uranium and all but 1% of the uranium daughter activity; subsequent flushing with acid leads to the recovery of 87% of the fission product.

It has been supposed that the difficulty encountered with the fission product analysis of uranium exide has been peculiar to Hanford because U-237 would decay and the uranium daughters would build up to normal content by the time shipped material was ready for processing at Oak Ridge. Discussions with Oak Ridge personnel during the month revealed that it is their intent to analyze the same lot samples as analyzed at Hanford and to do so immediately on receipt of such samples. The difficulty with such an analysis was described to them with the promise that full information on the procedure developed would be forwarded.

The BET apparatus for determination of specific surface of uranium oxide product by means of gas adsorption techniques has been completely assembled and found to work satisfactorily. Duplicate measurements on a sample of graphite yielded results of 2.17 and 2.28 m²/g., which values agree well with those obtained by similar analyses in the Pile Technology Unit. Standard samples of known specific surface have been requested from the Bureau of Standards and from K-25. A recent literature reference describes a simplified gas adsorption apparatus for making specific surface measurements; a unit of this type is being constructed with the hope that it will provide results of satisfactory precision and accuracy and so allow the considerable time savings that would accompany its use in routine determinations.

Examination of various methods suitable for determining chloride in recovered nitric acid led to the selection of a turbidometric technique which is rapid and applicable.

The mass spectrometer ordered for isotopic analysis of uranium exide product is presently scheduled to be shipped Nevember 15. Difficulties with the instrument encountered by the manufacturer and at the K-25 laboratory have apparently been eliminated so that little further trouble is expected. Equipment for conversion of samples to uranium fluoride has been prepared, and a chemist from the group is visiting K-25 to familiarize himself with details of the isotopic assay.

Redox Process

Continued work with coulometric uranium procedures has included a systematic study of possible interferences and of improved indicator electrode systems. Preliminary work indicates highly satisfactory endpoint detection by means of a dead stop endpoint, using polarized electrodes; the system gives extremely sharp breaks and eliminates difficulty inherent in the use of a calomel reference electrode in solutions at elevated temperature. Previous experience with coulometric titrations of acid proved that exceptionally sharp endpoint breaks could be obtained if acidic aluminum solutions were treated with exclate to precipitate the aluminum and then titrated in a 70% isopropyl alcohol medium.



Difficulty was encountered because of occlusion of acid in the precipitate; this trouble appears to have been eliminated by a modified technique which tends to bring down the precipitate in a highly crystalline form free from occluded acid.

The improved model Beckman flame photometer was tested for its application to the determination of sodium and was found to be very satisfactory. The procedure for determination of sodium in Redox streams is thus available and will be ready for inboratory application as soon as construction of the necessary gloved box is complete.

A method for evaluating the solids content of Redox hoad-end samples has been selected; it involves centrifuging a micro sample in a small centrifuge cone and reading with a cathotometer the depth of solid deposited. To aid in the estimation of the colloid content of Redox streams, a newly developed, highly sensitive reflectance meter has been ordered. A group of small, fixed depth cells for use on the X-Ray Photometer has been ordered, and immediate partial delivery was promised after a misinterpretation of specifications by the supplier was corrected by telephone conversations. Following discussion with G.E.L. personnel regarding the construction of a custom-made X-Ray Photometer for use in plutonium and uranium determinations, a set of specifications was drawn up and is being submitted. During discussions with Los Alamos laboratory personnel it was learned that that laboratory had placed an order for a conventional model photometer; since the Hanford design is equally applicable to Los Alamos, it was agreed that the latter site would order a custom-built instrument to take advantage of the modifications of value in heavy metal analysis.

The previously accepted method for determination of low-level plutonium in many Redox and Metal Recovery streams consisted of a lanthanum fluoride-metathesis procedure. Further consideration suggested that a double lenthanum procedure with intervening dissolution by zirconium offered considerable advantage in speed; this technique is being checked for each of its possible applications. The successful application of a direct mounting plutonium radioassay on several Bismuth Phosphate Process streams suggested its application to IBP analysis and this possibility is being examined.

P-10 Process

The G.E. Mass Spectrometer, purchased for the analysis of P-10 samples, was brought into reasonably satisfactory operating condition, and a G.E.L. field representative was invited to make a final inspection. Minor difficulties involving amplifior instability, non-linear sensitivity to sample pressure ratio, and out-dated circuit diagrams have been corrected by him. His examination revealed, however, that the source supplied with the instrument was faulty, and as a result, he has wired for a replacement unit which will be received during the first week in November. It is expected that immediately thereafter final acceptance of the instrument will be made so that calculation factors may be determined, and comparative results may be obtained between the two available mass spectrometers. The design of an automatic focusing system is being considered at G.E.L. with the intent that an appropriate unit will be constructed and installed at a later date. A metal manifold, capable of handling each of the various types of gaseous sample containers, is being installed in the hood



Analytical Unit

so that tritium-containing samples may be analyzed in the immediate future.



234-5 Process

The Leeds & Northrup Direct Reading Spectrometer on field trial at Hanford has been improved by the installation of modified parts supplied by the company. Application of the instrument to the excitation of various 234-5 and metallurgical samples revealed the fact that available excitation sources were not suitable for use with a scanning type spectrometer, since they introduced considerable short-term instability. As a consequence, an offer tendered by Leeds and Northrup to supply on field trial a newly developed excitation source is being accepted, so that the development of various spectrometer applications, including use of the hollow cathode technique, may be continued.

Pile Technology Problems

The infrared analyzer purchased for the determination of moisture in connection with an in-pile study of the graphite-oxide system equilibrium was found to be unsatisfactory and was returned to the supplier for repair. Upon its return to Hanford, it will be calibrated in the 3706 Building Gas Laboratory where gas standard equipment has been erected.

The alpha pulse analyzer was employed in a service capacity to aid in distinguishing between samples of natural and depleted uranium foil obtained for use in the pile flux measurement program. The natural sample was easily identified and found to contain the normal complement of uranium isotopes. The depleted sample showed no U-235, but by assuming that U-235 and U-234 were depleted equally, it was calculated that the content of the former was about 0.035%.

General

A number of months ago the Analytical Research group undertook a program of radioactive counter research. Since that time, through study of the literature and contact with personnel from other sites, a research program has been outlined, and various necessary instruments have been designed or purchased. During the past month a standard ASP alpha counter with a vacuum attachment to allow absolute determination of alpha counts has been obtained, construction was started on a total ion chamber, and a G.E. beta-gamma scintillation counter has been received. Receipt of the latter at this time is very opportune, since it offers the most desirable method for gamma counting of uranium oxide product. A scanning device that will allow the study of the distribution of alpha emitters on platted discs was designed and is being constructed. Other counting research problems receiving attention include the use of Shonka counters for continuous monitoring of Redox and Metal Recovery streams and evaluation of the accuracy of counting procedures through initiation of a sample exchange program with UCRL.

13

Degrad Field

Analytical Unit

Previous observations regarding the non-homogeneity of aluminum-silicon samples have led to an examination of procedures for casting these samples. It was learned that the discs are not chill-cast as intended because of the tendency to form mechanically imperfect specimens. The problem is receiving the joint attention of the metallurgical and analytical groups in order to develop procedures that will yield homogeneous, mechanically perfect discs.

INVENTIONS

All Analytical Unit 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 October 1951 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(S)

TITLE

N. T. Hildreth and

A Multichannel High-Vacuum Valve

C. R. McCully

(This invention report will be filed by N. T. Hildreth)

Signed:

F. W. Albaugh, Unit Head

7. W. albang

FWA: 1tc



TECHNICAL SERVICES UNIT

OCTOBER 1951

VISITORS & BUSILESS TRIPS

There were no off-site visitors sponsored by the Technical Services Unit during the month.

Business trips of Technical Services personnel were as follows:

C. G. Stevenson spent October 16-20 at the Argonne National Laboratory attending the meetings of the Technical Information Panel.

ORGANIZATION AND PERSONNEL

Personnel totals in the several subdivisions are summarized as follows:

| | Sep tember | - 30 | October 31 |
|--|---------------------|-----------------|----------------------------|
| Engineering Technical Information Mathematics Administrative | 72 84 31 3 | : | 66 84 30 <u>4</u> |
| . Unit Totals | 190 | | 184 |

Effective October 15, T. W. Hauff transferred to the Manufacturing Department as Manager - Process. J. W. Underwood assumed the duties of Acting Unit Head of this Unit on that date.

Nine draftsmen and designers were transferred to D & C Management Services following the plant-wide policy to place all employees in these classifications in one central group.

Included in the October 31 figures are thirteen rotational trainees, eight being assigned to Laboratory Equipment Design, four to the Computing Laboratory, and one on loan from Technical General. This represents an addition of three during October.

LNGINEERING SERVICES

Mechanical Shops (Bldg. 1717-D, 3706 and 222-S)

Work volume statistics for the Mechanical Shops are as follows:





Technical Services Unit

| | | Septe | | octo | |
|--|---|------------------------|--------------------------|-------------------|-----------------------------------|
| | or Program | No. of Jobs | Hours | No. of | Hours |
| Work Done on | P-10 | 18 | 382 | 19 | 286 |
| Jobs Completed | Pile Tech. (Incl. P-12) (a) Separations Tech. Analytical Technical Services | 34 16 19 14 | 473 530 637 332 | 19 26 10 | 487 680 549 328 |
| : | Others Sub-Total | 104 | 2,406 | 86 | $\frac{1}{2,331}$ |
| Work Done on Jobs Not | P-10 Pile Tech. (Incl. | , 4 | 68 | , 3 , | 381 |
| Completed | P-12) Separations Tech. Analytical Technical Services | 5 7 6 5 | 121 364 291 356 | 8 14 7 6 | 165 520 232 252 |
| 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | Others Sub-Total | 27. | 1,200 | 39 | 1,556 |
| Total Work Done | | | 3,606 | | 3,882 (|
| Work Backlog: | | | | | n-Hours Complet |
| Jobs Started | P-10 Pile Tech. (Incl. | 4 | 239 | 3 | 247 |
| ing section of the section is a section of the section of the section is a section of the sectio | P-12) Separations Tech. Analytical | 5 7 6 5 | 316 362 481 | 8 14 7 | 625 262 218 |
| ogen (de la company) de terminal de la company de la c La company de la company d | Technical Services Others Sub-Total | 5 - 27 | 265 1,663 | 1 39 | 170 19 1,541 |
| Jobs Not Yet | P-10 Pile Tecn. (Incl. | . 1 | 104 | _ | - 155 |
| n in the second | P-12) Separations Tech. Analytical Technical Services Others Sub-Total | 1 7 8 1 22 | 8 . 161 299 1 | 16 2 16 | 257 656 117 123 1,608 |
| Total Backlog | | | 2,251 | γ.; | 3,149 (|

(a) P-12 designates the Exponential Pile Project.
(b) Does not include 193 hours cross-ordered to Maintenance.
(c) Does not include 901 hours backlog on work orders for P-10 work closed out or cancelled in October.



Technical Services Unit

Work orders for the P-10 program totaling approximately 900 man-hours were closed out or cancelled during the month of October; however, work orders submitted on other programs increased the backlog at month end to 3,149 man-hours. This total represents an approximate 17 day backlog. Work forecasts furnished by the Technical Units indicate the necessity for a six-day work week will continue, as assistance from the Manufacturing Department shops is now limited to the 100 and 200 Areas shops. Accordingly, the Metal Preparation Section has been requested to continue the six-day work week for their supervisors and craftsmen assigned to Bldgs. 1717-D, 3706 and 222-S.

Six special leak-proof containers for the in-pile atmosphere experiments were fabricated for the Pile Applications program, and an additional thirteen containers have been requested. These containers are fabricated from 2-S aluminum and must be heliarc welded and leak tested before use.

A metal Toepler pump was completed for Pile Applications as a part of Project C-410.

A 15-cell variable speed counter current batch extractor for Chemical Research is approximately 85% complete. This second unit is similar to the one completed last month but is designed to allow complete remote operation. The second miniature mixer settler for Chemical Research was completed during the month. The feed and mixing settling systems were revised on this model. A water jacket for a 1" diameter pulse column for beta gamma work was completed for Chemical Research and is being installed in Bldg. 222-S. This unit, approximately 14 ft. long, is water tight and required scaled joints of lucite and aluminum.

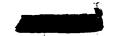
Homalite was used to replace the contaminated lucite front window of the 9 ft. gloved box installed in Bldg. 3706. Considerable shops work was necessary to develop methods for fabricating this new plastic which is more brittle than the lucite previously installed. This new plastic is said to have greater corrosive resistance, does not discolor and will not mark or scratch easily. The brass glove ports incorporated in this box were replaced with lucite ports. A plywood "coffin" was fabricated for the disposal of the contaminated lucite window.

A third miniature mixer settler is being fabricated for Chemical Development. Irawings suitable to permit release of this fabrication work to other shops are not available.

A remote control pipetter for the Analytical line in Bldg. 222-S was completed and is now being installed. The unit was developed for Analytical Services by the Mechanical Shops and Laboratory Equipment Design. A second unit will be constructed after the installation and testing of the present unit. No drawings are available at the present time.

One falling drop unit for Analytical Services-Bldg. 222-S was completed and is being installed. Work on the second unit has been suspended pending the testing of the first unit. This unit is part of the analytical line.

Two organic waste strippers were completed for Laboratory Services-Bldg. 222-S, and fabrication of 100 vacuum filter assemblies has been completed for this



group. Each of the vacuum filter assemblies consisted of two circular pieces of stainless steel wire screen inserted in a rubber grommet approximately 12" in diameter. Special grommets for these assemblies were molded from raw neoprene at a cost of \$1 each.

A spectrophotometer beam intensity reducer for Analytical Research has been fabricated and delivered. The device consists of a series of four stainless steel screens molded in an adjustable holder and spring loaded to return to a fixed position.

Work was started on a chemical slug stripping apparatus for Metallurgy. apparatus will allow five slugs, either his, 8" or 10" long, to be rotated axially or moved vertically or horizontally in either of three separate baths. Completion will be delayed pending receipt of parts.

The dynamic corrosion tester previously fabricated for Metallurgy is being revised. The drive mechanism has been changed from a gear reduction to a chain and sprocket drive. This device is a multiple shaker unit capable of handling several specimens. Revisions are approximately 90% complete.

The first lower service panel for the Bldg. 222-S multicurie cell was completed during the month. The panel consists of a lead-filled modular block steel frame in which various service pipes and tubes have been cast. This unit was constructed at the request of Laboratory Equipment Design in connection with their multicurie cell program.

The study of metal to ceramic brazing has been continued intermittently during the month. No tests have been run to date, however some of the necessary equipment has been fabricated. The possibility of molding and welding teflon is also being investigated.

* ,A degreaser has been installed in Bldg. 1717-D and is now in operation. A painter has been added to the shop staff and is being given special training in the application of new strippable coatings.

Glass Shop

Work volume statistics for the Glass Snop (exclusive of P-10 services) are as follows:

| | September | October |
|-----------------|-----------|------------------|
| Jobs Completed | | |
| New Repairs | 78 114 | 70 10 |
| Revisions Total | <u>10</u> | <u>19</u> .99 |

In addition, 3 Palladium valves were fabricated for the P-10





| | | | September | October |
|-------------|----|-------|-----------|---------|
| Job Backlog | ٠. | • , . | 11 | 22 |

These figures do not include 5 jobs requiring quartz fabrication.

During the month the glass blowing force assigned to P-10 at Bldg. 108-B was reduced by one. No cases of personnel exposure above working limits were reported during the month.

Completion of a special room in Bldg. 3706 for boron-free quartz work is pending delivery of a new glass working lathe. All other work has been completed.

Equipment Design

Work volume statistics for Equipment Design, expressed in man-hours, are summarized as follows:

| | September | | Octobe | |
|--|---------------|----------------------|--------------|------------------------|
| • | Engineering | Drafting & Misc. | Engineering | Drefting & Misc. |
| Pile Technology Engineering Metallurgy P-10 Pile Applications | 37 10 - | 296 83 - 48 | 32 8 8 | 367 25 32 101 |
| Separations Technology Development Research | 16 153 | 153 | 孙 36 | 43 649 |
| Analytical Service Research | 316 20 | 318 | 184 | 921 |
| Technical Services Engineering | - | - | · | 54 |
| Laboratory Equipment De elopment (RDA #TC-5) | <u>538</u> | 255 | 832 | 296 |
| Totals | 1,090 | 1,153 | 1,152 | 2,488* |

*Includes 1,421 hours of drafting time.

On October 1 the designers and draftsmen in Laboratory Equipment Design were transferred to the D & C Services Unit. These personnel will continue in Equipment Design work on an assigned basis.

Relatively high workloads continued in connection with design and scoping of equipment for the multicurie cells and analytical laboratories of Bldg. 222-S.

Add to the Marian of



The following work was done for the various customer groups, as indicated:

Pile Engineering

Engineering assistance was given on drafting of the activated silica system, film test apparatus, gas pump and various graphs.

Metallurgy

Assistance was given on drafting of the uniscan machine and the manipulator for the hot cell.

P-10

Assistance was given on drafting of the vacuum selector valve.

Pile Applications

Engineering assistance was given on drafting of the clamping jew.

Chemical Development

Assistance was given on the air hoist panel, sextet panel, and truck and hanger assembly, all for the Bldg. 222-S multicurie cells.

Chemical Research

Work continued on the alpha and beta pulse columns, and allied equipment. Ingineering assistance was given on the pump development program, counter current batch extractor, gloved box air lock equipment, and replacement of the lucite window on the 9 ft. gloved box installed in Bldg. 3706, with Homalite.

Analytical Services

Engineering assistance continued on installation and outfitting of the gloved boxes for Blog. 222-S, and the Analytical Line equipment. The 12-place magnetic stirrer was redesigned to reduce its cost.

Laboratory Equipment Development (RDA #TC-5)

Development of Bldg. 222-5 multicurie cell equipment and the slave type manipulator continued. Preparation of the equipment decontamination facilities at Bldg. 222-5 was started. One engineer each continued under this RDA in the development of remote-control radiochemical equipment for Chemical Research, Chemical Development, and Analytical Services.

New Laboratory Planning

Redox Analytical and Plant assistance Laboratory, Proj. C-187-E

The ventilation system for Bldg. 222-S, the Redox Analytical and Plant Assistance Laboratory, was accepted from the contractors on October 16



Technical Services Unit



with minor exceptions. Final construction acceptance is now complete and laboratory equipment is being readied for operation. Design work for temporary subdivision of a portion of the multicurie wing for use as laboratories (Phase II) is now complete. Investigation into-the causes of the yellow discoloration of the marbelized white rubber tile floor covering continued. Preliminary laboratory analysis indicates the discoloration may be the result of improper drying of the sealer.

Mechanical Development Bldg., Proj. C-406

Negotiations with the Dix Steel Building Co. for Architect-Engineer services on Phase II interior outfitting of this building are expected to be completed early in November.

Radiochemistry Bldg., Proj. C-381

Field construction continued on the Radiochemistry Bldg. The basement walls are nearing completion and the stack base and a portion of the entry way have been cast.

Plot Plan & Utilities, Proj. C-394

Bid assemblies on the Plot Plan & Utilities (exclusive of the Badge House). and sewage disposal facilities for the Works Laboratory Area were made available to the contractors on October 3 and bids are to be opened on November 7.

Radiometallurgy Bldg., Proj. C-385

Bid assemblies covering this work and including construction of the Pile Technology Bldg. were opened on October 10. The L. H. Hoffman Construction Co., Portland, Oregon, was apparent low bidder for the construction of both buildings with their combined bid of \$2,840,000.

Pile Technology Bldg., Proj. C-414

As stated above, the bids for construction of this building were opened October 10. Bids are now being analyzed and award of the contract is expected early in November.

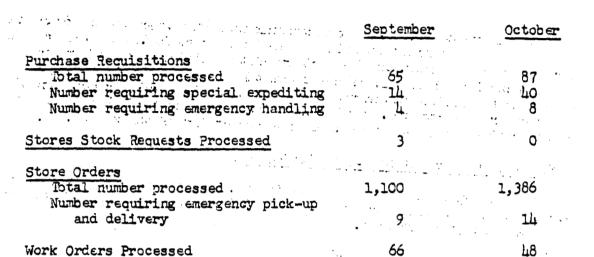
Library & Files Bldg., Proj. C-421

Construction of this facility has been started and concrete work on the footings is essentially complete. Laboratory Services

Bldg. 3706

Normal Bldg. 3706 services continued routinely. Material control, stockroom and work order activity is summarized as follows:





work was started on the remodeling of Offices 88, 90 and 92 in Bldg. 3706 for the Analytical Unit. Expansion of the present catalog file is underway. The file will be expanded to include all available catalogs on chemicals, laboratory supplies and appearatus.

Bldg. 222-S

Final adjustments for balancing of the heating and ventilating systems were completed on the 15th. Inspection of previous exceptions resulted in reducing the remaining construction requirements to equipment replacement which will be done as new units are received. Installation of laboratory equipment was started immediately upon final acceptance and is progressing rapidly in both the Analytical and Separations Technology Unit laboratories. Plans for the use of radioactive materials in both development work and analytical training have been initiated and regulations for contamination control and personnel protection will be enforced starting early in November.

Use of the "Hot Storage" waste system during initial operation will be dependent upon tank capacity in Bldg. 219-S. This waste will be processed by the Separations Section in Bldg. 202-3, when that building is complete but they are not now able to properly handle radioactive materials. It is estimated that it will be approximately one month before such service will be available. The four exhaust fans in Bldg. 222-S will require balancing when replacement pulleys for the fan shafts are received. This work will necessitate shutdown of the building exhaust and sealing of all units containing radioactive materials for approximately one week.

The eight test squares of white marbelized rubber floor title which were laid in September, as part of the investigation into the cause of the yellow discoloration experience in the rest of the building, show no discoloration to date. A more complete chemical analysis of samples of title, mastic and seal by the Analytical Unit has been made but no official report has been issued to date.

Numerous withdrawals from the stockroom were made as the laboratories in the building started into operation. Training of personnel in the decontemity nation facility continued. A total of 29 work orders were issued for new



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and maintenance work.

MATHEMATICAL SERVICES

Statistical Services

A means of predicting U-235 content of uncanned fuel slugs from reactivity in the 305 Test Pile was developed by fitting a hyperbolic equation to the analysis of four dissolved pieces. Data from fifteen additional fuel slugs revealed no density versus reactivity correlation, but an Oak Ridge quantitative elemental analysis versus reactivity relationship did exist (Document HW-22574).

A statistical study was begun to determine the effect of canning bath compositions, temperatures, and submersion time on the base thickness (non-seat rejects), and minimum can wall thickness (penetration of aluminum-silicon) of canned uranium slugs. Expansion data pertaining to bare, canned, and stripped uranium slugs tested in the dilatometer under variable conditions were analyzed statistically. A mathematical method was derived whereby expansion-temperature change equations may be obtained routinely. The Metal Preparation Section was informed that currently canned uranium slugs have increased in length and decreased in diameter as compared with 1950 dimensions.

Statistical controls were reported on Metal Preparation Section results from Machining, Pickling, Canning and Autoclave, Test Pile, and Melt Plant. Continued aid was given the Metal Preparation Section in setting up an efficient statistical quality control inspection system for 300 Area processes. At the request of the Metal Preparation Section an experiment was designed to test the relative efficiency of technical and non-technical operators in obtaining results from the 305 Test Pile.

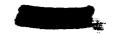
Statistical assistance was rendered at a conference held by the New York Operations Office and Hanford Works personnel in the planning of a correlation study of uranium impurities and 305 Test Pile functional tests.

A complete investigation of pile failures, including correlation studies involving factors not heretofore considered, was begun at the request of the Pile Technology Unit. In connection with this study, a distribution of the power per slug in B, D, DR, and F piles was made up from equilibrium temperature maps as of approximately August 15. An investigation of the number of failures versus the number of scrams and outages was completed for the Reactor Section.

Some theoretical aspects of the calibration of a mass spectrometer were considered at the request of the P-10 group. At the request of the Pile Engineering group, a study was begun of the relationship of various thermocouples within and between B, D, and F piles. A new system of weighing slugs was developed in connection with the Water Quality program which will permit the determination of slug weights with much greater precision than was previously possible.

- The regular semi-monthly reports of certain Kr-85 computations were completed and forwarded to the AEC. The requested re-evaluation of present

9



computations was completed, and results were forwarded to the AEC. The method of re-calculation was based on pile power data, as have all previous calculations. As of September 30, 1951, the re-evaluation differed by less than 0.1% from the figure previously reported for that date. This indicates that no significant numerical errors have been incurred in the routine calculations since April 30, 1950, the date of the original evaluation by this power data method. Comments, as requested by the AEC, on a critique of (1) the current basis and (2) proposals for more accurate bases for the computations are being prepared, with the cooperation of the Pile Technology.

For the Separations Technology Unit, an examination of operating limits for checking the plutonium assay of isolation process starting solutions (P-1) was undertaken. This problem is the result of recent high incidence of reruns on P-1 samples, and of the fact that the majority of these reruns confirmed the original analyses. Decision to rerun has been based on plutonium content of the run as measured in the LaF by-product precipitator (D-1) in the concentration process. Other possibly more satisfactory bases are being investigated. The regular report of 200 Area analytical Laboratory performance was is sued.

The statistical analysis of radiological and chemical effects on growth of red kidney bean plants was completed during the month and a report is being prepared. For the Biology Section, experimental data on the uptake of strontium by barley roots in the presence of other elements are being analyzed. Best fitting linear equations have been obtained relating the reciprocal of the velocity of uptake to the reciprocal of the strontium concentration. Tests of certain hypotheses concerning the constants in these equations are being made in order to determine the effect on strontium uptake due to the other elements. A preliminary investigation for the Biology Section has been undertaken to describe mathematically certain effects of phosphorous 31 and 32 on the growth of algae.

A survey was completed for the Hadiological Sciences Department in connection with a study on the availability of their personnel in an emergency situation. By means of a mail questionnaire poll, a tabulation was made of the number of persons at home at every nour between 1700 and 0700 on week days, and all day on Saturday and Sunday. A definite weekly pattern of "at home" tendency was statistically indicated. Charts were derived to estimate the number of persons expected to be at home at any of the hours under consideration, as well as the number of persons who would have to be called to assure at least twenty of them being at home at any hour.

At the request of Wage Administration, curves are being fitted to various data which have been collected through a national wage survey. Work was completed on a statistical investigation into the problem of missing documents.

Computing Services

The second card programmed electronic calculator was delivered this month. The new model is more flexible because of the enlarged control panel provided. A general purpose 8/10 digit fixed decimal control panel has been wired for the new calculator. All functions of the first calculator are





Technical Services Unit

included in the new panel so that any work from the old calculator can be done on the new one also. The reverse, of course, will not be true.

Mathematical work is continuing for the Theoretical Physicists. An analysis of the source and sink densities adjacent to a missing slug on the basis of transport theory is nearing completion. A mathematical analysis of a cubic pile in an infinite reflector is nearing completion. This is a boundary value problem with the boundary values at infinity being represented by series approximations. A complex source function has been tabulated with an interval of 0.1 and fit with an asymptotic expression for large values of the argument.

An equation relating the abundance of the product isotope of the H-10 loading with flux and target cross section was evaluated for various values of flux and cross section. Another equation relating this product concentration to the time of exposure and decay of each run and shut down during the time spent in the pile was evaluated to determine target cross section. A new technique has been applied to the least square curve fitting of the cosine series for project P-12. Sixty-six cases have been computed using the new program.

A study of long term reactivity gains was completed for the physicists. Two temperature maps were printed from 105 DR data. Roots were obtained of twenty, fourth order polynomials for the graphite program. Eight cases of boiling disease calculations were completed. A summary of all panellit data for the H-10 loading and a tube-by-tube power distribution for all areas except H were prepared for the statisticians. Receiving and transmission reports have been prepared for SF Accountability materials involved in H-10 loading. An extensive calculation was made on radio analysis counter geometry equations.

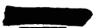
Electronic calculator control panels have been wired for punching and checking a calculation to be performed for the Financial Department IBM installation. Between 100,000 and 200,000 cards will be processed during the coming month.

Routine calculations were completed on: netecrology data for the months June, July, and August; radio analysis and thyroid data for the sheep experiment; aquatic biology (including similar calculations for the United States Public Health Service); metal Quality; Graphite calculations; Special request exposures for 105-H.

Mathematical Technique Development (TC-6)

The project of reviewing the statistical literature as appearing in the recent issues of Biometrika, The Annals of Mathematical Statistics, and the American Statistical Association Journal was nearly completed. Those articles with possible application in our work that have appeared in these periodicals from 1938 to the present time have been abstracted and catalogued.

Two experiments were designed and the techniques for the analyses determined. One experiment dealt with the weighing of slugs and a design for the weighing was determined so that the variance of the weighings was reduced. The second experiment dealt with the calibration of a mass spectrometer.



A research problem relative to the separating of measurements errors into components was begun and some progress toward the solution was made. A research project on parameter and distribution free techniques was begun. It is anticipated that a paper will be compiled, complete in itself, dealing with types and solutions of typical statistical problems which are adaptable to these techniques. A satisfactory solution for the problem dealing with upper and lower tolerance limits for a lot of size N as mentioned in the September report was determined and partially tabulated for various lot and sample sizes.

Tables of the exponential integral and the sine and cosine integrals are in process of punching and verification. Sub-routines for modified Bessel functions have been completed for values of the argument less than 4.0, and for cosine for values less than 90 degrees. A sub-routine for giving values of the Klein-Nishinia Cross Section Function has been programmed.

TECHNICAL INFORMATION SERVICES

Plant Library

Library work volume and book statistics were as follows:

| | | | September | October |
|-----|--|-----------------|--------------|-------------------------|
| | Number of books on order received Number of books fully cataloged | | 274 367 | 234 118 |
| | Number of bound periodicals proce fully cataloged | | 62 | 97 |
| | Pamphlets added to the pamphlet f Miscellaneous material, received, | processed and | 531 | 36 |
| | routed (Including maps, reprint etc.) | ts, patents, | 100 | 50 |
| | Books and periodicals circulated Unclassified reports processed | | 3,995 181 | 4,194 200 |
| . • | Unclassified reports circulated Reference services rendered | | 278 1,651 | 291 1,270 |
| | Inter-library loans Photostats from offsite | 4 | 15 26 | 13 67 |
| | lain Lib | orary W-10 Libr | ery . 108-F | Library Total |
| | Number of books Number of bound periodicals 4,940 | | | 409 12,014 512 5,552 |

An acquisitions-catalog librarian was added to the staff, ending an eighteen month search for a professional cataloger with adequate technical background.

12,992

The volume of reference work continued heavy. A sampling of typical reference questions, covering many fields of technical literature is given below:

3,553

1,021

Totals



Technical Services Unit

Biological effects of gamma dosimetry. Types of reheat steam turbines for use in prime movers. Adsorbent for O which will not absorb Ho. Fiberglass wools as filter media. Radioactivity of pile effluent water. Types of strain gauges, and specifications. Diatomaceous earth as a filter. Decomposition of water by alpha particles. Effects of molten Zn, Pb and Sn on stainless steel. Radioactivity of fission products. Capture cross sections of H_2 , C, O_2 , and Fe for 10 MeV neutrons. Chemistry of F and its compounds. X-ray and fluoroscopic techniques for analysis of ceramic materials. Heat exchangers for reactors. Methods of determination of trace quantities of CO2. Design of city halls for small communities. Compressibility of deuterium. Table of isotopes arranged by half lives. Industrial television systems. Bibliography on mass spectrometers. Solubility of terphenyl in disxane. Explosibility of silvering solutions. Calculation of elastic effect of end forces on a solid cylinder. Micro-analysis of moisture in gases. Explosion limits of a mixed solvent. Formula for diphenylthiocarbazide. Radiation effects on plastics.

The periodicals binding is proceeding on a more nearly current basis. Routine overdue notices on copies routed from the Library has reduced the number of losses. The development of a file of bindery information has expedited the work. Form letters to publishers have supplied many missing indexes and periodic searches among dealers have supplied many missing issues. In this connection, a notable addition to the library's bound periodical collection was a long run of "Strahlentherapie," a basic German periodical in the field of radiology.

Classified Files

Work volume statistics for the Classified Files were as follows:

| | September | October |
|---|---|--|
| Documents routed Documents issued Reference services rendered Registered packages prepared for offsite | 12,657 5,027 4,610 301 29,705 | 16,741 (22 6,770 4,575 277 34,833 |
| Inter-area mail sent via transmittal Holders of Classified documents whose files were inventoried: (a) Because of normal perpetual inven- tory procedure (b) Because of transfer of work assignment (c) Because of termination | 3 | 6 5 1 |

| | September | October |
|--|----------------------------|--------------------|
| Inventory reductions: Copies of documents destroyed Copies of documents downgraded Copies of documents declassified | 7,1 <i>2</i> 0 18 12 | 3,266 51 257 |
| Classified documents located which were unaccounted for in previous inventory Standard storage cartons of material retired | 18 | 29 |
| to the Records Center: Unclassified and Official Use Only Classified | 11 5 | 12 0 , |

Work on the inventory of classified documents in the Operations files proceeded satisfactorily. The document check was completed early in the month and a final summery report, which will take some months, is underway. An inventory of classified notebooks was completed, and the entire notebook file was retired to the Records Center. The inventory indicated that nine notebooks were missing.

Reduction of classified document holdings through downgrading and destruction of classified documents is also proceeding satisfactorily. A large number of obsolete transmittal letters (which early procedure required be classified when transmitting a classified enclosure) were downgraded by the Non-Tochnical Document Review Board, and other similar areas are being reviewed for submittal. Additional overtime was expended on the destruction of surplus classified documents and a backling taken core of. A new printed and pre-numbered "Certificate of Destruction" form, with snapout carbons was put into use. These certificates will be conveniently filed by number and use of the number will also simplify and expedite posting.

Considerable time was expended during the month on a re-write and expansion of the section of the stenographic manual covering the preparation and care of classified documents. A meeting was held with representatives of Security, Office Services, Design and Construction Classified Files, Reproduction and Operations Classified Files, where the final draft was reviewed. The revision is considerably more extensive than the present section of "This Way, Please" and consideration is being given to issuing it as a separate manual. This seems reasonable in view of the fact that the number of stenographers at Hanford preparing classified documents is a small fraction of the total.

A study of the number of documents recalled for various reasons during the last year was made, which indicated that the number has been excessively high. There is reason to believe that supervision is not always fully aware of what is being sent offsite by those reporting to them. In approval procedure, which would require at least Section Chief approval of all documents mailed offsite, was recommended.

At the request of Pile Technology, a new numbering system for production tests was suggested, approved and issued. Previous numbering of production tests has been quite unsatisfactory, since the original documents setting up the production test were numbered in a separate sequence from the interim and final reports. This necessitated many cross references. Furthermore,





Technical Services Unit

since many tests involved a lengthy period to complete, the relationship between the two was sometimes lost.

The Chief, Technical Information, attended the meeting of the Technical Information Panel in Chicago, October 17, 18 and 19, arriving a day early to confer with Argonne National Laboratory personnel on the indexing and organization of the metallurgical literature.

The meeting of the Panel's Committee on Classification was attended in the morning of October 17. It was addressed by Dr. C. J. Beckerley, head of the A.E.C. Office of Classification. Under discussion were revisions in the declassification guide, and GM-93, which defines the unclassified areas of research. It was indicated at the meeting that installations might request declassification of an entire research project in advance so that reports could be issued without processing through the Declassification Board. Dr. Beckerley indicated that the 305-Pile could be declassified if so requested by Hanford. He also emphasized the need for the development of local topical classification guides, of which a number already have been completed.

The Library and Document Control Committee, of which the Hanford representative is chairman, met on the afternoon of October 17. Problems of abstracting and indexing progress reports, revision of the card catalog, and classified document control methods were discussed.

The Panel meeting took place on October 18. A tour of the new Argonne National Laboratory facilities was made on October 19.

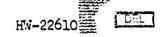
The day following the Panel meeting was spent at Argonne National Laboratory in studying their classified document control procedure which uses IBM punch cards. For many reasons, it did not appear practical for use at Hanford.

The Chief, Technical Information, also participated in a number of meetings during the period held by the Hanford Works Paper Conservation Committee. The Committee spearheaded a publicity program on paper conservation and made a number of recommendations to management on paper salvage.

Central Reporting and Abstracting

Work volume statistics for this service were as follows:

| | September | <u>October</u> |
|---|---------------------------------------|---|
| Ditto masters run Mimeograph stencils run Ditto copies prepared Mimeograph copies prepared Multilith masters typed | 557 794 27,506 68,940 199 | 680 1,266 31,176 78,765 457 |
| Multilithed copies handled (includes re-issue of HW Technical Manual) Formal Research and Development Reports issued Formal Reports in Process Reports abstracted | 15,780 10 10 178 | 138,273 12 16 210 |



化泛型性 化外线性流量 医牙髓畸形

September

October .

Volume of unclassified mail handled by the 300 area Mail Room

30,287

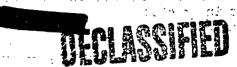
Considerable time was expended during the month in carrying forward two documents on Hanford codes. It was decided to apply to the Atomic Energy Commission for official approval of a number of codes presently in use at Hanford for security reasons. When this is received, a final listing of approved Security codes will be issued for Plant-wide use. A dictionary of special Hanford terminology (jargon, convenience codes, obsolete terms, etc.) necessary for the proper understanding of the historical record is in final draft form

Two bibliographies were issued curing the month. One is a compilation of all 105 Production Tests. It includes a brief abstract of all pertinent reports and correspondence, a numerical arrangement, and an author and subject index. Draft copies of this bibliography were in use by the field while it was being compiled. A second bibliography is a listing by document number and period covered of all Technical Progress Letters. The Technical Information Panel had recommended the issuance of such lists, and similar compilations of other Hanford periodic documents are planned. These are particularly useful in servicing requests, and promote reduction of personal holdings of classified documents.

INVENTIONS

All Technical Services Unit 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 October 1951. 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.

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Signed J.-W. Underwood, Unit Head





HW-22725 22610

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MONTHLY NARRATIVE REPORT

DESIGN AND CONSTRUCTION MANAGEMENT SECTION

October 1951

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DESIGN AND CONSTRUCTION MANAGEMENT SECTION

I. SUMMARY

A. CRGANIZATION

The subcontracting of construction work is not to be performed by the Design and Construction Management Section after the effective date of October 1, 1951. This change is concurrent with the modifications to the Prime Contract with the Atomic Energy Commission. The Section will manage, direct, coordinate and supervise construction contracts while acting for the Atomic Energy Commission along with the performance of Architect-Engineer functions. In line with this policy the following changes in title have been adopted:

FROM

TO

Design and Construction Section

Design and Construction Management Section

Minor Construction Unit

Minor Construction Management Unit

On October 31, 1951 the announcement was made that the Atomic Energy Commission had expressed the desire to perform the functions of the Contract Unit effective December 1, 1951. The Commission also expressed interest in discussing employment with the effected Contract Unit employees.

B. SCOPE OF ACTIVITIES

At the end of the month the Design and Construction Management Section was engaged in 63 construction projects, of which 59 have authorized funds in excess of \$20,000. In addition, preliminary work was being performed on 30 proposed construction projects, of which 27 were estimated to exceed \$20,000. Four Research and Development Projects, each estimated to exceed \$20,000, were in progress during the month and one additional project proposal was being prepared.

C. ACCOMPLISH ENTS

Project C-398 - Experimental Coating Hood, Building 234-5 was placed in beneficial use during the month.

Project C-111, P-10-X, J Slug Storage and Shipping Facilities was placed in beneficial use during the month with the acceptance of the fourth and last off-site shipping cask by the Reactor Section, Manufacturing Department.

Project C-140, Alterations 712-A Hutment was completed and transferred to the Utilities and General Services Department.



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C. ACCOMPLISHMENTS (Continued)

Project C-446, Additional Effluent Disposal Facilities, Building 234-5 was completed with the exception of minor clean-up work.

Project C-471, Renovation of Pasco Type Barracks for Office Building - North Richland was completed and accepted by the Utilities and General Services Department.

D. MATERIAL PROCUREMENT

During October three National Production Authority directives were issued covering steel from 1951 production. A request for a directive for construction equipment to be used in connection with the local supply of concrete aggregate, was prepared and discussed with the Atomic Energy Commission. Our request for assistance in the procurement of structural steel in connection with the construction of the Library and Files Building (C-421) received no action from the National Production Authority during the month.

E. CRAFT LABOR

Voluntary terminations of C.P.F.F. construction contractors' personnel equalled 5.3 per cent of the average force for the month.

A shortage of plumbers, steamfitters and fitter welders continued to exist throughout the month, but other crafts, which had previously been reported as in short supply, were sufficiently available.

During the month five work stoppages occurred involving C.P.F.F. construction contractors personnel; they were as follows:

- 1. The largest and most important work stoppage resulted from a dispute between the carpenter craft and the construction contractor over the continued employment of an Assistant General Superintendent. On October 24, over 1,000 carpenter craftsmen walked off the job and at the end of the month only three craftsmen had returned. Other crafts were soon affected and progress continued only on limited phases of work thereby seriously affecting construction completion schedules of projects. The Federal Mediation and Conciliation Service representative attended several of a series of meetings held for the discussion of the dispute. The latest action was the publication of information that any craftsmen who elected to return would be put to work immediately and assurance given that the dispute would be processed through the regular grievance procedure.
- 2. The sheetmetal workers were absent on a work stoppage from October 15 through October 17 and returned to work after a request to do so had been directed to the Union by the Davis Panel who had assumed jurisdiction over the dispute. A hearing of the dispute, which results from a breakdown in wage negotiations, is scheduled for November 2.





E. CRAFT LABOR (Continued)

- 3. The machinists were absent on October 16 due to a work stoppage as a result of a breakdown in wage negotiations. The Davis Panel has accepted jurisdiction over the dispute and a hearing is scheduled for November 2.
- 4. The technical engineers were absent on a work stoppage from October 15 through October 16 during which time the subcontractor refused to continue the wage negotiation. After the group returned to work negotiations were resumed and a settlement was reached.
- 5. A walkout involving the operating engineers occurred in the White Bluffs Autemotive Repair Shop on October 2. This resulted from a dispute between the operating engineers and the construction contractor over the continued employment of two supervisory employees. The mechanics returned to work after one supervisory employee resigned and the other was terminated because of a lack of supervisory ability.

F. SAFETY - SECURITY

There were two major, sixteen sub-major and nine hundred sixty-nine minor injuries among construction contractor personnel reported during the month. This indicates a decrease in major and minor injuries compared with the preceding month. Sub-major injuries increased by six and consisted largely of fractures of fingers and toes. Twenty-six vehicle accidents and nine equipment accidents were reported for the month with an estimated damage amount totaling approximately \$4,650. Twelve fires were reported during the month but there was no significant loss involved. Two hundred Security Meetings were held and attended by 5,321 General Electric Company and construction contractor employees.

G. HIGHLICHTS OF UNIT ACTIVITIES

Contract Unit

Contracts for three major projects were completed during the month. It was announced on October 31, 1951, that the Atomic Energy Commission had expressed the desire to perform the functions of the Contract Unit effective December 1, 1951; also, that the Commission proposed the discussion of Commission employment with Contract Unit personnel.

Design and Construction Services Unit

Bids were opened during the month for the painting of the Administration Buildings in the 3000 Area, however, at month end the contract award had not been announced. Colder weather has brought about the necessity for winterizing the water facilities in the North Richland Area and greater demands are being made on the steam production plant. Only two major injuries to construction contractor personnel were reported during the month which is a decided improvement over the past few months.



G. HIGHLIGHTS OF UNIT ACTIVITIES (Continued)

Design and Construction Services Unit (Continued)

Drafting work increased somewhat during the month as a result of additional Research and Development Project work but the output of the Reproduction group was down about 20% as compared to the preceding month. One employee within the Unit received a \$70.00 Suggestion Award.

Design and Development Unit

During October, work commenced on five additional Research and Development projects assigned to the Design and Development Unit and numbered RDA-DC-3 to and including RDA-DC-7. A further description of those projects is included elsewhere in this report. A total of \$853,885 is allocated to the Design and Construction Management Section Research and Development programs for Reactor Design Development, Separations Design Development and Mechanical Design Development during fiscal year 1952.

Minor Construction Management Unit

The new work authorized to the Minor Construction Management Unit during October consisted of thirteen work assignments by work order and work releases. Twelve work assignments were completed. Progress in general, on all assignments, was hampered throughout the month by work stoppages of the C.P.F.F. construction labor force, the first occurring on October 2 and the last and most important beginning on October 24 and continuing through the end of the month.

Power and Mechanical Unit

Work in connection with the construction of Project C-h31-A, 100-C Water Works Facility, continued to be harrassed by a shortage of plumbers and fitter-welders and during the month of October work stoppages occurred which further retarded the progress of this project. These factors may seriously delay final completion if not promptly corrected. At month-end construction on this project is estimated to be approximately one month behind the accelerated schedule. It is not anticipated that any delay will result due to the lack of equipment.

Contracts were awarded and the Notices to Proceed were issued during the month on two of the Hanford Works Laboratory Area projects.

Project Engineering Unit

Work progressed during the month on 74 active project items and ll informal requests. These figures include preparatory work as well as approved projects and informal requests. Three new project proposals and one revised proposal were transmitted to the sponsoring organizations in final form and all were subsequently approved by the A & B Committee and submitted to the Atomic Energy Commission. Atomic Energy Commission directives were issued on two projects and substantial engineering funds were authorized for one other.



G. HIGHLIGHTS OF UNIT ACTIVITIES (Continued)

Project Engineering Unit (Continued)

Deportant jobs now in progress include the Ball 3X Program, the P-10 Program, Water Quality Experimental Facilities, Removal of Exponential Pile Facilities from 101 Building to 189-D Building, Front Tube Corrosion Facilities and the 313 Mechanization Program.

Reactor Unit

The outstanding item of interest during the month was the commencement of work in connection with the Research and Development Project, RDA-DC-3, which involves the general re-design of the 105 Building. By month-end three possible floor plans had been developed and reviewed.

Work in connection with the construction of Project C-431-B, New Production Facility, was seriously hampered throughout the month by work stoppages to the extent that by month-end the project was estimated to be three weeks behind schedule. The delay entirely results from labor since material procurement has been satisfactory. However, it appears that procurement problems may arise particularly in those cases involving vendor fabrication. Close control is being maintained in order that National Production Authority assistance may be requested where necessary.

One employee within the Unit received a \$460.00 Suggestion Award for a disposable sampling device developed while he was an employee of the Technical Section.

Separations Unit

Correction of minor exceptions and clean-up work in connection with Project C-187-D, Redox Production Plant, continued during the menth but due to some failures of pipe connectors was not completed at month end. Delays in the construction of Project C-362, Waste Metal Recovery Facilities, were primarily due to labor unrest and a continuing shortage of plumber-steamfitter welders. Authorization for construction of the revised Part B of Project C-361, Metal Conversion Facilities, was transmitted to the construction contractor during the month. A review of the construction of the steel tank liners in connection with Project C-418, Additional Waste Storage Facilities-241-TY, disclosed that welding has been performed with an X-ray rejection rate of only 1.2%, which is the lowest yet attained on this project.





H. MONTHLY REPORT OF INVENTIONS AND DISCOVERIES

All persons in the Design and Construction Management Section engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge, no inventions or discoveries were made in the course of their work during the period covered by this report. Such persons further advise that notebooks and records, if any, kept in the course of their work, have been examined for possible inventions and discoveries.

J. S. McMahon, Manager

Design and Construction Management

Date: October 31, 1951



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II. STATISTICAL AND GENERAL

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A. SIGNIFICANT ASSIGNMENTS

1. <u>Initial Reporting</u>

M-609 - Pile and Pile Water Plant Improvements

Completion: Design O per cent, construction O per cent.

A project proposal draft has been written providing for engineering design and critical material procurement. Scoping, to date, has been limited to modifying the front face piping at 105 DR and H Buildings, but ultimately the capacity of the 190 DR and H Pumping facilities is to be increased so as to deliver 48,000 gallons per minute at a pump discharge pressure of 525 pounds per square inch.

Research and Development Projects

RDA-DC-5, Preparation of Project Proposal for Mechanizing 300 Area Slug Canning, Finishing and Inspection Facilities; RDA-DC-6, Process Cooling Water System Including Retention Basin, Design Development; and RDA-DC-7, Separations Process Engineering, Expansion and Improvement, are included in this report under heading II,A,4 for the first time.

2. Final Reporting

C-398 - Experimental Coating Hood

During the month construction advanced 15 per cent; design was previously completed.

Overall completion: Design 100 per cent, construction 95 per cent.

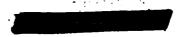
Beneficial occupancy was obtained as of the end of October. The remaining 5 per cent of construction consists of clean-up work.

C-411 - P-10-X - "J" Slug Storage and Shipping Facilities

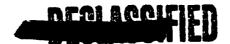
During the month construction advanced 5 per cent; design had been completed previously.

Overall completion: Design 100 per cent, construction 95 per cent.

The fourth and last off-site shipping cask has been accepted by the Reactor Section thus giving them beneficial use of all facilities covered by this project.



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C-440 - Alterations 712-A Hutment

Construction advanced 45 per cent during the month; design was previously completed.

Overall completion: Design 100 per cent, construction 100 per cent.

The project was accepted by the Utilities and General Services Department.

C-446 - Additional Effluent Disposal Facilities, Building 234-5

Construction advanced 4 per cent during the month; design had been completed previously.

Overall Completion: Design 100 per cent, construction 97 per cent.

The project is essentially complete with the remaining 3 per cent of construction consisting of clean-up work.

C-471 - Renovation of Pasco Type Barracks for Office Building - North Richland

Construction advanced 10 per cent during the month; design had been completed previously,

Overall completion: Design 100 per cent, construction 100 per cent.

Work on Building 179 is complete and accepted and the project is closed-out, deleting the remaining portion of the project.

3. Current Projects

(Hanford Works Laboratory Area)

C-199 - Expansion of 300 Area Sewage Disposal

Completion: Design 100 per cent, construction 0 per cent.

There has been no change in the status of completion this month. As the completion statement indicates design is complete and construction has not begun. The bid assemblies have been distributed but returned bids were not scheduled to be opened during October.

C-257 - H. I. Control and Development Laboratory

Construction advanced 10 per cent during the month; design had been completed previously.

Overall completion: Design 100 per cent, construction 55 per cent.

In September the project was reported to be somewhat behind schedule as a result of a delay in steel deliveries. This situation has now been corrected and at the close of October laboratory furniture is the one major item of equipment which remains uncertain, however, the promised delivery dates are satisfactory.

C-381 - Radiochemistry Building

Completion: Design 100 per cent, construction 3 per cent.

The completion status remained unchanged during the month. A National Production Authority directive was issued for steel for December delivery to the fabricator. Little additional work can be completed locally until the delivery of the fabricated steel, which is, at this time, scheduled for January 1952.

C-385 - Radiometallurgy Building

Completion: Design 100 per cent, construction 0 per cent.

The completion status remained unchanged during the month, design had been previously completed and bid assemblies had been distributed during September. Bids for construction were opened October 10 and Notice to Proceed was issued October 31 to L. H. Hoffman of Portland, Oregon.

C-394 - Plot Plan and Utilities

Completion: Design 100 per cent, construction 4 per cent.

The completion status remained unchanged during the month. Design had been completed previously and no construction work was performed during October. A part of this project is the Badge House which was awarded separately to L. H. Hoffman and for which the notification to proceed was issued during September. The bid assembly for the balance of the project has been distributed but returned bids were not scheduled to be opened in October.

C-406 - Mechanical Development Building (Phase II)

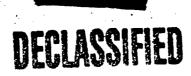
Completion: Design O per cent, construction O per cent.

Phase I of this project is 100 per cent complete and therefore future completion statements will apply to Phase II only. Negotiations for the design of Phase II have been completed and a contract is being prepared awarding that work to the Dix Steel Construction Company of Spokane, Washington; however, the Notice to Proceed has not yet been issued.

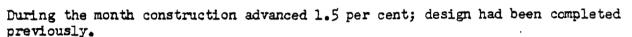
C-414 - Pile Technology Building

Completion: Design 100 per cent, construction 0 per cent.

The completion status remained unchanged during the month, design had been completed previously and construction has not begun. Bids for construction were opened October 10 and Notice to Proceed was issued October 31 to L. H. Hoffman of Portland, Oregon.



C-421 - Library and Files Building



Overall completion: Design 100 per cent, construction 2.5 per cent.

Construction commenced late in the month of September, and to date, has consisted of excavation and footing work.

C-433 - Steam Plant Addition

Design advanced 36 per cent during the month.

Overall completion: Design 58 per cent, construction 0 per cent.

(End Hanford Works Laboratory Area Projects)

C-361 - Waste Metal Conversion Facilities

During the month 3 per cent of design was completed and construction advanced 3.6 per cent.

Overall completion: Design 100 per cent, construction 95 per cent.

Construction is essentially complete on Part A which consists of the original project, and it is mutually agreed that Part A will not be released for beneficial occupancy until such time as the intermingled work in connection with Project C-362 is also completed since to occupy C-361 would require that the remaining work on C-362 be accomplished under S.W.P. conditions.

Construction on the remaining portion of Part B is approximately 4 per cent complete and has been delayed by the recent work stoppage of carpenters. Instrument installation on Part B is nearing completion.

C-362 - Waste Metal Removal and Recovery Facilities (TBP)

During the month .4 per cent of design was completed and construction advanced 5.8 per cent.

Cverall completion: Design 99.9 per cent, construction 54.2 per cent.

C-413 - Expansion of 234-5 Facilities

During the month 6 per cent of design was completed and construction advanced 18.5 per cent.

Overall completion: Design 77 per cent, construction 49 per cent.





C-413 - Expansion of 234-5 Facilities (Continued)

On October 15, the entire RMA area was released to the Manufacturing Department. All tasks were accepted excepting Task XI, the helium recirculating system, which requires the final testing of blowers and instruments prior to start-up.

The completion status of the RMB line fabrication being performed by General Engineering Laboratories in Schenectady is: Design 74 per cent, assembly 81 per cent. Drawings are being revised and field instructions have been issued to omit that equipment which will no longer be necessary in light of the scope change of the final shape machining. The equipment required as a result of the change has been ordered.

C-131-A - 100-C Water Works Facility

During the month 7 per cent of design was completed and construction advanced 7.5 per cent.

Overall completion: Design 86 per cent, construction 17.5 per cent.

Due to the work stoppages occurring during the month and a continued shortage of plumber-steamfitter welders, construction is now approximately one month behind the accelerated schedule, or one week further behind than at the close of September.

Items of equipment are being received at a rate which indicates that present schedules could be maintained were the labor situation to be corrected. Two National Production Authority directives covering steel were issued to assist in timely delivery from November production for Buildings No. 183 and 190 and for Clearwells.

Excavation on the River Pump House and river bed is complete as well as the 'temporary jetty for the construction of the process water out-fall lines. About one third of the total amount of concrete to be poured is in place.

C-431-B - Production Facility

Completion: General Electric Company design 81 per cent, Vitro Corporation design 89 per cent, and construction 13 per cent.

Progress during the month consisted of completion of 6 per cent of General Electric design, 3 per cent of Vitro Corporation design and 4 per cent of construction. At the end of the month the General Electric design phase is 8 per cent behind schedule and the Vitro Corporation design phase is 11 per cent behind schedule. This situation is causing some delay in certain instances of construction in the field. The construction phase is approximately three weeks behind schedule at the end of the month as a result of the work stoppage of carpenter craftsmen which began on October 23 and continued throughout the month.

The Lump Sum subcontractor, Rust Engineering Company commenced work in connection with the construction of the process stack.





C-431-B Production Facility (Continued)

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The machining of graphite for the Savannah River Test Reactor has been completed with the exception of certain special pieces and completion of crating. An extensive re-inspection of machined graphite stocks on hand is being made in order to determine the availability of these materials for local use. Serious twists have been detected in a number of graphite surface bars which have been stored for the past two years. It is difficult to determine whether this warping and twisting results from the method of storing or if the material was originally received in this condition.

Procurement has been initiated on approximately 86 per cent of all materials and equipment required. Generally, on orders placed to date, satisfactory delivery dates have been promised; however, with new orders the situation is becoming more difficult. National Production Authority assistance has been requested on all items that may effect completion of the project on schedule and close central is being maintained in order that further assistance may be requested if necessary.

4. Research and Development Projects

RDA-DC-3 - Engineering Development Studies to Improve Design Bases for Future 100 Area Production Facilities

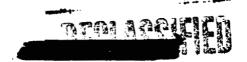
This project is an engineering program for the improvement of plutonium producing reactors which may be constructed in the future. During October the program was formulated, work priorities were established, engineers assigned and engineering studies initiated. The current program is organized around the objectives of low initial capital cost consistent with production requirements, low unit production costs and an improved conversion ratio between U-235 consumption and plutonium formation. These objectives require primary emphasis on a redesign of the building, a substitution of a heavy aggregate concrete shield for the steel-masonite shield, an improved Ball 31 return system (to make elimination of the vertical rods possible), a reduction of lattice dimensions and a redesign of the process piping and associated process tube assemblies.

Layout work in connection with the redesign of the 105 building has been accomplished and certain tests have been performed on the Ball 3X Return System. Layouts are in preparation for process tube assemblies and studies of the characteristics and properties of heavy aggregate have been started.

RDA-DC-4 - Engineering Development Studies to Improve Design Bases for Future Separations Facilities

The project involves an engineering development program based on producing preliminary scope data necessary to design a separations facility using the Redox process.

This Research and Development project was assigned to the Development group during the month and the group immediately began to organize a force to assign to the work; however, that force was being obtained from elsewhere in the Design and Construction Management Section and the personnel required much of the remainder of the month to disengage from their former activities. Therefore, little actual work was performed on the project by month-end other than preparatory work performed and reviewed with the Principal Engineer Group.



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RDA-DC-5 - Preparation of Project Proposal for Mechanizing 300 Area Slug Canning, Finishing and Inspection Facilities

The project proposal has been prepared and is ready for review prior to submission.

RDA-DC-6 - Process Cooling Water System Including Retention Basin, Design Development

This Research and Development project was assigned to the Development group during October and authorized development studies on the reactor water systems including determination and definition of the basic scope of water plant and recirculating system for future reactor design. Priority is being given to the study of a recirculating water system for a new reactor area and this work is being performed in conjunction with RDA-DC-3.

RDA-DC-7 - Separations Process Engineering, Expansion and Improvement

This Research and Development project was assigned to the Development group early in October and authorized the study of chemical engineering problems relating to the expansion and improvement of separations processing in order to provide information for preliminary design of improved, revised or expanded facilities. Efforts during the month were performed on the Studies related to Redox expansion and an improved Redox design.

B. OTHER ASSIGNMENTS

C-187-D - Redox Production Facility

Completion: Design 100 per cent, construction 99.9 per cent.

About 67 per cent of the "as built" tracings have been received from the Vitro Corporation. A preliminary check of the jumper "as builts" showed remarkably close agreement in nearly every case, between the design dimensions and the purportedly field-measured "as-built" dimensions. This circumstance aroused misgivings as to the accuracy of the "as built" dimensions and an in-place recheck was performed disclosing a sufficient proportion of serious errors to necessitate the remeasure of every stiff jumper in the facility for "as built" purposes. This work which is being performed by construction contractor forces is not complete at the end of the month.

Two types of failures have occurred with pipe connectors supplied by Crane and Company. Poor impact resistance of one inch connector screws is believed to be the cause of three instances of breakage which occurred during the month. New screws of type lillo steel have been ordered as replacement. The second type of failure was the complete freeze-up of a four inch connector by galling of the screw and split washer retainer. Work is underway for the correction of this defect.

C-187-E - Redox Analytical Plant Assistance Laboratory (Conversion of Unassigned Space for Radio-Chemistry Laboratory)

During the month 15 per cent of design was completed, no construction work was scheduled; however, all material has been requisitioned.

Overall completion: Derign 100 per cent, construction 5 per cent.

C-192 - Biology Laboratory, Part III

Completion: Design 95 per cent, construction 88 per cent.

There was no change in completion status during the month since balance of work consists of minor additional construction for which bid assemblies are being prepared.

C-204-B - Additions and Alterations to Kadlec Hospital and Medical Arts Building

Construction advanced 3 per cent during the month, design had been completed previously.

Overall completion: Design 100 per cent, construction 97 per cent.

C-289-R - 200 West Laundry Addition

Completion: Design 100 per cent, construction 0 per cent.

There has been no change in the completion status during the month. Although the bids for construction had been received and opened, it was not decided at the end of the month as to the successful bidder. The low bid being reviewed was submitted by the Wayne Construction Company of Seattle, Washington.

C-295 - Enlarging 251 Substation

Construction advanced 3 per cent during the month, design had been completed previously.

Overall completion: Design 100 per cent, construction 79 per cent.

Construction is approximately three weeks behind schedule due to difficulty in obtaining competent craft labor.

C-340 - P-11 Project

Completion: Design 100 per cent, construction 96 per cent.

Installation work for Part 3 has been completed and the facility has been accepted by the Pile Technology Unit with minor exceptions which will be completed as rapidly as material and manpower can be assembled. De-activation of the area will be accomplished on completion of experiments.





C-349 - Hot Semi-works

During the month construction advanced 6 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 40 per cent.

All requisitions for test equipment were issued and the preparation of Acceptance Test Procedures is 98 per cent complete.

C-364 - Aquatic Biology Laboratory

During the month construction advanced 3.6 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 3.6 per cent.

C-380-R - Electricity Metering - Village of Richland

During the month construction advanced 21 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 72 per cent.

Subcontractor installation of residential meters is approximately 60 per cent complete with about 15 per cent being completed during October. No commercial installations have yet been made. Installation work on "Prefab" units is being performed by the Electrical Section which, with the prefabrication for commercial facilities, constitutes about 12 per cent of the completed work.

C-403 - New Fences for Distribution and 230 KV Substation

Completion: Design 80 per cent, construction 60 per cent,

Part I of the project is physically completed and Part II, which is in preparation will include the grounding of all fencing. Further progress is dependent upon the approval of Part II to the project.

C-404 - Primary Power Lines for Hanford Works Laboratory Area

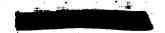
Completion: Design 95 per cent, construction 25 per cent.

Progress during the month consisted of the completion of 25 per cent of construction with no activity on design.

Substation switchgear equipment and aerial cable are being instelled.







C-409 - Riverland Elevated Water Tank

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During the month construction advanced 66 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 82 per cent.

C-410 - In-Pile Controlled Atmosphere Experiments

During the month 5 per cent of design was completed and construction advanced 6 per cent.

Overall completion: Design 95 per cent, construction 75 per cent.

Operation of the water vapor analyzer has not been satisfactory and the instrument has been returned to the factory. The calibration of the other gas analyzers has been completed.

C-412 - P-10-X Extraction Facilities

During the month construction advanced 24 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 74 per cent.

Beneficial use of the "Hot Shop" and Health Instrument Laboratory was achieved. The temporary vacuum tank outgassing facilities have functioned so well that the permanent facilities included under this project have been cancelled. Certain clean-up facilities were also cancelled.

C-416 - Minor Construction Fabrication Shops - Part II

100 per cent of the design was completed during the month.

Overall completion: Design 100 per cent, construction 0 per cent.

Although the project proposal was submitted to the Atomic Energy Commission in September, the directive authorizing construction has not been received and therefore no construction work has been performed.

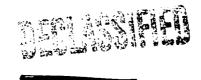
C-418 - Additional Waste Storage Facilities - 241-TY

During the month 3 per cent of design was completed and construction advanced 19.1 per cent.

Overall completion: Design 99 per cent, construction 73.1 per cent.

A bid, submitted by Fred J. Early Company, Inc., for the diversion box cover blocks has been received and it has been recommended to the Atomic Energy Commission that the bid be accepted and the basic contract be modified to include this additional work.





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C-418 - Additional Waste Storage Facilities - 241-TY (Continued)

Inspection of the construction of the steel tank liners discloses that welding has been performed with an X-ray rejection rate of only 1.2 per cent, which is the lowest yet attained on this site.

C-419 - Induction Heating Unit - Building 3732

Completion: Design 100 per cent, construction 0 per cent.

The completion status remained unchanged during the month. As indicated, design is complete and construction has not begun. Construction is dependent upon facilities to be provided under Project C-451, Extension of 300 Area Underground Electrical Power Distribution System, which is awaiting Atomic Energy Commission approval.

C-423 - Additional Waste Evaporation Facilities - 200 East

During the month construction advanced 31 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 64 per cent.

The portion of the work being performed by C.P.F.F. contractor forces is somewhat behind, schedule as a result of the labor difficulties encountered during the month.

C-430 - Improved Lighting - 703 Building

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month since design had been completed previously and although bid assemblies had been distributed in September and were received and opened in October, the contract award had not been announced by the end of the month. Consequently, no construction work was performed.

C-432 - Air Raid Warning System - Richland, North Richland

During the month construction advanced 17 per cent, design had been completed previously.

Overall completion: Design 95 per cent, construction 83 per cent.

Construction has now been stopped since an overrun of funds is anticipated and a supplemental project proposal is being prepared.

C-434 - New Bio-Assev Laboratory

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month since work has been suspended pending determination of the location of the facility.

C-438 - Ball Third Safety System

During the month 2 per cent of design was completed, no construction has been undertaken.

Overall completion: Design 92 per cent, construction 0 per cent.

The General Engineering Laboratory in Schenectady has requested, and shipping preparations are being arranged for, approximately 2000 pounds of graphite for a hole mock-up for tests relating to the ball detecting device.

C-441 - Solvent Building

During the month 6 per cent of design was completed.

Overall completion: Design 86 per cent, construction 0 per cent.

C-442 - X-Ray Machine 3745-A

CompletionL Design 20 per cent, construction 0 per cent.

There was no progress during the month, since further progress is contingent upon receipt of vendor's drawings.

C-445 - B-Y Telephone Exchange Additions and Changes

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month. Bids were received in response to bid assemblies which were distributed in September and although bids were opened the contract for construction was not awarded by the end of the month.

C-1117 - Portable Meteorological Mast

During the month 5 per cent of design was completed.

Overall completion: Design 40 per cent, construction 0 per cent.

There will be no construction, as such, involved; but rather, assembly of prefabricated parts being obtained by Purchase Order from vendors. To date, these parts have not been received.

C-451 - Extension of 300 Area Underground Electrical Power Distribution System

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month since design had been completed previously and Atomic Energy Commission approval to commence construction has not been received.



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C-452 - Meteorology Tower Elevator

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month since design had been completed previously and construction has not begun. Bid assemblies on construction were completed and distributed during the month.

C-454 - Spectrometer Shielding

Completion: Design 90 per cent, construction 13 per cent.

Approximately 10 per cent of design was completed during the month, construction is being performed but little progress was made.

C-456 - Additional 13-Quad Telephone Cable B-Y to Point I

Construction advanced 23 per cent during the month, design had been completed previously.

Overall completion: Design 100 per cent, construction 42 per cent.

C-457 - Pile Technology Office Building - 100-D

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month. Design had been completed previously and bids had been received. During October the award of the construction contract was made to the S. S. Mullen Construction Company, who had submitted the low bid, but the Notice to Proceed with construction has not been issued.

C-460 - Installation of Asbestos Coment Siding and Painting Wood Trim - 272 East and West

Completion: Design 10 per cent, construction 0 per cent.

The directive to commence with the project was received from the Atomic Energy Commission on October 5. No work other than project proposal preparation had been performed previously. Preparation of specifications for inclusion with the construction bid assembly is progressing.

C-461 - Maintenance Hot Machine Shop

Completion: Design 60 per cent, construction 0 per cent.

The directive to commence with the project was received from the Atomic Energy Commission on October 12. Construction will be performed by C.P.F.F. construction contractor laborers and mechanics with construction management being provided by General Electric.



Completion: Design 100 per cent, construction 0 per cent.

The construction bid assembly is being prepared.

C-468 - Horizontal Rod Mock-Ups

Construction advanced 16 per cent during the month, design had been completed previously.

Overall completion: Design 100 per cent, construction 26 per cent.

A directive covering the full scope of the work has been received from the Atomic Energy Commission and construction work is progressing on all phases of the project.

C-469 - Front Tube Corrosion Mock-Up

During the month construction advanced 15 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 15 per cent.

It is anticipated that the installation of tubes in the mock-up frame may be delayed pending delivery of raw materials. Construction is being performed by C.P.F.F. construction contractor forces with construction management being provided by General Electric.

C-470 - 200-W Badge House Remodeling

Completion: Design 5 per cent, construction 0 per cent.

The revised project proposal which eliminates the addition of floor space to the building and substitutes the installation of a new type rack to be installed in the existing floor area has been submitted for approval.

C-473 - 100-B Automatic Dial Telephone Exchange

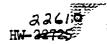
Completion: Design 75 per cent, construction 0 per cent.

The project proposal was completed and submitted to the Atomic Energy Commission for approval.

C-474 - Relocation of Exponential Facilities

During the month construction advanced 5 per cent, design had been completed previously.

Overall completion: Design 100 per cent, construction 60 per cent.



C-476 - Oxidation and Fluorination Equipment Hood #8, Building 234-5

Completion: Design 100 per cent, construction 0 per cent.

There was no change in the completion status during the month. The directive authorizing construction was received during the month and a work release is being prepared.

C-477 - Building 284-W - Fifth Boiler Addition

Completion: Design 7 per cent, construction 0 per cent.

Progress during the month consisted of completion of 2 per cent of design as well as work on alternate proposals which were requested by the Atomic Energy Commission. Pending a decision as to the plan to be adopted, \$10,000 was authorized for engineering studies covering engineering work and the advance ordering of materials. The work on the alternate proposal is nearing completion.

C-478 - Area Fence and Minor Repairs, Excess Material Warehouses - North Richla

Completion: Design 100 per cent, construction 0 per cent.

The project proposal covering construction was completed and submitted to the Atomic Energy Commission on October 18,

C-479 - Replacement of Docks and Stairs on 700 Area Permanent Buildings

Completion: Design 50 per cent, construction 0 per cent.

During the month the project proposal was completed and submitted to the sponsors for review.

C-480 - Remodeling 722-C Building for Office Equipment Repair

During the month 20 per cent of design was completed.

Overall completion: Design 20 per cent, construction 0 per cent.

The project proposal covering construction was completed and submitted to the Atomic Energy Commission on October 31.

The following studies and engineering requests involving preparatory work and scoping of future projects were active during the month:

| ER-A-582 | 300 Area Administration Building |
|----------|--|
| ER-A-661 | Central Distribution Hoadquarters |
| ER-A-662 | Reinforce and Increase Capacity of Cask Cars |
| ER-A-663 | Pile Technology Test and Storage Building |
| ER-A-690 | Soil Science Laboratory |
| ER-A-691 | Positive Ion Accelerator |



| | States in Contract of the Cont |
|-------------|--|
| ER-A-692 | Rest Room Alterations - 716 Building |
| ER-1693 | Install Gutters in 700 Area Buildings |
| ER-A-696 | Metallurgy Laboratory Building - 300 Area |
| ER-A-697 | Pile Technology Office Building - 300 Area |
| ER-A-1167 | Downcomer Repairs in 100-B,D,DR and H and Replacement in 100-F |
| ER-A-1172 · | Experimental One-Tube Ink Facility |
| ER-A-3094 | 313 Mechanization |
| ER-E-471 | Study and Recommendations for Lighting - 760 Drafting Room |
| ER-2600 | Duct Level Safety Showers, Building 234-5 |
| ER-2710 | Start-up Studies - RMA Line - Building 234-5 |
| ER-6009 | 700-1100 Future Steam Heating Study |
| | · · · · · · · · · · · · · · · · · · · |

C. RELATED SERVICES

l. Design

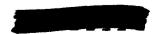
The drafting work load increased during the month as a result of the commencement of activity on Research and Development Projects—RDA-DC-3 and RDA-DC-4. Reproduction output, however, was somewhat less than that of the preceding month, but in contrast the audit and inventory group was confronted with an ever increasing backlog of work. A study was performed during the month in an effort to determine the most desirable measures to adopt for the elimination of this backlog of work and to determine the efficiency of the procedure being followed in everyday practice. Some simplification of procedure has, as a result, been effected.

__ 2. Construction

At the end of the month the population of North Richland was 6,252 which represents an increase of 179 over September. These figures do not include U.S. Army personnel. One additional wing of a barracks for males was opened during the month and three trailer bathhouses were opened. Bigs for the painting of the buildings in the 3000 Administration Area were received and opened but the contract award was not announced.

Contracts

Ten contract items involving an increased commitment of \$2,959,926.79 were completed during the month. The major item (\$100,000 or more) were the completion of contract AT (45-1)-472 with the S.S. Mullen Company for the construction of the Pile Technology Office Building (C-457) and contract AT-(45-1)-478 with L. H. Hoffman for the construction of the Pile Technology Building (C-414) and Radiometallurgy Building (C-385). Three of the remaining items processed effected decreases in commitment while two others involved no change in commitment. Two contract items were dropped during the month. Thirty-eight contracts and subcontracts and one hundred twenty-six lower tier subcontracts were active during the month.



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III. ORGANIZATION AND PERSONNEL

Effective October 1, 1951, concurrent with the modification of the Prime Contract with the Atomic Energy Commission, the Design and Construction Management Section no longer subcontracts construction. The change, however, did not particularly affect the internal operation as this Section will, in addition to its Architect-Engineer responsibilities, continue to manage, direct, coordinate and supervise construction contracts while acting for the Atomic Energy Commission. In line with that policy the following changes in titles have been adopted:

FROM

Design and Construction Section Design and Construction Management Section Minor Construction Unit Minor Construction Management Unit

On October 31, 1951, the announcement was made that effective December 1, 1951, with possible employment of Contract Unit personnel, the Atomic Energy Commission desires to perform the functions of the Contract Unit.

During the month Mr. E. W. Seckendorff, Manager, Design and Development Unit, resigned to retire from the General Electric Company and Mr. J. S. Farker was appointed Acting Manager of the Design and Development Unit.

Mr. O. W. Priche was appointed Project Engineer in charge of the Hanford Works Laboratory Area.

Other personnel information follows:

| Outor horogener ringermenter r | . 02.20 | | Parameter grant of |
|--|--|--|--|
| e Particologico de Calder de La Calder de br>La Calder de Calder | Beginning of Month | End of Month | Net Change |
| Employees on Payroll | . 851 | 863 | 19年 (本 上2 - 1945 - 19 |
| Technical Graduates-Rotations | u 22 | | , 19 (19 1) :: Jan - 16 .2: ; |
| Business Graduates-Rotational | | | |
| Employees on Loan to Design and Construction Management | <u> 17</u> | <u>9</u> | <u>- 8</u> |
| TOTAL | 891. | 894 | sada ∱in 3 i gerte Hiji i voda oday |
| | A CARLON OF A STATE OF THE STAT | g de la partida (n. 1901). 1855 (n. 1901) | The state of the s |
| and the second of the second o | language per se establish | trowing a war | er oan Lamen all |
| 2/1 | | | at in the contract |

MEDICAL DEFARMENT OCTOBER 1951

General

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Personnel Changes

Medical Department personnel increased from 265 to 274. Due chiefly to procurement of nurses.

Visits

Dr. Norwood attended the A.E.C. Biology and Vedicine Information Meeting at Las Vegas. Dr. Sachs attended the American Public Health Association Meeting in San Francisco and a State Civil Defense Meeting in Seattle.

Industrial

Employee physical examinations decreased from 2641 to 2202. Dispensary treatments increased from 10,762 to 10,865. General Electric employees sustained 3 sub-major injuries and contractor employees sustained 2 major injuries and 16 sub-major injuries. The Health Topic dealt with "Blood, Nature's Own Medicine". Sickness absenteeism for September was 1.53% for all employees.

Kadlec Hospital

The average daily census increased from 95.2 to 87.0 as compared to 75.2 a year ago.

Hospital construction and the remodeling program is approaching completion with a small amount of work left to be done in the administration wing and in the x-ray and laboratory section.

Nursing hours per patient per day were 3.46 for the mixed services and 4.64 for obstetrics.

Public Health

The total nursing visits decreased approximately 30% due to the low level of communicable disease.

Dr. R. McCauley and Mr. Buchanan of the U. S. Public Health Service, Portland office made a visit to the section in regard to the insect vector control program and the back-waters of McNary Dam.

Costs (September)

Medical Department costs, before assessments to other departments were as follows:

| | August | September | September Budget |
|-----------------------------------|-----------|-----------|---------------------|
| Industrial Medicine. (Oper.) | \$ 36,66L | \$ 35,653 | \$ 39,576 |
| Public Health (Oper.) | 10,076 | 9,631 | 11,939 |
| Kadlec Hospital (Net) | 27,569 | 910, نا2 | 34,395 |
| Hospital expense credits | 2,862 | 3,125 | <u> 2,625</u> |
| Sub-total- Medical DeptOperations | 77,171 | 73,319 | 38,535 |
| Construction Medical (Industrial | | | |
| and Public Health) | 13,663 | 15,753 | 12,878 |
| Total Operations and Construction | 90,834 | 89,072 | 101,413 |

The net cost of operating the Medical Department before assessments to other departments was \$89,072, a decrease of \$1,762 and \$12,311 below the budget.

Kadlec Hospital gross costs decreased \$564 largely due to the shorter month while revenue increased by \$1,932.

Industrial Medical -(Construction) costs increased by \$2034. Additional personnel (replacement) plus overtime nursing hours accounted for \$1200 of this amount while the balance was made up of several miscellaneous items.

OCTOBER 1951

Industrial Medical Section

General

Extra to the second of the second

The total number of examinations decreased from 2641 to 2202. This was due chiefly to a decrease in annual and contractor employment examinations. General Electric employees sustained 3 sub-major injuries but no major injuries. Contractor employees sustained 2 major injuries and 16 sub-major injuries. First Aid treatments increased from 10,762 to 10,865. Procurement of industrial nurses during the month will result in a decrease of necessary overtime.

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The industrial physicians' scientific meeting was held on October 21th. Mr. Adley and Mr. Perry, Industrial Hygienists, presented a review of the industrial hygiene activities here during the past year. Summary reviews of the studies made gave a complete picture of the work completed.

The Chemical Hazards Committee met on October 19th. Plans were made to make some routine surveys in maintenance shops pending start of Redox operations.

The Health Activities Committee met on October 18th. The health topic dealt with "Blood, Nature's Own Medicine", and material on this subject was prepared for discussion and distribution throughout the plant. The absenteeism report for all employees is now available once a month and includes absenteeism for sickness. This report will replace the multiple reports previously prepared and should stimulate supervisor interest in absenteeism figures.

Gross costs for the previous month (September) decreased \$1,276 due to the following reason:

Salaries decreased in the net amount of \$1,300 due to a shorter work month.

Supply and other charges remained unchanged from the prior month.

| | Increase or | 1. | : | |
|--|----------------------------------|-------------|--------|-----------|
| | (Decrease) over | | | September |
| A STATE OF THE STA | Previous Month | September - | August | Budget |
| Administration | (697) | 6184 | 6881 | . 8810 |
| Household & Property | 462 | 5721 | 5259 | 4826 . |
| Professional Services | (1041) | 24759 | 25800 | 26440 |
| Total Direct Expense | (1276) | 36664 | 37940 | 40076 |
| Less: Revenue | ·· (265) | 1011 | 1276 | 500 |
| Expense Credits | 5 | . 3758 | 3753 | 11113 |
| Net Cost of Operation | 1016 | 31895 | 32911 | 28463 |
| The training of the second of the | alternation of the experience of | | | |

Combined sickness absenteeism for both weekly and monthly employees was 1.58% for September.

OCTOBER 1951

| Industrial Medical Section (Continued) | | | |
|---|-----------|------------|------------|
| Physical Examinations | September | October Ye | ar to Date |
| Operations | | | |
| Pre-employment | | 235 | 2890 |
| Rehire | | 29 | 476 |
| Annual | | 74 | 1958 |
| Interval | | 83 | 2650 |
| Visitor | | . 6 | 14 |
| A. E. C | | 13 | 158 |
| Re-examination and rechecks | | 111 | 1327 |
| Termination | | 150 | 1703 |
| Contractors | • 109 | 701 | 11176 |
| Pre-employment | . 654 | ۷08 | 3958 |
| Rehire | | 287 | 3794 |
| Recheck | | | 1032 |
| Termination & Transfer | | 632 | 6483 |
| Sub-total | | 1501 | 15267 |
| Total Physical Examinations | | 2202 | 26443 |
| Total injurcal mammations | . 2041 | 2202 | 20445 |
| Laboratory Examinations | | | |
| Clinical Laboratory | | | |
| Government | . 6 | 69 | 701 |
| Pre-employment, termination, transfer . | 8695 | 6393 | 69963 |
| Annual | بَلْيَا | 395 | 10275 |
| Recheck (Area) | | 531r | 13782 |
| First Aid | | 34 | 202 |
| Clinic | . 484 | 646 | 15200 |
| Hospital | | 4666 | 43811 |
| Public Health | . 24 | 27 | 248 |
| Total | 14640 | 12764 | 154182 |
| | | | |
| X-Ray | | | |
| Government | . 1 | 10 | 100 |
| Pre-employment, termination, transfer . | . 1370 | 1020 | 11136 |
| Annual | | 80 | 1959 |
| First Aid | | 240 | 2084 |
| Clinic | . 386 | 673 | 3454 |
| Hospital | • 259 | 247 | 2919 |
| Public Health | _ | 7 | 62 |
| Total | . 2273 | 2277 | 21714 |
| - | | | |
| Electrocardiographs | | | |
| Industrial | | 15 | 171 |
| Clinic | | 8 | 58 208 |
| Hospital | . 32 | 37 | 328 553 |
| Total | . 47 | 60 | 557 |
| Allergy | | | |
| Skin Tests | . 0 | 0 | 17 |
| ORIN 10000 | | ., | 1 |

OCTOBER 1951

| Industrial Medical Section (Continued) | | | ا الله الله الله الله الله الله الله ال |
|--|-----------|---------|---|
| First Aid Treatments - | September | October | Year to Date |
| Operations | | | |
| New Occupational Cases | 711 | . 321 | . 3763 |
| Occupational Case Retreatments | (1043 | 1108 . | 10773 |
| Non-occupational Treatments | 2803 | 3203. | 28474 |
| Sub-total | . 4557 | 4632. | 43010 |
| | | | • |
| Construction | | | |
| New Occupational Cases | .1185 | 1055 | 9824 |
| Occupational Case Retreatments | 3820 | 3804 | 34288. |
| Non-occupational Treatments | 1160 | 1274 | 10691 |
| Sub-total | .61,65 | | 54803 |
| Facility Operators | 70200 | 100. | 438 |
| Total First Aid Treatments | 10762 | 10865 | . 98251 |
| Major Injuries | | | |
| General Electric | . 0 | 0 |), |
| Contractors | h. | 2 | 33 |
| Total | L. | 2 | 37 |
| | | | |
| Sub-major Injuries | | | |
| General Electric | 2 | 3 | 17 |
| Contractors | 9 | . 16. | 115 |
| Total | 11 | . 19 | 132 |
| | • | | |
| Absenteeism Investigation | | | • |
| Total No. calls requested | . 16 | 13 | . 125 |
| Total No. calls made | . 16 | 13 | 125 |
| No. absent due to illness in family | | 0 | 0 |
| No. not at home when call was made | 7 | 2 | 26 |

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OCTOBER 1951

Hospital Section

General ·

The Medical Department's roll increased from 265 to 274.

The average daily adult census increased from 85.2 to 87.0, as compared to 75.2 a year ago. This represents an occupancy percentage of 84.5% broken down as follows: Mixed Service (Medical, Surgical and Pediatrics) 89.9%; Obstetrical Service, 62%. The minimum and maximum daily census during the month ranged as follows:

| • | | - | | | Minimum | Maximum |
|---------------------|---|---|---|---|---------|---------|
| Mixed Service | | • | | • | 61 | 87 |
| Obstetrical Service | | • | | • | 6 | 21 |
| Total Adult | • | ٠ | • | • | 72 | 107 |

The average daily newborn census decreased from 14.0 to 12.9, as compared to 10.5 a year ago.

Nursing hours per patient per day:

Medical, Surgical, Pediatrics 3.46

Obstetrical 4.64

The ratio of in-patient hospital employees to patients (excluding newborn) for the month of September was 1.92. When newborn infants are included, the ratio is 1.65.

The net expense for the operation of Kadlec Hospital for September 1951 was \$24,910, as compared to \$27,569 for August. Summary is as follows:

Kadlec Hospital net expense \$24,910

This is a decrease of \$2,659 due to a decrease of \$564 in gross costs, an increase of \$1,832 in revenue due to rise in patient census, and an increase in expense credits of \$263.

As a part of fire prevention activities during the month of October, the hospital held another periodic fire drill. A self inspection of the hospital was made from a fire prevention point of view and a copy of the inspection report was sent to the local Fire Department.

The hospital construction and remodeling program is approaching completion, with a small amount of work left to be done in the Administration Wing and in the X-ray and Laboratory Department.

Our patient census continues to increase. The current trend is a continuation of the jump in number of patients which occurred in September.

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OCTOBER 1951

| spital Section (Continued) | September | October | Year To Da | te |
|---|---------------------------------------|---------------------------------------|------------|----|
| Kadlec Hospital | | | 0 | |
| | 85.2 | | | |
| Medical | 29.1 | 23.6 | 26.2 | |
| Medical | 27.3 | 37.6 | 30.8 | |
| Pediatrics | 17.9 | - 13 Ji | 14.3 | |
| Pediatrics | 14.9 | 12.4 | 12.6 | |
| Average Daily Newborn Census | 14.0 | 12.4 | 12.3 | |
| Maximum Daily Census: | · ()], | | • | |
| Mixed Services | 82 | 87 | | |
| Obstetrical Service | 21 | 21 | | |
| Total Adult Census | 100 | 107 | | |
| Minimum Daily Census: | | | | |
| Mixed Services | 47 | 61 | | |
| Obstetrical Service | . 5 | . 6 | | |
| Total Adult Census | | 72 | | |
| Admissions: Adults | | 543 | 5191 | |
| Discharges: Adults | | | | |
| Newborn | 94 | 78 | 750 | |
| Patient Days: Adult | 2555 | 2696 | | |
| Mewborn | 120 . | fi 399 | | |
| Total | 2975 | 3095 | | |
| Average Length of Stav: Adults | 5.0 | 5.1 | 4.9 | |
| Newborn | 4.5 | 5.0 | 5.0 | |
| Occupancy Percentage: Adults | 82.7 | 84.5 | 80.5 | |
| Newborn | 100 | 92.1 | 87.8 | |
| (Occupancy Percentage based on 103 adult | | | | |
| beds and lh bassinets.) | · · · · · · · · · · · · · · · · · · · | | • | |
| Avg. Nursing Hours per Patient Day: | ·. · | ng ngapa sa sa | • • • • | |
| Medical, Surgical, Pediatrics | 3.27 | 3.46 | | |
| Obstetrics | 3.54 | 4.64 | | |
| Avg. No. Employees per Patient | • • | e e e e e e e e e e e e e e e e e e e | | |
| (excluding newborn) | 1.92 | | | |
| Operations: Major | . 77 | . 77 | 772 | |
| Minor | 71 | | 861 | |
| E.E.N.T | . 46 | 89 | 697 | |
| Dental | . 2 | | | |
| Births: Live | 90: | 81 | | |
| and with Still | . 1 | 0 | 3 | |
| Deaths | | 5 | | |
| Hospital Net Death Rate | 50 | •50 •: 2 0 | •39 | |
| Hospital Net Death Rate | 100 | : 20 | 39.5 | |
| Discharged against advice | . 2: | 0 | 11 | |
| One-day Cases | 117 | 128 | 1085 | |
| -Admission Sources: | | gg Sire en 🚓 | | |
| -Remittation composition in the contraction of the | | 22 6 | 74.6 | |
| Richland: was it a name of the bound of the | 72.1 | • (1-5 | ·/ H • O | |
| Richland North Richland | . 72.1 · | 73.5 11.8 | 11.8 | |
| Richland North Richland Other | . 13.L | 11.8 11.7 | 11.8 | |

OCTOBER 1951

| Kadlec Hospital (Continued) | September | October | Year to Date |
|---|---|---|--|
| Admissions by Employment: General Electric Government Facility Contractors Schools Military Others Hospital Outpatients Treated | 70.7 1.4 4.7 17.0 .8 2.5 2.9 559 | 69.8 1.5 5.3 19.0 1.1 .4 2.9 477 | 71.6 2.4 4.6 16.2 1.4 1.8 2.0 4657 |
| Physical Manager Transfer | | | * * |
| Physical Therapy Treatments Clinic | 168 123 92 7 390 | 193 160 127 6 486 | 1357 902 1293 185 3737 |
| Pharmacy | | (0 | 27.000 |
| No. of Prescriptions Filled | 2991 663 | 3268 730 | 31238 6993 |
| Patient Meals | • | | • |
| Regulars Specials Lights Softs Tonsils Liquids Surgical Liquids Total | 1 879 74 395 | 4929 1310 1 852 187 302 67 7648 | 42238 12626 112 12206 1453 2297 784 71716 |
| Cafeteria Meals | 2/52 | 7000 | 3 4341 |
| Noon | 1651 237 | 1883 284 | 1535h 2396 |
| Total | 1888 | 2167 | 17750 |

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OCTOBER 1951

Public Health Section

General .

The communicable disease level remained about the same with a no significant change in the distribution of infectious diseases. There remain three adult white females on the rolls who are receiving physical therapy for polic. The prognosis for these cases is good and undoubtedly they will make complete recovery.

The total home nursing visits decreased approximately 30% due to the low level of communicable diseases and the reduction in morbidity reported. It is also to be noted that more effort has gone into the school hygiene program in regard to time spent by the nurses in the school performing inspections and visual testing of school children.

A workshop for school teachers at the Junior High level was attended by members of the staff to explain the services we are offering for school children.

A visit was made to the section by Dr. R. McCauley and Mr. Buchanan of the U. S. Public Health, Portland office, in regard to insect vector control program, namely, mosquitos. They were interested primarily in the effect which the back-waters of McNary Dam will mean to the Richland area. It is hoped by consultation with the U. S. Public Health and U. S. Army Engineers that an effective control program will be instituted to combat new problems which will arise from these waters.

The Health Officer attended the American Public Health Association meeting in San Francisco and a State Civil Defense meeting in Seattle.

During October the Social Service Counselors assisted in making plans for medical care for children who, in the school screening process, were discovered to have physical defects. The parents of four children with severe mental deficiency were also taken under service.

One of the counselors visited Secret Harbor Farm, a resident treatment center for boys with serious behavior problems. The purpose of the visit was to discuss the progress of the four Richland boys who are under treatment there, and whose families are being assisted by our social service counselors.

Food handling establishments were inspected this month. A conference is being planned between restaurant managers and the Public Health Department to formulate plans for a food handling training course to be held in the near future. It is hoped that restaurant operators will cooperate with the program as there is a great need for improved food handling methods in this area. Several establishments are in need of better refrigeration for the protection of perishable foods such as cream pies. One restaurant was degraded during the month for allowing insanitary conditions to exist.

MEDICAL DEPARTMENT OCTOBER 1951

Public Health Section (Continued)

General

One hundred and fifteen new milk and twelve pasteurized samples were tested during the month. Results indicated an acceptable product from the bacteriological standpoint. The dairy farms have been divided between the two sanitarians. This will give greater coverage of inspections. Two new dairy farms have been approved to ship Grade A milk.

One dog was impounded this month for rabies observation. The incidence of dog bites has decreased over the preceding months.

Three parties were cited for illegal dumping of garbage and refuse. It is hoped "No Dumping" signs can be placed in these areas.

Water samples are being taken from new houses and apartments being completed. Bacteriological results thus far have been satisfactory.

OCTOBER 1951

| Education Pamphlets distributed | 10075 | | Year to Date |
|---|------------|---------------|--------------|
| News Releases | 10075 | 111.70 | |
| News Releases | | TT# /0 | 102136 |
| Staff Meetings | 0 - | 0 | Ö |
| mm | 1 | | |
| Classes | 2 | 8 | 31 |
| Attendance | 70 | 385 | 711 |
| Lectures & Talks | 5 | 13 | · 56 |
| Attendance | 90 | 763 | 1898 |
| Films Shown | 0 | 5 | 31 |
| Attendance | 0 | 213 | 1359 |
| Community Conferences | . 78 | 50 | 365 |
| Radio Broadcasts | . 0 | O. | 0 |
| | | 4 - 1 - 2 - 4 | |
| Immunizations | | | • • • |
| Diphtheria | | 18 | 155 |
| Diphtheria Booster | | 137 | 464 |
| Tetanus | | 19 | 647 |
| Tetanus Booster | | 159 | 631 |
| Pertussis | | 16 | 67 |
| Pertussis Booster | | 45 | 344 |
| Rocky Mountain Spotted Fever | 0 | 0 | 8 |
| Rocky Mountain Spotted Fever Booster | 0 | 0 | 2 . |
| Typhoid | 0 | 0 | 17 · |
| Typhoid Booster | | 0 | 0 |
| Smallpox | | 170 | 261 |
| Smallpox Revaccination | | 0 | 277 |
| Tuberculin Test | 0 | 10 | 41 |
| Social Service | | | |
| Cases carried over | | 55 | 804 |
| Cases admitted | | 26 | 173 |
| Cases closed | | 14 | 186 |
| Remaining case load | <i>5</i> 5 | 67 | 791 |
| Activities: | | | _ |
| Home Visits | | 8 | 225 |
| Office Interviews | , - | 220 | 2118 |
| Conferences | | 56 | 660 |
| Meetings | 12 | 5 | 126 |
| Sanitation | | | |
| Inspections made | 96 | 101 | 1336 |
| Conferences held | | 12 | 121 |
| Bacteriological Laboratory | | - | |
| Treated water samples | 214 | 279 | 2137 |
| Milk samples (inc. cream & ice cream) | | 10 | 121 |
| Times Schilles (The Pickin & The Clubb) was a | .7. | | 2455 |
| Other bacteriological tests | 215 | 261 | 4477 |

OCTOBER 1951

| | September October | Year to Date |
|--|-------------------|--------------|
| Communicable Diseases | | _ |
| Amoebic Dysentery | 0 0 | 1 |
| Chickenpox | , 2 4 | 381 |
| Erysipelas | . 0 0 | 7 |
| German Measles | , 5 <u>4</u> | 96 |
| Gonorrhea | . 0 | 1 |
| Histoplasmosis | 0 | 1 |
| Impetigo | 4 | 8 |
| Impetigo Influenza (Upper Respiratory Infection) | , T | 3092 |
| Malaria | . 0 3 | 3 |
| Measles | . 0 | 1115 |
| Meningitis | . 0 | 2 |
| Meningitis | , 6 l | 5/1 |
| Salmonellosis | • U | 2 |
| Pinkeye | 0 1 | 14 |
| Poliomyelitis | . 1 0 | 2 |
| Rhoumatic Fever | . 1 | 3 |
| Ringworm Roseola | . 6 | 26 |
| Roseola | | 15 |
| Scabies | • O | 4 |
| Scarlet Fever | . 1 | 52 |
| Syphilis | . 0 | 21 |
| Tuberculosis | . 0 1 | . 9 |
| Vincent's Infection | . 0 | 2 |
| Whooping Cough | • 0 | 8 |
| Total | 23 20 | 4889 |
| | | |
| -Total No. Nursing Field Visits | . 707 571 | |
| Total No. Nursing Office Visits | . 159 186 | 1296 |
| | | |

| _ | | | | | | - | | - | | - | _ | | | | | 11 | 00 | | | |
|----|-------|-----|--------------|-------|-----|-------|-------|--------|-------|----------|-------|-------|--------|---------------|--------------|---------------|----------|------------|--|-----------------------------------|
| | | | | (| ut | :13 | rin | Ŗ | Ar | ea | 3 | ·· | | NR | _ | A | re | a | | |
| | TOTAL | 101 | White Bluffs | 100-C | 300 | 200-W | 200-E | 241-BY | 100-H | 100-F | 100-D | 100-В | M. J 4 | Public Health | Industrial . | Public Health | Hospital | Industrial | Department Admin. | |
| | 72 | | | .2 | .2 | .3 | .2 | | .1 | .1 | 1. | r | | | 2.7 | 1 | 2 | J | 2 | Physicians |
| | 109 | 1 | ۳ | w | 1 | = | 4 | 1 | 1 | 4 | ь | Ĺ | ۳ | 2 | 1 | -7 | Š | 8 | | Nurses |
| _ | 2 | | | | | | | | | | ٠ | | • | | | | 2 | | | Anesthetists |
| | 28 | | | | | | | | | | | | | | | 1 | 27 | | | Nurse Aides |
| - | - | | | | | Γ | | Ī | • | <u>'</u> | | | | | • | | 1 | | | Orderly & Am. Dr. |
| - | 12 | | | | | 'n | .6 | | .2 | • | *> | 'n | · | | 2 | | 173 | · | | Technicians - Clin. Laboratory |
| 1- | 2 | | | | | - | - | | | | | | | | 1 | | 1 | | | Tech X-Ray |
| - | - | | | | | Γ | Γ | | | | | | | | | | 1 | · | | Tech Bac. Lab. |
| - | 1 | | | Г | | Γ | | | | | ľ | | | | | | Ţ | | | Tech Phy. Ther. |
| | 2 | | | | | | | | | | | | | | | | • | | 2 | Secretary ' |
| | 10 | | | | | | | | 1 | | | | 1 | | | 3 | - կ | . 2 | ب | Steno - Typist |
| | 1 | | | | | | | | | · | Ŀ | | · | ŀ | | | · | نر | | Office Mach. Opr. |
| | E | | | | | | | | • | | | | | | | | | | ىيا | Telephone Oper. |
| | . tc | | | 1.0 | ن | 13 | .3 | | .2 | ئ | ن | ن | | | 7 | 1.1 | 10,5 | 8.4 | Ŀ | General Clerk |
| | W | | | | | | | | Ľ | | | | | | | | w | | <u>. </u> | Pharmacist |
| | 2 | | | | | | | | | | | | | | | | 2 | | | Dietitian |
| | 5 | | | | | | | | | | | | | | | | 5 | | | Cook |
| | 10 | | | | | | 1 | | | | | | | | | | 10 | | | Kitchen Worker |
| | 2 | | | | | | | | | | | | | | | 2 | _ | | | Soc. Serv. Couns. |
| | 2 | | | | | | | | | | | | | | | 2 | | | | Sanitarian |
| | Ţ | | | L | | | | | L | | | | | | | 1 | | | | Health Educator |
| | T | | | | | | | | | - | | | | ٠ | • 7 | .6 | œ | 11.11 | | Jani tors |
| L | 1 | | | L | | | | L | | | L | | | L | | L | | | + | Records Supv. |
| | 2 | L | | | | | | | | | | | | | L | | | | 2 | Adm. & Assistant |
| | 8 | | | | | | | | | | | | | | | | 7 | | 1 | Others |
| | 274 | 1.0 | 1.0 | 4.2 | 1.5 | 0.4 | 5,1 | 1.0 | 1.5 | 4.6 | 4.0 | 1.6 | 1.0 | 2.3 | 14.4 | 18.7 | 161.9 | 8.02 | 18.0 | TOTAL |

- 12 -

Humber of employees on roll:
Beginning of month 265
End of month 274
Net increase

* u part-time and temporary nurses included



DECLASSIFIED

RADIOLOGICAL SCIENCES DEPARTMENT

OCTOBER 1951

Summary

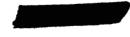
1

Three Class II and one Class I radiation hazards incident investigations were reported.

Emission of I from the separations plants continued to approach more acceptable limits. Radioactive particle deposition throughout the Pacific Northwest increased significantly as a result of activities other than at Hanford.

No significant finding was reported in other control functions. Research and development activities progressed without incident.

2



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RADIOLOGICAL SCIENCES DEPARTMENT

OCTOBER 1951

Organization

12 to 12 to 13

The composition and distribution of the force as of 10/31/51 was as follows:

| 100-B | 100-D | 100-F | 100-H 2 | 200-E | 200-W | 300 | 700 | P.G. | Total |
|---|---------|--------------------------|------------------|-------------------------|---------------------------|---------------------------|--------------------|-------|------------------------------|
| Supervisors 0 Engineers * 1 Clerical 0 Others 11 Total 12 | 0 0 4 4 | 4 32 5 46 87 | 0 0 0 3 | 1 3 1 28 33 | 6 21 2 75 104 | 11 15 3 55 84 | 5 5 11 26 | 00088 | 27 77 16 241 361 |

*includes chemists, biologists, etc.

| Number of employees on Payroll | October 1951 |
|--------------------------------|--------------|
| Beginning of month | 351 |
| End of month | <u>361</u> |
| Net increase | 10 |

Added to the roll were two biological scientists, two rotational trainees, two stemo-typists, four inspectors, five laboratory assistants, two badge workers, one personnel meters clerk, two general clerks, and one field clerk. Removals included two laboratory assistants, two rotational trainees, one physicist, one technologist, one staff engineer, one draftsman, one general clerk, one inspector, and one badge worker.

General

The emission of I¹³¹ from the deparations plant stacks steadily approached more acceptable limits throughout the month. In some instances, deposited I¹³¹ increased although emission decreased, due to adverse meteorological conditions. This phenomenon which is increasingly to be expected in winter months indicates the need for continued attention to the iodine problem until it is expedient to prolong cooling time of irradiated metal.

Particle deposition throughout the Pacific Northwest increased by factors ranging up to 1000, obviously as a result of Russian activities. From the public relations viewpoint, it is comforting to reflect that both Russia and the bomb testing activities of the Atomic Energy Commission have provided the residents of the northwest with many more particles for inhalation this year than have been provided outside the reservation by the company's operation.



3

The following trips were reported:

- C.C. Gamertsfelder, H.M. Parker Laboratory Directors Meeting, Las Vegas,
- M.L. Barad, L.K. Bustad, J.J. Davis, H.A. Kornberg, H.M. Parker,
- W.C. Roesch A.E.C. Research Contractors' Meeting, Portland, Oregon.

During the period covered by this report, all persons in the Radiological Sciences Department 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 w ot for the pe in the co discoveri

| work exc | ept as | listed | l below. | Such p | ersons | further | advised th | at |
|-----------|---------|---------|----------|----------|--------|----------|-------------|-----|
| period th | erein (| covered | l by thi | s report | , note | book rec | ords if any | kep |
| ourse of | their t | work ha | ve been | examine | d for | possible | inventions | or |
| _ | | · | | ma + | • | | | |



RADIOLOGICAL RECORDS AND STANDARDS SECTION

1. Radiation Monitoring Services

| General Statistics | September | October | 1951 To Date |
|--|----------------|-------------|-----------------|
| Special Work Permits Routine & Spec. Surveys | 572 1196' * | 661 1468 | 5260 8903 * |
| Air Monitoring Samples | 787 * | 1292 | 4357 * |
| Skin Contamination Cases | 57 | 39 • | 129 * |

In the P-10 operation, 740 curies of tritium were accidently released to the stack on October 12, 1951. Resultant atmospheric concentrations were missed, because the sampling program was not operative on a 24-hour basis.

All urine samples analyzed for tritium oxide during the month showed activity densities less than 20 pc/liter.

In Control Laboratories, 272 non-regulated items and 47 floor locations were found contaminated. No skin contamination resulted from either of two major spills. A laboratory worker's fingers, contaminated with plutonium, were incompletely decontaminated after several days, because of skin sensitivity.

A construction worker was overexposed to gamma radiation in an excavation adjacent to the 241-B tank farm. The incident occurred thirteen days after metal waste from the B-Plant had been rerouted through a line under the excavation. The source of the radiation was an exposed section of this line. The potential hazard, which had existed from the time rerouting took place, was discovered during the investigation of high personnel meter results.

In the 300 Area Technical Laboratories, 46 non-regulated items were found contaminated.

An employee in the Calibrations building received a hand exposure of 1.4 roentgens during the manipulation of equipment.

2. Standards

Three Class II incidents and one Class I incident were investigated. The Class II incidents involved overexposures during thimble removal on top of

| × | Incorrectly | reported | last | month | 1, |
|---|-------------|----------|------|-------|----|
|---|-------------|----------|------|-------|----|





the 105-D pile, during work associated with a ruptured slug removal in the discharge area at 105-B, and during construction work near the 241-B tank farm. The Class I incident involved hand exposure in the Calibraticus building.

3. Exposure Records

Personnel Meters, and Records and Photometry

| | | | | | 200 | OW Const. | .* | | |
|-----------------|--------|--------|--------|--------|--------|-----------------|--------|---------|-----------|
| Pencils | | | | | E&N | 200-W | | • • | 1951 |
| - | 100-B | 100-D | 100-F | 100-H | 200 | 12,247* | 300 | Total | To Date |
| Pencils read | 18,643 | 14,483 | 14,794 | 10,149 | 33,384 | 41,246 | 26,493 | 171,439 | 1,631,171 |
| Single readings | 3 | | | | | 14* | | , | |
| (100 to 280 m | .) 31 | 19 | 24 | 10 | 32 | 40 | 10 | 180 | 1,986 |
| Paired readings | | | • | | | | | | |
| (100 to 280 m | •) 5 | 9 | 0 | 1 | 2 | 1 | 0 | 18 | 58 |
| Single readings | 3 | | | | | 35 * | | | |
| (Over 280 mm) | 59 | 57 | 36 | 31 | 82 | 151 | 63 | 514 | 3,260 |
| Paired readings | 3 | | | | | 1* | | | |
| (Over 280 mm) | 0 | 1 | 0 | 0 | 2 | l | 1 | 6 | 55 |
| Lost readings | 3 | 2 | 1 | 0 | 1 | 1 | - 0 | 8 | 63 |

Of the 24 significant pencil readings reported, 17 were confirmed by badge results. Seven of the confirmed results were overexposures; four at 100-B, two at 100-D, and one at 200-E construction. (see above)

Investigation of the 8 lost readings show 6 with no possibility of an exposure.

| Badges | 100-B | 100-D | P-11 101-P 100-F | 100-H | 200-E | R.R.T. 200-N | 200-W | <u>300</u> | Total | 1951 To date |
|--|-------|-------|------------------------|--------|-------|-----------------|-------|------------|--------|-----------------|
| Badges Processed | 2,761 | 2,769 | 2,560 | 2,196 | 3,848 | 724 | 5,014 | 7,201 | 27,073 | 258,834 |
| Number readings (100 to 300 mrep) | 30 | 75 | , 96 | 31 | 86 | 0 | 136 | 105 | 559 | 4,3% |
| Number readings (300 to 500 mrep) | 5 | 8 | 15 | 6 | 14 | 0 | 2 | 0 | 50 | 298 |
| Number readings (500 to 1000 mrep |) 0 | 1 | 1 | 0 | 3 | 0 | 0 | 0 | 6 | 85 |
| Number readings (Over 1000 mrep) Lost Readings | 0 | 1, | * o | 0 1 | 0 | 0 | 0 | 0 | 1 7 | 19 110 |

*Over 300 mr gamma



a Charles Will

Radiological Sciences Department

Not packaged 1
Lost in processing 1
Contaminated badge 1
Light struck 3

Tota

Investigation of the above lost readings indicate no possibility of an overexposure.

invertes; of section for instability (8)

Badge Resume, Construction Areas

100-D Const. 200-W Const. 200-E Const. Total To Date 3,928 11,010 82,742 5,002 Badges processed 2,080 Number readings 16 234 11 (100 to 300 mrep) Number readings (300 to 500 mrep) Number readings 11 (500 to 1000 mrep) Number readings 1 (Over 1000 mrep) Lost Readings

Total badges processed 1951, Operation 27,073
Construction 11,010
Total 38,083

In addition to the badge program, a total of 1,701 items of a non-routine nature was processed during the month.

| Slow Neutron Pencil Sum | nory | | | • | • | 1951 |
|--------------------------------|----------------|---------------------|--------|--------------|-------|---------|
| | 100 <i>-</i> B | 100-D and 100-DR | 100-F | 100-H | Total | To Date |
| Number of pairs issued | 0 | 75 | 15 | 285 | 375 | 4,061 |
| Number of significant readings | 0 | 9 | 1 1 | ر. 11 | 21 | 247 |
| Number of significant | em) O | ι: α : | *£ 0.; | ·. o | · 0 | 5 |

Number of significant readings (above 50 mrem) 0 0 *: 0 0 (.....0

Badges Processed

(1) V

Badges Processed Personnel Special 1951 100-B 100-D 100-F 100-H 200-W 300 Total To Date 22 93 55 112 58 5 345 3,242 0 5342 6 0 20 5 31 248

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Bioassay

Plutonium analysis:

| man and anomal an | - | 602 |
|---------------------------|---|------------|
| Number of samples | _ | . 92 |
| Spikes and blanks | | 1.05 d/m |
| High readings | • | 2.00 1/2 |
| Resumples from last month | - | < 0.33 d/m |

Fission product analysis:

| Number of samples | | - | 561 | | |
|-------------------|---|---|------|------|-----|
| Spikes and blanks | | - | 0+ | | , |
| High readings | • | - | none | > 10 | c/m |

Uranium analysis:

| END | | | EXPOSURE | |
|-----|------|------|----------|--|
| | ug/: | Lite | er . | |

END ONE DAY, NO EXPOSURE Ag/liter

| Job Description | Meximum | Average | Number Samples | Maximum | Average | Number Samples |
|--|------------------------------|---|--|--|------------|---|
| Canning Machining Melt Plant Material Hand Inspection 305 Building Coverage Clerical Special Servi Car Unloading | 14 4 11 9 ces 55 | 4 13 16 7 4 4 6 4 17 6 | 24 29 12 5 8 1 7 3 5 | 5 13 23 6 5 7 11 4 10 4 | 2424446261 | 19 21 12 6 2 6 2 6 11 |

| r ourogame | -/ | | |
|------------|-------------------|------------------------|-------------------|
| | Maximum /ug/l: | <u>Average</u> Lter | Number Samples |
| - - | 3 | 1 | 17 |

Tritium analysis:

| Activity | Density | uc/cc | x | 103 |
|----------|------------|-------|---|-----|
| | 2 0002 - 0 | 1 | | |

| | 2 | 2-5 | 5-10 | 10-20 | 20-35 | <u>35-65</u> | 65 |
|--|-------------------------|---------------|---------------|-------------------|-------|--------------|-------------|
| No.Samples-Operating Personnel No.Personnel involved No.Samples-Construction Personnel No.Personnel involved | 681 100 200 27 | 93 16 0 | 79 10 0 | 17 5 0 0 | 0 | 0 0 0 0 | 0 0 0 |

Thyroid Checks

Hand Score Summary

There were 40,428 alpha and 60,813 beta hand scores reported. About 0.15% of the alpha and about 0.03% of the beta scores were high. Decontamination was attempted and successful for all high scores. profession granders and sign

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(4) 使复数运输器

| 4. Calibrations | Number of Routine Calibrations | | | |
|--|---------------------------------------|---|---|--|
| | September | October | 1951 to Dato | |
| Fixed Instruments Gamma | 217 | 201 | 2,497 | |
| Portable Instruments Alpha Beta Gamma (radium) X-ray Neutron Total | 245 502 990 7 3 | 261 545 1,100 3 6 | 2,876 5,953 11,629 58 26 | |
| Personnel Moters Beta Gamma (radium) X-ray Neutron Total | 698 6,597 6,150 28 13,473 | 783 8,385 7,691 <u>707</u> 17,566 | 8,007 64,701 44,550 993 118,251 | |
| Grand Total | 15,437 | 19,682 | 141,290 | |

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BIOPHYSICS SECTION

CONTROL UNIT

Regional Survey

Radiochemical analysis for the activity density from alpha emitters indicated detectable quantities in four wells in the Richland region and in two Benton City wells. Maximum activity was found in the Benton City region where the Benton City Store supply and the Benton City Water Company well showed an average of 1.0 and 1.4 x 10^{-2} µg U/cc; individual samples were on the order of 2.0 to 2.4 x 10^{-2} µg U/cc in isolated cases. In the Richland region, the activity density from alpha emitters, as determined by ether extraction, averaged from 5.7 x 10^{-9} to 1.7 x 10^{-8} µc/cc; uranium measurements showed average values on the order of 2 to 7 x 10^{-3} µg U/cc in these wells.

Trace quantities of beta activity were measured in the drinking water supplies of Kennewick, Pasco and the Hanford Works operating areas. Maximum measurements were found at Pasco where the water leaving the filter plant for consumption showed an average of 3.3 x 10-7 μ c/cc. The average activity density from beta emitters in sanitary water consumed on the plant ranged from 7 x 10-0 μ c/cc to 3.3 x 10-7 μ c/cc. Samples of filtering media obtained from the Pasco filter plant showed an average of 4.2 x 10-2 μ c/gm and 4.4 x 10-7 μ c/cc in the solid and liquid portions of the backwash material from the sand filter. Samples of sand and coal collected from the surface of the filter basins showed averages of 7.1 x 10-5 and 1.1 x 10-4 μ c/gm, respectively.

Activity density from alpha emitters in the 300 Area wells decreased except in well #4 which averaged 0.3 pg U/cc.

Increases in the mean activity density from gross beta emitters observed at many locations along the Columbia River were associated with a decrease in average flow rate of the river from 705,000 gallons/second during September to 617,000 gallons/second during October. Maximum activity was measured immediately below the 100-H Area where the average was 7.9 x 10^{-6} µc/cc. The average activity density from alpha emitters in the Columbia River averaged less than 5.0 x 10^{-9} µc/cc at all locations except the 100-H Area where one sample indicated a value of 1.7 x 10^{-8} µc/cc.

The activity density in mud samples collected along the shore of the Columbia River showed no significant change from previous averages; however, individual samples collected from locations below the 100-H Area indicated values ranging from 1.2 to 3.2 x 10⁻¹ µc/gm for the beta activity measurement.

Results obtained from the monitoring of raw water supplies at the operating areas showed increases ranging from a factor of 2 to 7 for the mean activity density from gross beta emitters.





a la anti-

Approximately 13 curies of I^{131} per day were admitted to the atmosphere from the separation areas during October. The daily emission at the 200-West Area was not significantly different from that of the previous month. A significant decrease occurred in the amount of I^{131} emitted from the 200 East Area as a result of the regeneration of both of the silver reactors and the addition of mercuric salts to the dissolvers for the purpose of retaining the I^{131} in solution. More than 75% of the I^{131} emitted via the stack was found to be passing through the sand filter. Spot checks to determine the efficiency of the silver reactors indicated that this efficiency exceeded 9% in each of the separation areas.

Average radiation dosage rates computed from readings obtained with detachable ionization chambers indicated radiation levels ranging from 1.0 to 2.0 mrep/24 hrs in the region within a radium of 10 miles of the separation areas. Similar measurements obtained at perimeter locations and in residential areas showed the dosage rates to be on the order of natural background.

The activity density from filterable beta emitters in the atmosphere increased by a factor of 2 to 5 at all monitoring locations during October.

Maximum averages were found at locations inside the separation areas and were on the order of 1.0 to 2.7 x 10-12 µc/cc. The increase in the amount of filterable beta emitters in the atmosphere was attributed to sources other than the Hanford Works; confirming data which established this fact was obtained from the particle monitoring program and from a comparison of the magnitude of increase observed at remote locations with the magnitude of increase in the immediate environs.

The activity density of I¹³¹ in the atmosphere showed significant decreases at nearly all monitoring locations. Maximum concentrations continued in the 200 East Area where the average activity density throughout the month was 3.4 x 10⁻¹¹ $\mu c/cc$, including a one-week period in which the average activity density was 4.8 x 10⁻¹⁰ $\mu c/cc$. A sample collected over a one-week period at Kennewick which showed an average of 8.4 x 10⁻¹² μc I¹³¹ per cc was confirmed by a comparable increase in the deposition of I¹³¹ on vegetation in that region during the same period. This high localized deposition is associated with adverse meteorological condition.

The activity density from alpha emitters in the atmosphere was less than $4.0 \times 10^{-15} \, \mu \text{c/cc}$ at many of the monitoring locations; however, average values on the order of 1.0 to 2.0 x $10^{-14} \, \mu \text{c/cc}$ were detected in or near the operating areas.

The average number of radioactive particles in the atmosphere showed highly significant increases over the previous menth's average. This increase was weighted by the measurements collected after October 1 and 2 on which dates particle collection suddenly increased to values which exceeded previous levels by factors ranging from 100 to 1000. The magnitude of increase at remote locations in the states of Oregon and Idaho was equal to, and in many cases exceeded the magnitude of increase observed at monitoring stations in the immediate environs. Particle concentrations averaged 8 particles /meter3



over a 24 hour period on October 5 at Klamath Falls and exceeded an average of 1 particle/meter3 during a one-week monitoring period at Walla Walla. Monitoring at various elevations of the Meteorology Tower showed average concentrations to be on the order of 1.0 particle/meter3 between October 5 and October 12. The general deposition throughout the entire Pacific Northwest, along with the negligible difference between the averages at Hanford locations and those of remote locations, indicated unequivocally that the particles originated from a source other than the Hanford effluent stacks.

The activity density of 1,31 on vegetation samples was comparable with that observed during September. Small increases at isolated locations near the separation areas were attributed to adverse meteorological conditions during periods of metal dissolution. The maximum deposition was found near the Meteorology Tower where the activity density averaged 1.5 x 10⁻⁴ µc/gm. Off area surveys in the region bounded by Walla Walla, Lewiston, and Spokane indicated trace deposition at Lind, Cheney, and Spokane. The activity density from non-volatile emitters on vegetation increased by a factor of 2 to 3 at nearly all locations. Again, the increase was attributed to the influx of particulate contamination from other sources. Special surveys conducted in the vicinity of the 242-T building for the purpose of determining the extent of activity deposition from the evaporator indicated negligible activity contributed from this source. The activity density from alpha emitters on spot samples of vegetation collected from the vicinity of the separation areas ranged from 7 x 10⁻⁸ to 8.8 x 10⁻⁷ pc/gm.

No significant change was observed in the acitivity density (alpha and gross beta emitters) at the pile effluent retention basins. Specific measurement for the activity density from plutonium and uranium showed negligible activity from this source. Activity density from I^{131} at the Hanford Ferry averaged 8 x 10^{-8} $\mu c/cc$.

Analysis of 376 air samples for tritium oxide showed maximum values on the order of 2 to 6 x 10^{-8} µc/cc and average values on the order of 1 to 2 x 10^{-8} µc/cc. The positive averages were obtained at locations in the immediate environs of the 100-B Area. Similar determinations at the 105-F and 105-D stack showed averages of 3.4 and 6.2 x 10^{-8} µc/cc, respectively. The maximum stack measurement was 1.6 x 10^{-7} µc/cc at the 100-D Area.

Analyses of 100 Area stack samples for S-35 and C-14 showed negligible activity from this source although isolated samples had values of 1.8 x 10^{-9} /uc/cc and 8.1 x 10^{-10} µc/cc for C-14.

Routine monitoring of the open waste zones in the 200 and 300 Areas showed no significant trend or deviation from the levels of previous measurements.







Analytical Control Laboratory

Routine analyses were carried out as follows:

Laboratory

| Type Sample | October 1951 | 1951 to Date |
|--|--------------|--------------|
| Vegetation | 1675 | 16729 |
| Water | 1853 | 19263 |
| Solids | 425 | 3186 |
| Air Samples | 532 | 3711 |
| Fluorophotometer | 474 | 5570 |
| Special Survey Analyses | 25 | 299 |
| AEC Fall Out Samples | 266 | 266 |
| Tritium | 2050 | • |
| Total | 9350 | 49024 |
| Counting Room | | 3421 |
| Beta measurements (recounts included) | 6775 | 53889 |
| Alpha measurements (recounts included) | 3270 | 35990 |
| Control points (beta and alpha) | 3234 | 25077 |
| Decay curve points | 4069 | 29015 |
| Absorption curve points | 208 | 2545 |
| Total | 17556 | 146517 |

Twenty-five samples were analyzed for the Radiation Monitoring Units during the month and four samples were obtained from the waste effluent basins.

The presence of iodine isotopes in pile effluent was confirmed. Activity density of iodine in the effluent measured on four samples varied from 50 to 200 d/m/ml. The I¹³¹ found in this iodine fraction indicates considerably higher amounts of fissionable material than that indicated previously by Ba¹⁴⁰ measurements. Decay curves of the iodine fraction indicated that the iodine was released into the water immediately after fission. Although these measurements were begun to evaluate the ruptured slug problem, what is being measured is fission from surface contamination uranium on slugs (30-100 µg per slug). If this could be removed economically, the detection problem (which is not the responsibility of Radiological Sciences) may be much simplified.

No significant difference in the activity density of short life emitters (Mn, Na, Cu, As, Si, Group IV) was noted in 107-F pile effluent due to the change from iron to aluminum floc initiated during the first part of the month.

Analysis of samples from the A.E.C. in conjunction with the Nevada Bomb tests was started on October 5. The 266 analyses carried out have been on gummed paper and tray samples used to collect falling particles.



Synoptic Meteorology

| | <u>Oc</u> | tober 1951 |
|------------|-------------|---------------------|
| Forecasts | Number Made | Percent Reliability |
| Production | 93 | 78.2 |
| 24-hour | 62 | 81.9 |
| Special | 25 | 84.0 |

Daily high and low temperatures averaged 51.5, or 1.5 degrees below normal. The first half of the month was generally warmer than the seasonal normal, but the last half was considerably cooler. The highest temperature, 79°, occurred on the 9th. The lowest, 27°, occurred on the 28th. Freezing temperatures occurred on six different days, the first of which was the 15th.

Precipitation totaled 0.71 inch. This was 0.12 inch above normal, but was far below last year's record October total of 2.46 inches.

There was a thunderstorm on the first, and a rather high wind of brief duration on the 19th. Neither of these storms, however, was severe.

Data Analysis

Activities included the analysis of air data from Hanford for the measurement of radon, data from the river dilution study, control analyses, particle data, and results from air monitoring for tritium.

ENVIRONMENTAL HAZARDS AND GENERAL STUDIES UNIT

1. Experimental Meteorology

Trajectories of hypothetical emission clouds were continued.

A study of the wind records obtained from the wind station network revealed that, except for conditions of strong pressure gradients, the synoptic picture in the Northwest is of little value for prediction of trajectories of air in the Hanford Works area. A climatological approach has been undertaken.

Two field tests were conducted to measure the time rate of increase of the lateral width of portions of a continuously emitted smoke plume, and to measure the lateral width of the plume at various distances (up to 2,000 feet) from the source.

Four fluorescent compounds were investigated for possible use as tracers in small scale diffusion experiments. Large scale experiments in cooperation with outside agencies were wisely deferred pending proof that the zinc cadmium sulfide to be used would be non-toxic. Studies initiated as a result of this local reluctance showed the material to be significantly toxic.



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Studies of the wind profile have been postponed because the records of wind observations at various levels of the meteorology tower have been shown to be inaccurate. Appropriate instrument development is to be undertaken.

2. Geology-Hydrology

Ground water contamination in the 200 Areas remained at previously established levels. Samples were taken from the bottom of each of the wells in the 361-T Area in addition to the regular samples near the surface of the water to determine if there was any stratification of the contamination of this zone. No appreciable difference was found with radioactivity measurements; the samples are now being studied by the Soil Science group to determine if the same is true for nitrate analyses.

Water samples have been taken from wells 108-B-1, 2 and 3 since April to check on the possibility of tritium contamination. No tritium contamination was found, but there has been a small amount of beta activity in the samples. A review of the results showed a correlation of this activity with the rise and fall of the Columbia River, which possibly indicates a source of contamination between the wells and the river.

The activity densities of samples from the 300 Area wells indicated the Peak levels to be in the southeast section of the area.

Thirty-four sediment samples were taken from the various test wells near cribs and tile fields; no unusual condition was observed. Correlations of activity densities and mitrate determinations were continued.

3. Soil Science

Burgara Barangan

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The carbonate content of the samples from Well 303-13 was found to be:

| | Depth 1 | (feet) | | Percent Ca | Co ₃ | |
|-------------|--------------|----------------------------------|---------------------------------------|---|--|-----|
| | 1-120 | | المنظومين الجالي الما | المراجع والمسجدود | | |
| 1 4 | | 132 | | < 1 2.5 | | |
| | 132 to | 186 | i i i i i i i i i i i i i i i i i i i | <1 | | |
| e je me Kee | 186 to | 192 1 198 with a large | | 4.4 | | |
| | | 204 | | 3.4 8.8 | Service de la companya de la company | • |
| ۴. | in Committee | be the second | | • | | : ; |

Equilibrium experiments to determine the effect of pH on the retention of cerium in soil were completed. The percent removal of cerium was as follows:





| pН | Percent Removal |
|-----------------------------|---------------------------------------|
| 0 2 4 6 8 10 | 6 25 85 99 98 83 99 |
| 14 | 99 |

The inferior retention in the range pH 9 to 10 was real and significantly outside the limits of experimental error.

The soil column which has been receiving plutonium solutions at pH has now received approximately 2 milligrams of plutonium. The effluent count indicates that the soil is still removing more than 99% of the activity.

4. Industrial Hygiene

Preliminary investigation of the efficiency of the electrical precipitation apparatus, which will back up filters during laboratory tests indicated efficiencies approaching 99.%.

A study was made of radiant heat in the canning section of 313 building. Measurements of radiant temperatures, ambient air temperatures, relative humidity and air movement were made and correlated to evaluate the overall thermal conditions. It was concluded that such conditions, although not an optimum for comfort definitely were not presenting a health hazard.

An ionizing heat and an electrical precipitating chamber for use in collecting micro specimens for X-ray diffraction analysis were fabricated for test purposes.

The use of beryllium by the experimental metallurgical group in the 300 Area led to a study of suitable testing procedures

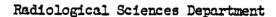
5. Methods

A study to determine the effects of several variables on the electrodeposition of plutonium with changes in source size was started. Preliminary work indicated that the optimum conditions for one plating area are not necessarily optimum for a different area.

The low water survey of the dispersal of pile effluent wastes in the Columbia River was started with five traverses made. Trouble with the new sampling equipment and mechanical failure of the generator hindered the work.



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The procedure for electroplating of ruthenium was further tested this month with yields of 80-100%. No interference resulted from radioactive cesium, cobalt, strontium, iron or mixed rare earths although iodine and zirconiumcolumbium both deposited. Distillation and precipitation reactions were tested for the analysis of ruthenium dissolved from vegetation.

Procedures for the ether extraction of residue from vegetation for plutonium and uranium analyses were tested with good yields for uranium but low recoveries of plutonium. Final testing of the separation of thorium from residues was in progress, while a possible simpler process involving the measurement of thoron in a proportional counter was checked.

6. Radiochemical Standards

Initial runs were made in an effort to establish that Ho is liberated preserentially over To when water containing tritium oxide Is reacted with calcium. The experiment, designed to react the water remaining from an incomplete reaction with fresh calcium in repeated cycles and measure the tritium activity in the gas, gave inconclusive results due principally to water being evaporated from the scene of the reaction. Equipment is being designed to circumvent this difficulty.

Several backscatter measurements were made to establish the correction factor for the counting rate of Il31 samples when mounted on stainless steel. A significant difference was noted between the old value reported and these measurements. The present value is appreciably higher.

Data was obtained relative to the effect of the position of a thin absorber on the beta counting rate. With 3 mg/cm2, serious self scattering was observed on shelves lower than the first when the absorber was as close as 1/16" to the source. It was recognized that self scattering from an absorber directly against a source would be important, but it was thought that moving the absorber a short distance away would minimize this effect. This effect bears heavily on the interpretation of counting rates of the U.S. Bureau of Standards beta sources which must be covered with an absorber to exclude the RaF alpha particles.

Absorption coefficient measurements have been made for RaE and Il31 radiations for aluminum and mica to confirm the presently used values and estimate the error introduced in the air-window extrapolation due to uncertainties in this measurement. och fin skriver i och Maka skritt i ett di 19 km/s

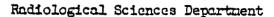
RADIATION MEASUREMENTS

1. Physics

tij lake te namen blombe. Namen men de tre de de men blombe. Measurements of the beta flux at points along the axes of uranium disks have been made with a mica window G.M. tube. The results, which agreed well with calculated curves, when correlated with surface dose measurements indicated specific ionization of the beta particles to be 72 ion pairs per cm of

Table 1 Strategy of the Late of

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translation. The department has used a value of 75, calculated from classical data on specific ionization along the tracks.

Scattering experiments using a moderated BF₃ counter with a fast neutron source indicated an apparent increase in sensitivity with increasing distance from the source. This was determined assuming the inverse squale law to hold after effects due to scattered neutrons were subtracted. A neutron scintillation counter has been tested further, using a mixture of zinc sulfide in polystyrene. There was trouble with garma sensitivity of the detector which seemed to be associated with the effect of garma radiation on the tube structure rather than upon the polystyrene.

The data on neutron spectra have been put into a histogram form showing relative numbers versus energy. The range-energy relation used was a composite of all which could be found in the literature. It was found that from 0.5 Mev all types of nuclear emulsions have the same range - energy relation to within 15% and that this relation is in good agreement with calculated values.

2. Instrument Development

A scintillation alpha counter for monitoring large quantities of plutonium applied to the skin of experimental animals was completed and found to be satisfactory in instrument laboratory tests. It counted 50,000 c/m with 2½ resolution loss and a 150 volt plateau with optimum operation at 750 volts. The photomultiplier was a 1P 21 which received scintillations from a 0.5 inch zinc sulfide phosphor through a lucite "pipe."

The time interval between mica window G.M. tube pulses was investigated for several styles of counter using several tubes of each type. Locally built G.M. tubes had an excess of 500 micro-sec intervals between pulses. When set up normally with high capacity cable (27 puf/ft. or more), short intervals were absent. The same operating conditions gave too many short intervals with low capacity cable, indicating that the lower amplitude pulses which usually occur in short intervals did not affect the scaler.

A study of signal limiters for tritium survey instruments was completed. The results showed that a three diode limiter gave improved counting rate plateaus and more reliable operation. Studies of the hydrogen counter were completed.

The air monitoring chambers for tritium were tested prior to their installation. While the large chamber scened to function properly, the small one did not. The trouble has as its basis, the use of aluminum as a construction material. Apparently, aluminum was substituted for steel dimension for dimension without taking into account the difference in mechanical properties. As a result, the center electrode resonates when the chamber is shocked. Possible ways of damping the vibration were studied.





A snoke detector which utilizes the fluorescence of oil fog under ultra violet irradiation has been improved in its sensitivity but is not yet a satisfactory detector. At best, it gave 2×10^{-9} amp for 1 ng/n3 of smoke over a background of 1×10^{-9} amp. Neither particle size of the fog nor concentration is known with much accuracy. Calibration and field testing will be carried out before continuing the development work.

Radiological Sciences Department

BIOLOGY SECTION

AQUATIC BIOLOGY UNIT

Biological Chains

1. Algae-Trout Relationships

No adverse effect was evident yet from the subjection of adult trout to 5% pile effluent water, with the inclusion of radioactive algae in the diet.

2. Retention Basin Algae Control

No progress.

Ecology

1. Survey of the Columbia River

Favorable field collecting conditions continued to prevail throughout the month except for one brief rise of the river resulting from rains early in the month. The activity density of bottom algae and plankton increased over the peak values observed last month while insect larvae and fish showed a decrease. The following average values were observed at the Hanford station where highest values normally occur: plankton, 1.7 x 10^{-2} $\mu c/g$; algae, 3.3 x 10^{-3} $\mu c/g$; caddis fly larvae, 6.0 x 10^{-3} $\mu c/g$; small fish, 2.7 x 10^{-3} $\mu c/g$. For large fish, a maximum of 9.1 x 10^{-3} $\mu c/g$ was found in the scales of a sucker, and was associated with 1.3 x 10^{-3} $\mu c/g$ in the muscle.

A new type of dredge for obtaining substrata from the middle of the river was designed, constructed and tested. Preliminary trials were satisfactory. Depth sampling equipment developed jointly with the Regional Survey Unit was used for plankton collections for the first time.

Aerial surveys were made of chinook salmon spawning in the Columbia River, with over 200 nests counted on October 26.

Effluent Monitoring

1. Effect of Pile Effluent on Rainbow Trout

Monitoring of the pile area effluent water with juvenile rainbow trout continued without unusual effect. With cooler water temperatures, the disease factors have been considerably alleviated. A retardation of growth, apparently the most sensitive index of toxicity, was definite in the 10% and 5% area effluent, and 10% pile influent; was indicated in the 10% and 5% cooled pile effluent, 5% pile influent, 10% cooled area effluent; and was questionable in the 2% area effluent.



Radiological Sciences Department

BIOLOGICAL SERVICES UNIT

Biological Monitoring

1. Waterfowl

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Tissues of ducks at the 200 North "R" Area continued to decrease in activity densities at the 32-35 day half-time rate. Maximum density detected during the month was 1.5 x 10^{-2} $\mu c/g$ in a cranium.

2. Upland Wildlife

Thyroid activity densities in rabbits taken at the collection sites at Prosser Barricade and 200-East Area waste ditch decreased from last month, while those taken near the 200-West Meteorology Tower increased. A maximum thyroid activity density of $4.2 \times 10^{-2} \,\mu\text{c/g}$ was found at this location. Densities in thyroid glands of specimens taken at several locations are tabulated below:

| Locality Specimen | • | Meximum (uc/ | g) Average (uc/g) |
|--|-------------------|------------------------|--------------------------|
| 200-East Jack robbit | (5) | 0.02 | 0.01 |
| Meteorology Tower Jack rabbit Coyote Prosser Barricade Jack rabbit | (5) (1) (5) | 0.04 0.006 0.010 | 0.02 |
| 100-200 Intersection Coyote (1) | | 0.001 | |
| P-11 R-W Pheasant | (1) | 0.01 | orton o de Agrico ••• |
| Hanford R-N Pheasant | (1) | 0.002 | |

All other assayed tissues of these specimens showed activity densities of negligible value.

Clinical Laboratory

One thousand routine determinations.

Microscopy

Routine histological preparations.

Radiochemistry Laboratory

1. Radioactivity in Carcasses

Analysis for redium was begun on a new shipment of twenty aliquot samples of

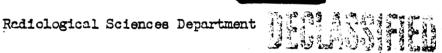
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cadaver ashes received from the University of Oregon during the month. It was found that a 90% argon -10% methane mixture for the radon sweep gas gave identical results to previously used pure methane.

2. Analytical Services

Services to other groups included the preparation of 56 radioisotope solutions for plant and animal administration, and the analysis of more than 2,000 samples.

3. Analytical Techniques

Continued investigations of backscatter correction factors indicated that optimum placement of a cellophane absorber was as close to the counter window as possible.

In addition to the discrepancy noted last month between the Oak Ridge I¹³¹ calibration and local values, S³⁵ solutions from the same source have been low by 40%, according to local measurements. Added sulfate carrier or acid to the S35 solution yielded similarly low results.

METABOLISM UNIT

Animal Metabolism

1. Low Level Chronic Plutonium Absorption in the Rat

The rate of plutonium feeding was increased during the month to 4 feedings per day. In order to determine the best procedure for separating the skeleton from soft tissues, 10 rats were injected intraperitoneally with 32,000 d/m of plutonium. These rats were sacrificed after 72 hours. The leg bones from one side of each animal were separated by dissection of the fresh carcass, and the leg bones from the other side of the body were separated after autoclaving for 30 minutes at 15 pounds steam pressure. Analysis for Pu in the separated bone samples indicated negligible loss in the autoclaving procedure. This much more convenient method will, therefore, be used for the 200 rats in this experiment.

2. Percutaneous Absorption of Plutonium

No report.

3. Therapy for Internally Deposited Plutonium

No report.

4. Distribution and Retention of Tritium in the Rat. I.Serial Sacrifice No result.



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Radiological Sciences Department

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5. Distribution and Retention of Tritium in the Rat. II. Compound Separation

A second group of 19 rats was sacrificed approximately 8 months after injection with 0.1 curie tritium oxides. The animals were dissected and pooled samples placed in the deep freeze to await completion of work on the earlier group. The following table summarizes the findings to date on the first group, killed approximately 4 months after injection with 0.1 curie tritium exides:

| Fraction | µc/g |
|--|----------------------|
| Body water Blood cell protein | 0.013 |
| Carcass protein, H ₂ O sol. | 0.8 |
| " , 6.0% saline sol. " , gelatin fraction | 1.3 0.65 |
| Skin protein, 6.0% saline sol. Skin fat, satd. fat acids Abdominal fat, satd.fat acids | 1.65 0.57 0.66 |

6. Distribution and Retention of Tritium in the Rat. III. Effect of Growth

No result.

7. Percutaneous Absorption of Tritium Oxide

The effect of clothing on the percutaneous absorption of tritium oxide was tested by covering the rat's skin with one thickness of SWP cloth and circulating tritium oxide vapor over the cloth in the manner previously reported. Twenty-five rats were thus exposed. The cloth had no significant effect on total absorption for a one-hour exposure. The approach to equilibrium concentration in the blood following exposure was more rapid with the cloth present than without the cloth. The explanation of this observation was not apparent.

Experiments were also performed to test the degree of percutaneous absorption which might be expected to result from the wearing of contaminated leather gloves. Pieces of a clean leather glove were contaminated as uniformly as possible by spreading a solution containing 100 ac tritium oxide on one side of the glove. The opposite side was then taped against the abdominal skin of a rat. Six such exposures to rats were performed, and other similarly contaminated pieces of glove were analyzed for tritium oxide content. The average analyzed tritium oxide content, corresponding to the beginning of the one-hour exposure period, was 16.6 ac. The average total absorption per rat was 0.52 ac. "Pete" readings throughout the experiment yried rather widely, but indicated that approximately 80% of the tritium/evaporated from the glove during the course of the exposure. It is interesting to note that a glove contaminated during routine work in the production facility area contained a total of

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750 µc tritium oxide and 1.5 µc tritium gas. This analysis was performed about a week after the glove had been contaminated.

Results comparing percutaneous absorption of tritium oxide at different total water vapor pressures were obtained as follows:

| Calculated Vapor Pressure (mm) | V. P. Lowering Solute | Water Absorption (My/cm²/min.) | | |
|--------------------------------|---|--------------------------------|--|--|
| 31.8 10.3 5.0 0.9 | MgCl ₂ • 6H ₂ O NaOH • H ₂ O NaOH • H ₂ O | 6.0 3.0 0.3 0.4 | | |

8. Percutaneous Absorption of Tritium Gas

The exposure procedure has been modified to reduce the number of variables, and results on the first few exposures were consistent. A very small percentage of the tritium is absorbed, but 90% or more of that absorbed is converted to the exide by the rat.

Microbiology

1. Determination of RBE's by Microbiological Methods

Several procedures were studied which will be useful in the continuation of this problem. An apparatus was built for the remote sterilization by filtration of P³² solutions. Methods were developed for comparing plate counts of viable cells, microscopic counts using a bright line counting chamber on the polarizing microscope, and optical density readings. Solutions have been prepared for determining the dose of radiation delivered to the contents of a test tube by means of a chemical reaction indicator.

2. Destruction of Metabolites by Radiation

No result.

3. Absorption and Metabolism of Tritium Oxide by Bacteria

No result.

4. Tritium Fixation by Bacteria

Growing bacterial cultures were exposed to a circulating atmosphere containing approximately 20 µc of tritium gas/ml. Actively growing cultures showed a rapid fixation of the gas for 1½ to 2 hours, after which time both growth and tritium fixation abruptly ceased. The tritium oxide activity of the medium at this point was about 1800 µc/ml. Factors responsible for this phenomenon are being investigated.

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Radiological Sciences Department

5. Tritium Fixation by Mamalian Tissues

Homogenates of various rabbit tissues in physiological saline solution were exposed to air containing approximately 100 µc tritium/ml for four hours. None of the tissues thus far investigated showed a significant ability to convert the tritium to the oxide.

Plant Nutrition

1. Absorption and Translocation of Fission Product and Pile Effluent Radioactivities

Plants were grown in nutrient culture to determine the relative ability of the fruit and the leaves to absorb cesium and strontium. The results of these experiments are summarized in the following table. All figures are on a dry weight basis except for the data on tomatoes which are expressed on a fresh weight basis.

UPTAKE OF CESTUM AND STRONTIUM BY LEAVES AND FRUIT

| Cesium | Strontium |
|---|--|
| Nutrient solution contained 1.0 ppm Cs plus 10 100 100 100 100 100 100 100 100 100 | Nutrient solution contained 1.0 ppm Sr. plus Sr. plus Tracer |
| Leaves (ppm) Fruit (ppm) | Leaves (prm) - Fruit (ppm) |
| Tomato 970 690 Bean 76 25 Wheat 650 370 Russian thistle | 23 160 8.7 700 41 |

Because of its greater mobility, cecium is absorbed by the fruit to a relatively much greater extent than strontium.

Experiments were also conducted on excised barley roots to determine the dependence of strontium uptake on the concentration of strontium in the nutrient solution. Uptake was essentially proportional to concentration in the range from carrier-free to 500 ppm etrontium. This would seem to indicate that strontium, at least so far as the uptake mechanism is concerned, is not texic in the range studied.

2. Ill Vapor Absorption and Translocation

A single leaf of a tomato plant was exposed to I¹³¹ vapor for 17 hours, during which time the plant was kept in the dark. Of the total I¹³¹ recovered from the plant, 99.8% was in or on the exposed leaf. This compared with a similar experiment in which the tomato plant was exposed to light, and 85.6% of the total I¹³¹ absorbed was retained by the exposed leaf.



3. Absorption and Metabolism of Tritium Oxide by Vascular Plants

No result.

Plant Metabolism

1. Radiation Damage to Plants. I. Algae

Results of experiments in which Chlorella pyrencidosa was grown in the presence of P^{32} indicated that a P^{32} disintegration within the algal cell is many times more effective in slowing growth than the passage through the cell of a beta particle, originating in the surrounding medium. Growth curves for algal cells grown in P^{32} media show that the first manifestation of damage is an increased lag phase. With more pronounced damage, division time is also lengthened. Growth inhibition, due to a given level of P^{32} in the medium, increases as the size of the inoculum is decreased. The uptake of total phosphorus per algal cell is not influenced by the concentration of phosphate in the medium in the range 1-40 x 10-4 g P 2 05/ml.

2. Metabolism of Tritium Oxide by Algae

Incorporation of tritium by <u>Chlorella pyrenoidosa</u> suspended in nutrient solution containing 1.5 mc tritium oxide/ml, and illuminated at an intensity of 6000 foot candles was followed over a period of % hours. After 67 hours, 110 µc tritium was fixed per gram of dry weight.

TOXICOLOGY UNIT

Experimental Animal Farm (Toxicology of I131)

1. Low Level Chronic Effects

Breeding of all original experimental ewes and yearlings was initiated on October 8, and they have now all been serviced at least once.

Stock molasses, presumably of sugar beet origin, caused a significant decrease in thyroidal uptake of I^{131} . Analyses of this molasses revealed about 2 µc I^{127}/g molasses which more nearly approximates the levels reported in cane molasses.

2. Thyroid Regeneration

The 7 ewes previously fed 240 µc/day for 450 days were all bred. Proteinbound iodine values varied from 0.63 to 1.31 µg per cent, contrasted with a normal range of 4 to 6. The protein-bound iodine values will be determined at monthly intervals throughout the gestation period.



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Radiological Sciences Department

3. Effects of Inert Iodine and Desiccated Thyroid

Four of the lambs formerly receiving 480 uc I¹³¹/day exhibit symptoms which have come to be associated with sheep athyroidism -- stilted gait and stiffness in rear limbs, distended abdomen, stupid and lethargic attitude, depression of protein-bound iodine, and increased sensitivity to cold. One of the affected animals has been receiving desiccated thyroid daily since the initiation of the experiment. The average results of colorimetric protein-bound iodine determinations are as follows:

| Au | gment | | ير :80 | c I ¹³¹ | /day | No | I ₁₃₁ |
|----|-------------------|---------|--------|--------------------|-------|----|------------------|
| | None | • | | 2.0 | . ; : | | 5 |
| | Desiccat: 1127 | ed thyr | oid | 2.5 6.5 | | | 5 8.5 |

4. Effect of Route of Administration on Thyroid Metabolism

No progress.

5. Effect on Gonadal Function in the Ram

No progress.

Physiology

1. Toxicology of Active Particles

No result.

2. Plutonium Toxicology

No result.

3. Therapeutics in Plutonium Poisoning

No result.

4. Pulmonary Absorption of Tritium

Ten more test animals have been subjected to varying amounts of tritium gas via tracheal cannulation. Five of the animals were eviscerated prior to exposure. Preliminary results indicated that the intact animal retained and fixed approximately 100 times the amount of oxide, compared with the eviscerated animal. Measurement of respiratory volumes before and after evisceration in one animal indicated no appreciable difference.



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FINANCIAL DEPARTMENT MONTHLY REPORT

October, 1951

Consolidation of all accounts payable work, except that of the Engineering Department, was completed this month. Bank accounts formerly used by Manufacturing and Community were closed, and accounts payable employees in the Manufacturing and Community Accounting Sections were transferred to the General Accounting Section. As a result of this consolidation, accounts payable work is being handled more uniformly, and less employees are required.

Work in connection with a midyear review of FY 1952 budget estimates was statted. Detailed instructions, together with working schedules, were forwarded to department managers. By the end of the month some of these completed working schedules were returned by department managers, and Budget Accounting personnel were completing the revision of certain budget estimates.

Cost accounting activity continued at a high level during the month. Increased Cost work was due principally to recent revisions in over-all cost accounting procedures and the fact that responsibility for Electrical and Transportation cost accounting has been transferred to General Accounting. In addition to increased work resulting from the above, much time was spent in developing reports for product cost and numerous units of cost.

Responsibility for the handling of all traveling and living expense accounts, except for Engineering Department, was transferred to General Accounting this month.

A revision of Kadlec Hospital cost codes was completed and will be made effective November 1, 1951. The revised system is that as recommended by the American Hospital Association and will provide for accumulation of cost information which can be more readily compared with costs reported by other hospitals.

Work in connection with allocation of depreciation expense to product cost continued during the month. Tentative allocations of depreciation expense were made to the elements of product cost for FY 1951, and estimated allocations were made for FY 1952. These amounts were \$27 172 000 and \$25 237 000, respectively.

Approval of the Wage Stabilization Board and the Atomic Energy Commission was received to increase salary rates of Draftsmen and Designers effective April 2, 1951. The increased rates, together with retreactive payments amounting to \$21 207, were paid on a current basis in salary checks distributed on October 5, 1951.

Since Richland and North Richland banks were closed on Columbus Day, Friday, October 12, 1951, salery checks for weekly paid employees working in the outer areas were delivered to the area gate houses before 11:00 p. m. on Wednesday, October 10, 1951. Salary checks for employees working in Richland, North Richland, and Pasco, were available in Payroll at 8:00 a. m. Thursday, October 11, 1951, for Department representatives. Approximately fifty man hours of overtime were required to complete the payroll in time for distribution of checks in accordance with the above schedule. Arrangements were made with the banks to remain open on Thursday evening, October 11, 1951, from 5:00 to 7:00 p. m., for the convenience of employees in cashing their salary checks.

Community Chest payroll deduction authorizations for approximately 2 400 employees (1 650 weekly and 750 monthly) were received in October, and deductions will be made over a three-month period. The initial deduction from weekly paid employees was made from salary checks covering the week ended October 21, 1951. Deductions were made from salary checks for the month of October for monthly paid employees. Total deductions during October amounted to \$7 356.

Third quarter reports of Federal and State payroll taxes were prepared and for-warded to the respective Government agencies.

Considerable progress was made during October in revising draft of Appendix C to the prime contract. Interested Departments have been requested to review portions of original draft and to make changes which may be necessary to clearly present Company policy. A complete Appendix C will be prepared in final draft form for review of the Law Department.

FINANCIAL DEPARTMENT MONTHLY REPORT

October, 1951

A mid-year review of the FY 1952 budget was requested by a letter dated October 10, 1951 from the Hanford Operations Office of the Atomic Energy Commission. The letter requested submission of revised budget estimates for the fiscal year by December 15, 1951. Instructions were issued for the preparation of data for review by the Appropriations and Budget Committee and submission to the Atomic Energy Commission, and the preparation of data was started during October.

Effective as of October 1, the accounts payable, expense accounts, and general ledger work formerly performed by the Manufacturing Accounting and the Community Accounting Sections were transferred to the General Accounting Section.

A summary of total cash disbursements and cash receipts (excluding advances from AEC) for the months of October and September, 1951 is shown below:

| Disbursements | October | September |
|--|--|--|
| Payments to Subcontractors Material and Freight - GE Payrolls - GE (Net) Payroll Tax U. S. Savings Bonds Other Total | \$ 311 455 3 353 800 2 438 532 456 081 120 694 329 275 7 009 837 | \$ 5 035 278 2 862 910 2 440 299 488 311 144 563 452 826 11 424 187 |
| Receipts | | |
| Rents Hospital Miscellaneous Accounts Receivable Telephone Bus Fares Refunds from Vendors Scrap Sales Sales to AEC Cost-Type Contractors Income from Special Funds Other Total | 153 908 62 214 11 074 23 388 11 031 2 265 12 195 40 184 -0- 11 091 327 350 | 134 018 37 996 9 191 19 570 9 123 3 174 3 182 13 535 101 461 9 530 340 780 |
| Net Disbursements | \$ <u>6 682 487</u> | \$11 083 407 |

Advances from AEC were decreased from \$6,500,000 as of September 30 to \$4,000,000 as of October 31, 1951 and may be summarized as follows:

| | October | September | | |
|----------------------------------|--------------|--------------|--|--|
| Cash in Bank - Contract Accounts | \$ 3 342 512 | \$ 5 567 169 | | |
| Cash in Bank - Salary Accounts | 50 000 | 50 000 | | |
| Cash in Transit | 182 488 | 482 831 | | |
| Advances to Subcontractors | 300 000 | 300 000 | | |
| Travel Advance Funds | 125 000 | 100 000 | | |
| Total | \$ 4 000 000 | \$ 6 500 000 | | |

The reductions in payments to subcontractors and advances from AEC, as shown above, resulted from the assignment of construction subcontracts to the Atomic Energy Commission, effective October 1, 1951. Effective October 1, disbursements to construction contractors were made directly by the Atomic Energy Commission, resulting in reduced disbursements by the Nucleonics Division and reduced requirements for advances by AEC to the Nucleonics Division.

A summary of personnel changes in the Financial Department during the month of October is shown below:

| Personnel at | September 30, 1951 | 451 |
|--------------|--------------------|-------------|
| Acquisitions | | 23 |
| | and transfers out | (11) |
| Personnel at | October 31, 1951 | (11) 463 |

The monthly reports of the four sections of the Financial Department, as listed below, are shown on the following pages.

General Accounting Section
Manufacturing Accounting Section
Engineering Accounting Section
Community Accounting Section

| | | **P | |
|--|-------|------------------|-------------------|
| STATISTICS | | Monthly | Weekly |
| Employees and Payroll | Total | Payroll Payroll | Payroll |
| Employees on payroll at beginning of month | 8 877 | 2 057 | 6 320 |
| Additions and transfers in | 288 | 12 | 276 |
| Removals and transfers out | (176) | (24) | (252) |
| Transfers from weekly to monthly payroll | | 23 | (23) |
| Transfers from monthly to weekly payroll | | (3) | , 3 |
| Employees on payroll at end of month | 8 989 | 2 065 | 6 924 |
| Number of Employees | | October | September |
| Bargaining group - HAMTC | | 3 404 | 3 329 |
| - Building Services | | 67 | 72 |
| - Two Platoon Firemen | | 55 | 56 |
| - Hanford Guards | | 6 <u>1</u> 2 | 6 <u>1</u> 2 |
| Other weekly - non-bargaining | | 2 841 | 2 807 |
| Executive, administrative and operating | | 1 443 | 1 435 |
| Professional | | 538 | 535 |
| Other monthly | | 29 | 30 |
| Total | | 8 989 | 8 877 |
| | | | |
| Number of Employees | | | |
| Engineering | | 1 946 | 1 925 |
| Nanufacturing | | 2 959 | 2 8814 |
| Utilities & General Services | | 2 232 | 2 201 |
| Community | | 224 | 245 |
| Real Estate & Services | | 339 | 361 |
| Financial | | 453 | 451 |
| Employee & Public Relations | | 113 | 115 |
| Radiological Sciences | | 361 | 353 |
| redical Services | | 275 | 265 |
| General | | iá | 18 |
| Law | | 20 | 14 |
| Accountability | | 23 | 19 |
| Technical Personnel | | 16 | 26 |
| Total | * | 8 989 | 8 807 |
| | | - | |
| Overtime Payments | | | |
| Weekly paid employees | 4 | 156 194 | \$. 239 936 |
| Monthly paid employees | ` | 44 601 (1) | <u>59</u> 898 (2) |
| Total | | 200 795 | \$ 200 831 |
| • | . , | | Ψ <u>/</u> |
| Number of Changes in Salary Rates | * | | |
| and Job Classifications | | 2 169 | 1 670 |
| | | 5 TOA | 1 579 |

⁽¹⁾ Payments cover period October 1 through October 31, 1951, except in the case of patrolmen in the Plant Security and Services Section of the Utilities and General Services Department who were paid for the period September 1 through September 30, 1951.

⁽²⁾ Payments cover period September 1 through September 30, 1951, except in the case of patrolmen in the Plant Security and Services Section of the Utilities and General Services Department who were paid for the period August 1 through August 31, 1951.

| Gross Amount of Payroll | October September |
|--|---|
| Engineering | \$ 802 555 \$ 867 185 |
| Manufacturing | 1 196 308 1 442 772 |
| Utilities & General Services | 761 074 908 598 |
| Community Real Estate and Services | 211 526 248 255 |
| Other | 439 893 522 907 |
| Total | \$ 3 411 356(1) \$ 3 989 717 (2) |
| | |
| Annual Going Rate of Payroll | |
| Base | \$39 176 741 \$38 829 899 |
| Overtime | 2 353 504 3 329 509 |
| Isolation Pay | 1 237 655 1 264 002 |
| · | |
| Shift Differential | |
| Other | 63 127 53 533 |
| Total | \$ <u>43 310 159</u> \$ <u>43 969 385</u> |
| | |
| Average Hourly Base Rates | |
| Bargaining group - HAMTC | \$ 2.023 \$ 2.017 |
| - Building Services | 1.563 1.577 |
| - Two Platoon Firemen | 1.877 1.871 |
| - Hanford Guards | 1.741 1.739 |
| Other weekly - non-bargaining | 1.687 1.692 |
| Executive, administrative and operating | 2.939 2.938 |
| Professional | 2.947 2.939 |
| Other monthly | 2.359 2.358 |
| Total | \$ 2 089 \$ 2 095 |
| | Ψ 2.070 |
| Average Earnings Rate Per Hour (3) | |
| October | Contombon |
| | September Total Weekly Monthly Total |
| Engineering \$1.802 \$2.952 | \$2.235 \$1.802 \$2.959 \$2.235 |
| Manufacturing 2.193 3.014 | |
| Utilities & General Services 1.911 2.713 | |
| Community Real Estate & Services 1.964 2.447 | |
| 0+1 | |
| matal 1 2.012 | 1.977 1.716 3.073 1.989 |
| 10tal \$1.963 \$2.905 | \$2.169 \$1.980 \$2.901 \$2.179 |
| d Daniel | |
| % Absenteeism | October September |
| . Weekly - Men | 2.55 2.16 |
| Weekly - Women | <u>4.18</u> 3.47 |
| Total Weekly | $\frac{2.99}{2.51}$ |
| Monthly | 1.20 |
| Grand Total | $\overline{2.53}$ $\overline{2.27}$ |

- (1) Includes payments for four-week period ended October 21, 1951 in the case of weekly paid employees.
- (2) Includes payments for five-week period ended September 23, 1951 in the case of weekly paid employees.
- (3) Includes shift differential and isolation pay. Excludes overtime premiums, commissions, suggestion awards, etc.

The first of the first the first of the firs

| • | | |
|--|--------------------------------|---------------------------|
| | ~ | |
| al Accounting Section | | |
| The Management of the Manageme | • | • * |
| ployee Benefit Plans | | ٠. |
| Pension Plan | <u>October</u> | <u>September</u> |
| Number participating at beginning of month | 6 400 | 6 381 |
| New participants and transfers in | 89 | 76 |
| Removals and transfers out | <u>(73</u>) | <u>(57</u>) |
| Number participating at end of month | 6 416 | 6 400 |
| % of eligible employees participating | 94.3% | 94.5% |
| Employees Retired | October To | tal to Date |
| Number | 6 | 181- |
| Aggregate Annual Pensions Including | | |
| Supplemental Payments | \$1 284 | \$41 443- |
| Amount contributed by employees retired | \$ 3 275 | \$33 918 |
| (a- Includes 7 employees who died after | | |
| reaching optional retirement age but | | • |
| before actual retirement. Lump sum | • | |
| settlements of death benefits were | • | |
| paid to beneficiaries in these cases. | | |
| (b- Amount before commutation of pensions | | |
| in those cases of employees who | | |
| received lump sum settlement. | • | |
| | | |
| Insurance Plan (1) | | |
| Personal Coverage | October | September |
| Number participating at beginning of month | 8 844 | <u> </u> |
| New participants and transfers in | 245 | 168 |
| Cancellations | - | |
| Removals and transfers out | (18) | (4) |
| Number participating at end of month | <u>(104</u>) | <u>(159</u>) |
| number par orespansing at end or month | <u> </u> | 0 044 |
| % of eligible employees participating | 98.0% | 98.0% |
| Dependent Coverage | | |
| Number participating at beginning of month | 5 332 | 5 277 |
| Additions and transfers in | 112 | 114 |
| Cancellations | (6) | (2) |
| Removals and transfers out | (59) | (57) |
| Number participating at end of month | 5 379 | 5 332 |
| | | |
| Claims - Disability Benefits (2) | •, | |
| Number of claims paid by insurance company: | | |
| Employee Benefits | | • |
| MAAIFITE CIAIMAAA AAA AAA 3 - 1 | 103 | 100 |
| Weekly Sickness and Accident | | 110 |
| Daily Hospital Expense Benefits | 132 | |
| Deily Hospital Expense Benefits Special Hospital Services | 151 | 135 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits | | 135 88 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits | 151 98 | 68 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits | 151 | |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits Special Hospital Services | 151 98 | . §8 145 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits | 151 98 217 | . 58 145 194 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits | 151 98 217 249 | . 88 145 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Amount of claims paid by insurance company: Employee Benefits | 151 98 217 249 228 | . 88 145 194 167 |
| Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Dependent Benefits Daily Hospital Expense Benefits Special Hospital Services Surgical Operations Benefits Amount of claims paid by insurance company: | 151 98 217 249 | . 68 145 194 |

The new Insurance Plan was made effective on December 1, 1950.
 Statistics cover only claims paid and not all claims incurred during the month.

| 1 | Employee | Ber | efit | Plans | (conti | nued |) | |
|---|----------|-----|-------|-------|----------------|------|---|--|
| | Claims | - | Death | Benef | <u> its</u> (1 | -) | | |
| | Nun | | | | | | | |

October Total to Date 2 69 \$ 12 000 \$ 368 000

Amount

Group Life Insurance

The Group Life Insurance Plan was discontinued November 30, 1950. As of October 31, 1951, 4 employees who are absent with continuous service are still participating in the Group Life Insurance Plan. They were not actively at work on December 1, 1950 and therefore were not eligible to participate in the new Insurance Plan. However, they will become eligible upon their return to work.

Number of employees granted permission to defer one week of their 1951 vacation to 1952

| | October | | | To | ate | |
|-----------------------|------------|-------------|--------------|--------|---------|----------------|
| | Weekly | Monthly | Total | Weekly | Monthly | Total |
| Engineering | | 12 | 16 | 32 | 64 | 96 |
| Manufacturing | 4 | 2 | 6 | 122 | 62 | 184 |
| Utilities and General | | . •• | | | | |
| Services | 8 | 6 | 14 | 89 | 34 | 123-5) |
| Community Real Estate | | | | | | |
| and Services | 1 | 2 | 3 | 29 | 19: | 48 - 5) |
| Financial | -0- | -0- | -0- | 13 | 3 | 16 |
| Employee and Public | • | | • | | | |
| Relations | i | 2 | 3 | . 3 | 4 | 7-c) |
| Radiological Sciences | -0- | -0- | -0- | 1 | 1 | 2 |
| Medical | 1 | -0- | 1 | 8. | -0- | 8 |
| General | <u>-0-</u> | <u>-0</u> - | <u>-0-</u> · | -0- | 3 | 3 |
| Total | 19 | 24 | 43 | 297 | 190 | <u>487</u> |

- (a- Utilities & General Services Department total-to-date decreased by three cancellations.
- (b- Community Real Estate & Services Department total-to-date decreased by two cancellations.
- (c- Employee & Public Relations Department total-to-date decreased by one cancellation.

| | • | | | | Community | | |
|----|----------------------|------------|---------|-----------|------------------------|-------|-------|
| | . "*). | | 1 | Utilities | Real | | |
| | | | | and | · Estate | | : |
| | | Engineer | | General | and | | - |
| U. | | ing | Mfg. | Services | Services | Other | Total |
| | Number participating | g at | | | | | |
| | beginning of mon | th 745 | 1 230 | 835. | 241 | 463 | 3 514 |
| | New authorizations | 247 | 222 | 190 | . 39 | . 126 | 824 |
| | Voluntary cancellat | ions (6) | (21 | | (2) | | (48) |
| | Removals and transfe | ers | | | | | |
| | out . | (3) | (6. |) (4) |); ₍₋₁ (-3) | (9) | (25) |
| , | Transfers in | 4 | `6 | | ; = | | 14 |
| | Number participating | g —— | | | | | |
| : | at end of month | . 987 | . 1 431 | 1 009 | | 577 | 4 279 |
| , | n e Annagero de | . 500 | • | | | | |

⁽¹⁾ Total to date includes all claims under the old and new Insurance Plans and two deaths resulting from accidents.

The first of the property of the state of th

| General Accounting Section | | | Utilitie: | Community Real | | |
|---|-----------------------|----------------------|---------------------|-------------------|-------------|---------------------|
| Employee Benefits Plans (con | | | and | Estate | | |
| U. S. Savings Bonds (cont. Percentage of participat | | | General Services | and Services | Other | <u>Total</u> |
| G.E. Employees Savings | and | | | | | |
| Stock Bonus Plan | 46.1 | 43.1 | 39.1 | | 40.4 | 12.4 |
| G.E. Savings Plan | 8.5 | 11.5 48.4 | 10.5 45.2 | | 8.9 44.8 | 10.2 |
| Both Plans | 50.7 | 40.4 | 47.2 | 40.0 | 44.0 | 47.6 |
| Bonds issued | | | | • | | |
| Maturity value | \$35 325 | \$63 275 | \$38 125 | | \$20 950 | \$168 275 |
| Number | 664 | 1 209 | 791 | | 418 | 3 288 |
| Refunds issued | 11 | 32 | 26 | | 7 | 84 |
| Revisions in authorizati | | 35 | 20 | 13 | 14 | 124 |
| Annual going rate of ded | | | | | | |
| G.E. Employees Savings Stock Bonus Plan | \$310 107 | \$537 77L | \$325 1,80 | \$ 86 950 | \$186 420 | \$1 446 848 |
| G.E. Savings Plan | 68 767 | 175 732 | 105 291 | | 47 619 | 424 725 |
| Total | \$378 964 | \$713 506 | \$430.780 | \$114 275 | \$234 048 | \$1 871 573 |
| | T | ¥ 133,333 | - | | | Y <u>=</u> |
| Annuity Certificates (For | duPont Se | rvice) | (| October | Tota | l to Date |
| Number issued | | | | -0- | | 83 |
| Suggestion Awards | | | | | | |
| Number of awards | | | | 24 | | 1 162 |
| Total amount of awards | | | | \$575 | | \$19 135 |
| | | | | 4212 | | 4- 2 -32 |
| Employee Sales Plan | | | | Octo | | |
| • | | • | | - | affic | Model 1 |
| Certificates issued | | | Applia | | 505 | Total 508 |
| Certificates voided | | | - | 93 2 | 5 | 598 7 |
| , , , , , , , , , , , , , , , , , , , | | ÷. | | - | | 1 |
| Salary Checks Deposited | | | | _ | | • |
| | | | | ber | Septem | |
| Richland Branch Seattl | e- Fi we+ | | weekly | Monthly | MeekTA V | <u>lontnly</u> |
| National Bank | e riist | | 746 | 841 | 717 | 833 |
| North Richland Area Offi | .ce - | | ,,0 | O+ 1 . | 1-1 | ررن |
| Seattle-First National | | | 10 | 8 | 8 | 8 |
| Richland Branch - Nation | al Bank | | | • | | |
| of Commerce | | | 349 | 243 | 317 | 238 |
| Out of state banks (Sche | nectady S | staff) | | <u> </u> | <u>-o-</u> | 2 |
| Total | | | <u>1 105</u> | * <u>1 092</u> | 1 042** | 1 081 |
| *Week ended 10-14-51 | | | | | | |
| g | | | | | • | |
| Special Absence Allowance Mumber submitted to Pens | Requests ion Board | • | <u>00</u> | tober 4 | Sep | tember 2 |
| Absenteeism (Weekly Paid E | mployees) | | | 1951 | | 1950 |
| | | • | ., * 2 | 2.99% | | 1950 2.64% |

| ERSONNEL AND ORGANIZATION | | |
|---|------------|-----------|
| Number of Employees | October | September |
| On Payroll at beginning of month | 5/12 | 245 |
| Removals and transfers out | (6) | (12) |
| Additions and transfers in | 32 | <u>9</u> |
| Number at end of month | <u>268</u> | 242 |
| | | |
| Net increase (or decrease) during month | | 1 |
| of terminations and transfers out | 2.5% | 4.9% |
| % of absenteeism | 3-20% | 3.165 |
| | | |

Changes by unit in number of Accounting Section employees during October were as follows:

Name

General: Increase of one employee
One new hire

E. F. Hultgrenn

Accounts Payable: Increase of nine employees
Nine transfers from Manufacturing Accounting

R. G. Johnston
Constance Bounds
Patricia Buller
Pauline Heintz
Dorothy Hood
Nona K. Shoemaker
Edna Stevens
Elaine Wesser
Iva B. West
Dorothy Hansen
Rose F. Woodall

One transfer from Community Accounting
One transfer to Community Accounting

Cost: Increase of four employees
Four transfers from Manufacturing Accounting

Don M. Marshall Gerald Vroom, Jr. W. E. Vaughn Harold Vaughn

General Accounts: Increase of one employee
One transfer from Community Accounting

C. M. Jenkins

<u>Plant Accounting:</u> Increase of one employee One new hire

Irene S. Swanson

Weekly Payroll: Increase of two employees
Three new hires

Rhea Lo Bergdahl Nancy G. Baermann Nancy M. Wiggen Beneta Neff

One resignation

Monthly Payroll: Increase of one employee One new hire

Margaret F. Thompson

<u>Budgets</u>: Decrease of one employee

The resignation

D. H. Burkhardt

Internal Audit: No change

8

PERSONNEL AND ORGANIZATION (continued)

Name

Medical Accounting: Increase of one employee

One new hire

Bettye L. Bamesberger -

Special Assignments:

Nine new hires

C. E. Cooke

Dorothy S. Dalton Amelia S. Goodner Janey P. Cruce

Sandra E. Hittman Cleta M. McDeniel Rose T. Segrest

Marjory B. Theil

Lillian U. Baumgartner

Laura B. Meyer Dorothy P. Ehret Margrethe Wright

Two deactivations

One resignation

Rotational Training Program: Increase of one employee

One transfer from Design

H. L. Christiansen

| Injuries | • | | | | October | September |
|-----------|---|---|---|--|---------|-----------|
| Major | | | | | 0 | 0 |
| Sub-Major | | | | | 0 | . 0 |
| Minor | | - | - | | 1 . | 2 |

Increase of six employees

Number of Accounting Section employees as of October 31, 1951 were as follows:

| • | Number | of Emplo | yees |
|-----------------------------|------------|---------------|------------------|
| | Non-Exempt | Exempt | Total |
| General | 3 | 7 | 10 |
| Accounts Payable | 27 | 2 | 29 |
| Cost | 15 | 1 | 16 |
| General Accounts | 17 | ī | 18 |
| Plant Accounting . | 26 | 2 | 28 |
| Weekly Payroll | 71 | 6 | 77 |
| Monthly Payroll | 19 | 2 | 21 |
| Special Assignment | 25 | ٠ ٦ | 28 |
| Budgets | 1 | 1 | 2 |
| Internal Audit | 3 | Ŕ | 11 |
| Rotational Training Program | 16 | Ô | 16 |
| Medical Accounting | 9 | 3 | |
| Total | <u>232</u> | 36 | <u>12</u> 268 |
| | 2)2 | <u> 20</u> | 250 |

Non-exempt employees may be summarized as follows:

| 03 - 101 | | Number | as of |
|-------------------------|---|----------|---------|
| Classification | | 10-31-51 | 9-30-51 |
| Accounting A | _ | . 2 | 2 |
| Accounting B | | 14 | 3 |
| Accounting C | | 6 | ă |
| Accounting D | | 9 | 8 |
| Business Graduate | | 23 | 23 |
| Clerical Working Leader | | 10 | 9 |

PERSONNEL AND ORGANIZATION (continued)

| | | | Number | as of |
|----------------------------|-----|---|----------|-----------|
| Classification (continued) | | - | 10-31-51 | . 9-30-51 |
| Cost Clerk A | | | 2 | 2 |
| Cost Clerk B . | | | 1 | 1 |
| Cost Clerk C | | • | 4 | . 2 |
| Cost Clerk D | | | • 3 | . 2 |
| Field Clerk B | | | . 0 | 3 |
| Field Clerk C | | | 3 | 5 |
| General Clerk A | | | 30 | 23 |
| General Clerk B | | | 43 | 39 |
| General Clerk C | | | 48 | 41 |
| General Clerk D | | | 6 | 5 |
| General Clerk E | | | 2 | 2 |
| Office Machine Operator A | | | 11 | 12 |
| Office Machine Operator B | | | 6 . | 6 |
| Secretary B | | | 1 | 1 |
| Steno-Typist A | | | 2 | 1 |
| Steno-Typist B | · · | • | . 6 | 6 |
| Steno Typist C | | * | 6 | . JT 4 |
| Steno-Typist D | | * | 1 | 1 |
| Field Clerk A | | | 3 | 0 |
| Total | | | 232 | 209 |
| | | | | |

Open employment requests as of October 31, 1951 were as follows:

General Clerk B

٦.

| | October September |
|--|---|
| Accounts Payable Balance at Beginning of Month Vouchers Entered Cash Disbursements Cash Receipts | \$ 85 178 \$ 103 004 1 860 682 1 133 305 1 666 093 DR 1 145 850 DR 1 088 446 |
| Balance at End of Month | \$ 280 855 \$ 90 905 |
| Number of Vouchers Entered Number of Checks Issued | 2 789 1 518 1 640 983 |
| Number of Freight Bills Paid Amount of Freight Bills Paid | 1 520 191 \$ 373 481 \$ 3 324 |
| Number of Purchase Orders Received Value of Purchase Orders Received | 1 018 653 \$ 594 752 \$ 157 066 |
| Cash Disbursements | |
| Community, Real Estate, and Services Engineering General Manufacturing | \$ 310 810 2 784 518 6 622 290 4 225 319 3 730 712 760 375 |
| "Total | \$ 7.009 837 \$11 424 187 |
| Material and Freight Lump Sum and Unit Price Subcontracts CPFF Subcontracts | \$ 3 353 800 |
| Labor Others Payrolls (Net) Payroll Taxes U. S. Savings Bonds All Other | 236 324 3 421 272 39 350 697 370 2 438 532 2 440 299 456 081 488 311 120 694 144 563 329 275 452 826 |
| Total | \$ 7 009 837 \$ <u>11 424 187</u> |
| Cash Receipts Community, Real Estate, and Services Engineering General Manufacturing | \$ 118 530 58 505 4 751 676 12 125 737 19 026 \$ 4 810 181 \$ 12 308 410 |
| | φ - 010 101 |

Above totals reflect consolidation of work handled by Community and Manufacturing Accounting Sections with that of General Accounting Section effective October 1, 1951.

| | <u>o</u> | ctob | er | | Sep | temb | er | |
|--|------------|------|-----|----|--------------|-----------------|-----|----|
| Detail of Cash Receipts | | | | | ٠ | | \ | 1 |
| Advances from AEC | | 482 | | | 3 6 | 367 | | |
| Rents | | 153 | | | | 134 | | |
| Hospital | | | 214 | | • | 37 | | |
| Telephone | | | 388 | | | 19 | | |
| Scrap Sales | | | 195 | | | | 182 | |
| Bus Fares | | | 031 | | | | 123 | |
| Miscellaneous Accounts Receivable | | | 074 | | | | 191 | |
| Sales to AEC Cost-type Contractors | | | 184 | • | | | 535 | |
| Refunds from Vendors | | | 265 | | | | 174 | |
| Employee Sales | | | 836 | | | | 646 | |
| Educational Program | | -3 | 270 | | | | 526 | |
| Refund of Allowance | | | -0- | • | 5 | 600 | | |
| Income from Special Funds | | | -0- | | | 101 | 461 | |
| All Other | | - 6 | 985 | | | 6 | 358 | |
| | | | | | | | | |
| Total | \$_4 | 810 | 181 | ; | \$ <u>12</u> | 308 | 410 | |
| Number of Checks Written (1) | | | • | | | | | |
| Community, Real Estate, and Services | | | | | | | 257 | |
| Engineering | | 1 | 036 | | | 1 | 112 | |
| General | | | 640 | | • | | 983 | |
| Manufacturing | | _ | • | | | | 531 | |
| | | | | | | | | |
| Total | | 2 | 676 | | | 2 | 883 | |
| 20000 | | | | | === | | | |
| Bank Balances At End of Month | | | | | | | | |
| Chemical Bank & Trust Company - New York | | | | | | | | |
| Contract Account | \$ | հեր | 596 | | ¢ 2 | 678 | 584 | |
| Seattle First National Bank - Richland | Ψ | 77) | 790 | | Ψ _ | 010 | 70+ | |
| Contract Account | 2 | 259 | 750 | | 2 | 317 | 765 | |
| U. S. Savings Bond Account | | | 576 | | _ | 190 | | |
| Salary Account No. 1 | | | 000 | | | | 000 | |
| | | | 000 | | | | 000 | |
| Salary Account No. 2 | | | | | | | 192 | |
| Travel Advance Account | | 21 | 859 | | | 3+ | 192 | |
| Seattle First National Bank - Seattle | | 21 | 40c | | | 27 | 685 | |
| Escrow Account | | 21 | 685 | | | ĴΤ | 00) | |
| National Bank of Commerce - Richland | | 600 | 100 | • | | 57 0 | 210 | |
| Contract Account | · | 150 | 158 | | | 570 | 019 | |
| m-4-1 | 4 - | 622 | 622 | | ф E | 873 | 676 | |
| Total. | <u>ع_ع</u> | 631 | 033 | | Ψ <u>_</u> 2 | 873 | 010 | |
| | | | | | | | | |
| Travel Advances and Expense Accounts (1) | | | 000 | | _ | | ~n= | |
| Cash Advance balance at end of month (2) | \$ | 32 | 208 | | \$ | 27 | 687 | |
| Cash Advance balance outstanding over | | | | | | | | |
| one month (2) | | 1 | 326 | | | 4 | 988 | - |
| Traveling and Living Expenses - All Department | 3 | | | | | • | | |
| Paid Employees | 2 1 | 41 | 574 | | | 51+ | 548 | |
| Billed to Government | | 39 | 222 | | • | 22 | 184 | |
| Balance in Variation Account at end of month | | 13 | 378 | DR | | 11 | 026 | DR |
| | | _ | | | | | | |

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⁽¹⁾ Reflects consolidation of work handled by Community and Manufacturing Accounting Sections with that of General Accounting Section effective October 1, 1951.

^{12 (2)} General Accounting Only

| | ٠. | October | September |
|--------------------------------|------------------|-----------|-------------------|
| Hospital Accounting | | | |
| Accounts Receivable | | | 1 (-0 |
| Balance at Beginning of Month | \$ | 136 902 | \$ 119 608 |
| Invoices Issued | | 66 146 | 58 934 |
| Refunds | | 428 | 915 |
| Cash Receipts | | 62 214 CR | 37 996 CR |
| Payroll Deductions | • | 4 108 CR | 4 651 CR |
| Bad Debts Written Off | | -0- | -0- |
| Adjustments | | 170 | 92 |
| Balance at End of Month | \$_ | 137 324 | \$ 136 902 |
| Scrap Sales | | October | Total to Date |
| Number of Sales | | 8 | li a Q |
| Revenue (excluding Sales Tax): | | | 418 |
| Scrap Sales | \$ | 12 195 | . 3 83 826 |
| Tract House Sales | Ψ | 12 197 | . <u>3</u> 03 020 |
| Revenue to AEC | | -0- | 33 449 |
| Revenue to GE | | -0- | 14 498 |
| | , . - | | <u> </u> |
| Total | \$_ | 12 195 | \$ 431 773 |

ACCOUNTS PAYABLE

Effective October 1, 1951 accounts payable work handled by Community and Manufacturing Accounting Sections was consolidated with that of the General Accounting Section. Employees assigned to accounts payable work in Community and Manufacturing Accounting Sections were transferred to General Accounting Section.

time and the second second second

This consolidation resulted in more expeditious and efficient handling of the work and it was soon determined that work could be handled with four less employees. Two employees have been transferred to other units and arrangements are nearing completion for transfer of the other two.

As of October 31, 1951 there were 1 673 vouchers on hand amounting to \$662 530. About 90 per cent of these items were being held because they are not due for payment or material has not yet been received.

At the months end there were 13 paid items on hand amounting to \$35 990.53 which were 90 days old and which required additional supporting documents before they could be forwarded to AEC for final audit. These items are being given close follow-up attention.

As of October 31, 1951 the open balance in the freight account (not journalized to cost) was \$8 702.40. This represents about 40 per cent of one days flow of freight bills in Accounts Payable. Total freight booked and paid during October amounted to \$373 480.52.

BUDGETS

Puring the first part of the month budgetary procedures and routines were revised due to changes in cost accounting methods and reorganization of the Nucleonics Division.

Effort for the balance of the month was concentrated on preparation of data in connection with the Fiscal Year 1952 Midyear Budget Review. Letters of instructions and working schedules were prepared and forwarded to department managers covering departmental operating costs, research and development, construction projects and equipment not included in construction projects.

During the latter part of the month certain working schedules were completed and returned by department managers and work progressed on the review and analysis of these schedules which consisted primarily of personnel forecasts by sections. Operating budgets are being completed by Budget Accounting personnel by utilization of payroll records and cost statistics in calculating dollar amounts.

COST

Cost reports for Utilities and General Services Department and Staff Departments for month of September were issued on October 19, 1951 and detailed reports of Research and Development costs for Radiological Sciences programs were issued on October 26, 1951.

Summaries of operating costs for Nucleonics Division including Product Cost, Protection of Plant and Personnel Expense, and General and Administrative Expense were prepared and issued on October 17, 1951. In addition, a more detailed breakdown of costs segregated by AEC activity numbers was prepared for AEC Finance Division.

General Accounting

COST (CONTINUED)

Letters were issued to managers analyzing costs incurred by their departments or sections in September.

Letters were issued to the Director, Radiological Sciences and to the Manager, Utilities and General Services Department outlining the portions of their total costs which were allocated to Protection of Plant & Personnel and General & Administrative Expenses, comparing September allocations with amounts so allocated in August and explaining the major points of variance. In addition, a letter was issued to the Manager, Manufacturing Department, summarizing total Protection of Plant & Personnel and General & Administrative Expense allocated to Product Cost in September and the percentage of change over the previous month. This latter report will, in the future, be directed to Manager-Finance.

Effective October 1, 1951 new unit cost codes were issued for the Electrical and Transportation Sections in order to include them in the sequence of codes for the Utilities and General Services Department.

A special backcharge code was established to accumulate costs of patrolmen assigned on a special mission at Los Vegas at the request of AEC. Arrangements were made to transfer these costs plus overhead to AEC monthly.

In order to expedite summarization of cost distribution of monthly payroll, a revised procedure was made effective in October whereby a time distribution sheet is prepared for each exempt employee as of the twenty-fifth of the month and submitted to Monthly Payroll. This enabled IBM personnel to key punch cost distribution in advance prior to receipt of the monthly attendance report.

During October, Plant Patrol and Fire units were instructed to eliminate use of applied labor codes. In the future, all liquidations for Patrol and Fire will be based on the number of assigned men at a standard cost per man. This change will provide more accurate liquidations as well as effect a considerable reduction in the number of codes used on weekly time cards. This latter will save considerable time in both Weekly Payroll and Cost, and at the same time will reduce the coding problems for Patrol and Fire supervision.

Unit cost statements covering the first three months of Fiscal Year 1952 were prepared for Plant Security and Services Section and for Purchasing and Stores Section (excluding Surplus, Salvage and Scrap), and unit cost books containing these statements were issued to GE and AEC management.

GENERAL ACCOUNTS

Advances from the Atomic Energy Commission decreased from \$6 500 000 as of September 30, 1951 to \$4 000 000 as of October 31, 1951. This decrease results from a reduction in funds required due to the fact that Atkinson-Jones Company and most other subcontractors are now being reimbursed by the Atomic Energy Commission.

GENERAL ACCOUNTS (CONTINUED)

Advances have been applied as follows:

| | October . | September |
|--|-------------------|-------------------|
| Cash in Bank - Contract Accounts | \$3 342 512 | \$5 567 169 |
| Cash in Bank - Salary Accounts Cash in Trasmit | 50 000 182 488 | 50 000 482 831 |
| Advances to Subcontractors | 300 000 | 300 000 |
| Travel Advance Funds | 125 000 | 100 000 |
| | \$4 000 000 | \$6 500 000 |

The Travel Advance bank account was increased \$25 000 this month due to increased travel activity. Travel activity in all Departments, excluding Engineering Department, for October, 1951 may be summarized as follows:

| | October | September |
|--|-----------|-------------|
| Number of Travel Reports Processed | 207 | 133 |
| Amount Reimbursed Employees | \$ 29 020 | \$ 17 529 |
| Amount Reimbursed by Atomic Energy Commission | 28 807 | 16 473 |
| Difference charged to Variation Account | \$\$ | \$ <u> </u> |

Fiscal Year to Date, total Nucleonics Division charges to the Travel and Living Expense Variation Account have been \$13 378. Current month charges, including Engineering Department, in the amount of \$2 352 represent entertainment expenses of \$1 549 and the difference between the amount reimbursed to traveling employees and the amount billed to the Atomic Energy Commission of \$803.

Charges in the amount of \$291 818 were received from the General Engineering Laboratory in connection with the Assistance to Hanford Program.

The Consolidated Trial Balance was issued on October 17, 1951. Nucleonics Division and Consolidated Nucleonics Project Financial Statements were issued on October 19, and October 31, 1951 respectively.

Considerable time was devoted to problems resulting from the consolidation of Accounts Payable and General Ledgers of the Community and Manufacturing Accounting Sections with those of the General Accounting Section. A revised chart of General Ledger Accounts was completed and forwarded to other Accounting Sections for their review and comments.

Work is continuing on the improvement of the Government Cost Transfer Report, Inventory Report, and the Construction Work in Progress Report.

INTERNAL AUDITS

An audit of payroll records and procedures in connection with preparation of weekly payrolls was started this month.

INTERNAL AUDITS (CONTINUED)

Payments to employees for absences due to plant injuries were audited during the month. Purpose of the audit was to review records and routines in connection with the investigations of plant injuries undertaken by Union Relations Section of the Employee and Public Relations Department and by the Safety and Fire Protection Unit of the Utilities and General Services Department, in order to ascertain the propriety of payments and to assure that proper controls are maintained.

A physical inventory was taken of stocks of platinum, gold, silver and beryllium to verify quantities on hand and to determine compliance with procedures previously established relating to physical safefuarding and records control.

An audit report was issued for the 100 per cent personnel check of all General Electric employees at Hanford Works. This check was undertaken to contact and identify all General Electric employees on the payroll as of June 29, 1951.

Several individual studies were made and are in progress relative to inventory responsibility and to the excessing program. In this connection, a visit was made to two General Electric plants, the Oakland Works and the Ontario Works, to review procedures and routines in connection with inventories and related matters.

MEDICAL ACCOUNTING

The balance in Accounts Receivable increased \$422 during the month; from \$136 902 in September to \$137 324 in October.

Out-patient invoices numbered 2 532 and amounted to \$14 270 as compared to 1 980 invoices amounting to \$9 271 in September. This represents an increase of 552 invoices totaling \$4 999. This is due to 147 invoices in the amount of \$2 555 being billed to the State of Washington, Department of Labor and Industries, which is greater than any previous months billing. X-rays during the month for teachers of School District #400 numbered 248 and totaled \$1 052.

In-patient revenue increased \$2 213 in October, due primarily to an increase in the adult patient day census from 85.2 in September to 87.0 in October. Total sales increased \$7 212 during the month.

A total of 55 claims in the amount of \$1 868 were submitted this month to Fort Lewis for services rendered military personnel. Reimbursement on 9 claims in the amount of \$461 on prior months billings was received during the month.

Blue Cross claims paid during the month numbered 21 and amounted to \$1 729.

Listed below is a surmary of activity to date on accounts submitted to credit agencies for collection.

| | • | Number | Amount |
|---|---|------------------------------|--|
| Accounts Submitted Accounts Returned as Uncollectible Collections Accounts Returned (10% basis) Balance at Agencies | | 203 51 60* 7 106 | \$34 505 10 384 3 748 1 047 \$19 326 |

^{*} Includes 39 accounts paid in full and 21 accounts partially collected.

MEDICAL ACCOUNTING (CONTINUED)

A revised cost coding system has been completed for the Medical Department and will be placed into effect November 1, 1951. This code system has been set up along the lines recommended by the American Hospital Association Manual and should prove to be an improvement over the system previously used.

A Marie Branch

The greater part of the detail work has been completed for the Mid-Year Budget Review for Fiscal Year 1952. All departments have been contacted as to their requirements in personnel and supplies and the figures are presently being consolidated into final report form.

PLANT ACCOUNTING

The preliminary allocations of depreciation expense to Process Costs was completed during the month. These allocations may be summarized as follows:

| (Amount In Thousands) | FY-1951 Actual | FY-1952 Estimated |
|---|--------------------------|--------------------------|
| Product Cost | \$23 597 | \$21 788 |
| Research and Development Community Kadlec Hospital Atomic Energy Commission | 201 3 279 51 44 | 195 3 164 46 44 |
| Total | \$ <u>27,172</u> | \$ <u>25</u> 2 <u>37</u> |

Fiscal Year 1951, actual, includes \$496 000 representing extraordinary depreciation and absolescence. Fiscal Year 1952 amounts will be adjusted as substantial additions are made to Plant Accounts.

Inventories of selected asset categories continued in the outlying areas. It is the intention of our inventory program to completely inventory the entire plant once every three years.

The AEC Finance Division has informed us of the assignment of an additional man, for a short period only, to aid in the audit of Plant Accounting activities. Beginning next month they plan to spend a considerable amount of time with Plant Accounting field representatives in the outlying areas.

Analyses of work orders continued. Amounts authorized for investment work orders at October 31, 1951 totaled approximately \$218 000.

A study of facilities used for Research and Development is under way. A preliningry review indicates many facilities used directly for Research and Development are included in production facilities.

The Property Record Unit Catalog is being revised to keep current with the past years changes in asset accounting. Major changes result from reclassification of Plant and Equipment.

The report "Expenditures for Equipment Not Budgeted for In Construction Projects" was issued during the month. This report included procurement of equipment by

PLANT ACCOUNTING (CONTINUED)

purchase, government cost transfers, transfers from excess, and transfers from Major Construction Program Facilities.

PAYROLLS

During the month of October there were 176 removals from payroll which includes 4 leaves of absence and 4 transfers to other Divisions of the Company. There were 288 additions to the payroll including 29 employees re-engaged with continuous service. Total accessions and separations resulted in a net increase of 112 employees.

Number of rent, telephone and hospital charges to be deducted from salaries in October were submitted to payroll as follows:

| House Rents | 4 913 |
|---------------------|--------|
| Dormitory Rents | 881 |
| Trailer Space Rents | 131 |
| Barrack Rents | 216 |
| Telephone Accounts | 3 655 |
| Hospital Accounts | 459 |
| | |
| Total | 10 255 |

In October lists were prepared of employees who had not taken all of their 1951 vacations. The lists, showing the name of the employee and number of days not taken as of September 30, 1951, were forwarded to the respective Departments.

A total of 407 weekly paid employees were scheduled to begin their 1951 vacations in October.

Military allowance payment was made in October to one monthly paid employee in the amount of \$429. There were no payments made during the month to weekly paid employees. Total payments to date amounting to \$22 570 have been paid to 62 weekly paid and 8 monthly paid employees.

As of October 30, 1951, 187 Nucleonics Division employees (11 monthly, 176 weekly) had entered Military Service, as indicated below:

| | Called to Duty | Volunteered For Duty | Total |
|--|-------------------|-------------------------|----------|
| Reserve Officers Enlisted Reserve | 16 50 | 3 | 19 |
| National Guard | 6 | -0- | 56 6 |
| Selective Service Voluntary Enlistments | 37 <u>-0</u> - | -0- 69 | 37 69 |
| Total | 109 | 78 | 187 |

Approval of the Wage Stabilization Board and the Atomic Energy Commission was received to increase salary rates of Draftsmen and Designers effective April 2, 1951. The increased rates were paid on a current basis in salary checks distributed on October 5, 1951. The retroactive portion of the increase amounting to a total of \$21 207 was also included in salary checks distributed on October 5, 1951.

During October there were 15 cases of elimination or loss of the preferential rate due to transfers or reclassifications. As of October 31, 1951, there were approximately 900 employees on preferential rates.

PAYROLIS (Continued)

Authorization to deduct the cost of safety shoes from salaries were received from 130 employees in October. There were 96 payroll deduction accounts at October 31, 1951.

Community Chest payroll deduction authorizations for approximately 2 400 employees (1 650 weekly and 750 monthly) were received in October and deductions will be made over a three-month period. The initial deduction from weekly paid employees was made from salary checks covering the week ended October 21, 1951. Deductions were made from salary checks for the month of October for monthly paid employees. Total deductions during October amounted to \$7 356.

As a result of the National Defense Bond campaign, 834 new authorizations for participation in the G E. Employees Stock Bonus Plan and 129 new authorizations for participation in the Employees Savings Plan were received. In addition to the new authorizations, 92 Stock Bonus and 32 Savings Plan authorizations were received for increase in the amount of payroll deductions.

New authorization cards for check-off of Union Dues were received for 29 employes members of five Unions affiliated with the Hanford Atomic Metal Trades Council. As of October 31, 1951, check-off of Union Dues was in effect for 947 employee members of twelve Unions affiliated with the Hanford Atomic Metal Trades Council.

New authorization cards for check-off of Union Dues were received for 38 employee members of the Hanford Guards Union, Local 21, of the International Guards Union of America. One new authorization card was received for a Medical Department employee member of the Building Service Employees International Union, Local 201. As of October 31, 1951, check-off of Union Dues was in effect for 166 employee members of the Hanford Guards Union, Local 21, and 25 employee members of the Euilding Service Employees International Union, Local 201.

Third quarter reports for Social Security Tax purposes were prepared covering approximately 9 600 employees and were forwarded to the General Office for filing with the Collector of Internal Revenue.

Third quarter reports for Unemployment Compensation purposes applicable to the States of W shington, Oregon, New York, Illinois, Colorado, Pennsylvania and Wisconsin were prepared and forwarded to General Office for filing with the various State Unemployment Compensation Divisions.

Oregon State Income Tax withheld from employees claiming residence in the State of Oregon during the third quarter was paid to the Oregon State Tax Commission on October 8, 1951.

A total of 36 weekly time cards were received late in payroll during the five weeks ended October 28, 1951.

At the request of Department Managers or their authorized representatives, approximately 400 salary checks were held in the Payroll office and distributed directly to weekly paid employees working in the areas and who are scheduled off on Thursday and Friday.

PAYROLLS (Continued)

TOPPE CARS AND A TOPPE AND

Approximately 75 weekly salary checks were picked up by an employee of the Employee and Public Relations Department for delivery to employees absent due to illness. Salary checks and withholding statements mailed to employees who have been removed from payroll totaled 48 and 63 respectively.

In October, 74 employees became eligible for participation in the General Electric Pension Plan. Of these, 46 employees made application for participation and 28 elected not to participate.

In October, 800 disability claims were processed and forwarded to Metropolitan Life Insurance Company. These claims may be segregated as follows:

| Hospital Benefits Kadlec Hospital | 527 | |
|--|-----|-----|
| Other Hospitals | 108 | 635 |
| Weekly Sickness and Accident Benefits | | 165 |
| Total Number of Claims | | 800 |

A total of 951 checks, amounting to \$59 355, covering benefits to employees on 745 claims were received in October from the Insurance Company and forwarded to employees, or to Hospitals and surgeons, as directed by employees.

Richland and North Richland banks were closed on Columbus Day, Friday, October 12, 1951, a National Banking Holiday. Therefore, salary checks for weekly paid employees working in the outer areas were delivered to the area gate houses before 11:00 p.m. on Wednesday, October 10, 1951. Salary checks for employees working in Richland, North Richland and Pasco were available in Payroll at 8:00 a.m. Thursday, October 11, 1951 for Department representatives. Approximately 50 man hours of overtime were required to complete the payroll in time for distribution of checks in accordance with the above schedule.

Arrangements were made for the banks to remain open on Thursday evening, October 11 1951, from 5:00 to 7:00 p.m., for the convenience of employees in cashing their salary checks.

At the request of the Department Manager, new suffix letters to payroll numbers were assigned to the various sections of the Employee and Public Relations Department.

In addition to routine payroll work, approximately 124 600 items were addressographed for other Departments in October.

General salary increase, for firemen in the Richland and North Richland Fire Units, of 6% of salary rates in effect on March 14, 1951, was approved by the Wage Stabilization Board retroactive to March 15, 1951. Approval of the Atomic Energy Commission by Reimbursement Authorization has not yet been received.

A study of payroll procedures and methods is being made for the purpose of elimination of non-essential clerical effort and to simplify the work of payroll clerks without sacrificing efficiency. Emphasis is being placed on procedures which will not be eliminated when the I.B.M. payroll system is placed into effect.

PAYROLLS (Continued)

Considerable progress was made during October in revising draft of Appendix C to the prime contract. Interested Departments have been requested to review portions of original draft and to make changes which may be necessary to clearly state present Company policy. A complete Appendix C will be prepared in final draft form for review of the Law Department.

In order to complete Debaset computations by December 1, 1951, approximately 900 hours of overtime were worked by payroll employees in October.

Draft of Organization and Policy Guides covering "Continuity of Service", "Pension Plan", "Company Benefits to Employees Entering the Armed Forces", and "Employees Sales Plan". were reviewed by payroll in October.

In connection with provisions of General Salary Stabilization Regulation No. 3, which was approved by the Salary Stabilization Board on September 12, 1951, procedures have been established to insure compliance with the regulation.

In preparation for transition to I.B.M. system of payroll operations, detailed plans are being made of procedures to be followed under I.B.M. for preparation of payrolls, labor cost distribution and statistical reporting. Determination of equipment, forms and personnel requirements will be completed in November.

Work was started in October to bring the index of shift schedules up to date. Since the previous issue of the index in June 1951, 28 new schedules have been added. As of October 31, 1951, a total of 160 schedules have been officially approved.

At the request of the Law Department, preliminary work was done on a special payroll analysis for 211 weekly paid employees.

Bank reconciliations completed in October were as follows:

Weekly Salary through #266, week ended September 30, 1951.
Weekly Salary Vacation through #266, week ended September 30, 1951.
Bond Account - September, 1951.
Monthly Payroll #61, September, 1951.

OFFICIAL USE ONLY

MANUFACTURING ACCOUNTING SECTION CCTOBER, 1951

REORGANIZATION AND GENERAL

As a result of separating details of costs of Transportation and Electrical Section of the Plant Utilities and General Services Department from details of Manufacturing Department costs, and changing section and unit codes, tabulating machine work was considerably increased. It was necessary to issue a complete new set of reports, write new tabulating procedures and train personnel in the use of a new code structure.

Responsibility for Budgets and Special Requests, formerly part of the transferred General Accounts section, were absorbed by the Analysis and Reports Section.

The transfer of General Ledger Accounts was completed.

BUDGETS

Work on the Mid-Year Budget Review got well under way and considerable progress was made in recasting the original 1952 Operating Budget by the new organization.

SPECIAL REQUESTS

Progress has been made in accumulating and analyzing Technical costs in connection with the Special Request Program with the idea of preparing a cost estimating manual similar to the cost estimating manual now in use for estimating costs in the Reactor and Metal Preparation Sections.

ANALYSIS AND REPORTS

As a result of breaking down cost reporting personnel into three units corresponding to Manufacturing Department Sections, an improved method of gathering charges has been evolved. More accurate and permanent records will result and complete detail will be more readily available to substantiate reports and trace charges. It is further anticipated that a savings in time during the peak period of compiling monthly statements will be realized.

The monthly Operating Report form was carefully reviewed and a few changes in presentation made in an effort to make the reports of more value to management.

STATISTICS

The extension of payroll distribution amounts for the Manufacturing Department was begun by this group. This work was formerly performed by Weekly Payroll. Results have been highly satisfactory, and no additional cost was incurred by the Statistical Group. Weekly Payroll reports a savings in excess of 40 man-hours per week as a result of this change. A total savings of approximately 70 hours is anticipated as soon as the Transportation and Electrical distribution functions are on this procedure.

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The estimate of volume for Debaset calculation has been revised upward from 100,000 to 170,000 mark sensed I.B.M. cards. In order to meet the December 1st deadline for a grand total of results, considerable overtime has been and will continue to be required. An employee has been borrowed from the Technical I.B.M. Unit to assist with this work. Arithmetical calculations will be made by Technical Unit electronic calculators.

Due to pressure of other work, trial reports on Stores Inventory Control were discontinued. Public Health reports scheduled for November have been postponed until January.

Four control panels have been borrowed temporarily from Atkinson-Jones to handle special work.

WORK ORDER CONTROL

The Manufacturing Department Code Book was revised and issued. The present code structure is being analyzed in order to establish a numerical sequence in the Sections.

Coding of monthly salary prior to receiving monthly attendance reports was successfully accomplished by utilizing the previous month's report and contacting individuals when necessary. This resulted in furnishing monthly payroll with the cost codes for each employee by the 25th of the month.

ORCANIZATION AND PERSONNEL

| Beginning of Month | 75 |
|--------------------|--------|
| Acquisitions | 1 |
| Transfers Out | 17 |
| End of Month | - 59 |
| October Forecast | 61 |

Transfers out include employees applicable to functions transferred to the General Accounting Section as follows:

| A STATE OF THE STA | | • |
|---|---------------------------|----|
| $(-1)^{2}H^{2}=I_{1}^{2}\left(\frac{1}{2}\left(\frac{1}{2}\right) +\frac{1}{2}\left(\frac{1}{2}\right) +\frac{1}{2}\left(\frac{1}{2}\right) \right) +\frac{1}{2}\left(\frac{1}{2}\right) $ | Accounts Payable | 9 |
| | Bus System Cash Control | 1 |
| | Cost Clerks | 3 |
| | Work Order Control Clerks | ì |
| | Steno Typist | 1. |

Two of the transfers out were terminations, both to accept jobs in other cities. Acquisitions consisted of one temporary loan from Tochnical to assist with Debaset work and one clorical employee to fill the job of an employee on leave of absence in Work Order Control.

GTV:mk 11-7-51

Design Contraction

ACCOUNTING SECTION MONTHLY REPORT FOR OCTOBER.

Nearly all General Electric active lump sum subcontracts and CPFF subcontract G-133 wore assigned to the Atomic Energy Commission effective 12:01 A. M., October 1, 1951 in accordance with supplemental agreement to the prime contract W-31-109-ENG:-52.

The amounts withheld from payments on the assigned subcontracts aggregating \$270,762.28 had formerly been recorded as a liability on General Electric books. Since monetary settlement of these subcontracts became the responsibility of Atomic Energy Commission on October 1, the above amount was relieved from General Electric records and transferred to the Atomic Energy Commission for inclusion in their books of account.

As explained in the previous monthly report, accounting would continua , all audit functions in regard to the assigned subcontracts. There follows a brief summary of the billings processed for the Atomic Energy Commission in October.

| Atkinson - Jones Labor | \$3 663 003 . 29 |
|------------------------------------|--------------------------------|
| Atkinson - Jones Material, Service | es 774 777.54 |
| Atkinson - Jones Travel | 1 461:12 |
| Atkinson - Jones - Fees | 47 083.04 |
| Lump Sum Partial Estimates | 584 243.70 |
| | \$5,070,568,69 |

The above volume no longer reflects in accounts payable distribution;

however, accounts payable items processed during the month in the amount of \$2 867 116.32 plus the above figure totals \$7 937 685.01, the heaviest dollar volume since March 1949.

There is listed below a brief summary of disbursements during the month:

| Material and Freight | \$2 459 328.73 |
|------------------------------|------------------------|
| CPFF Labor (Vitro Corp. and | |
| CPFF Others (Vitro Corp. and | i C.T. Main) 39 350.30 |
| | |
| Miscellaneous | 17 684.63 |
| | |

ENGINEERING ACCOUNTING SECTION MONTHLY REPORT FOR OCTOBER, 1951

a increasion person projects during

Financial Closing Statements were issued on seven projects during the month.

Three projects were closed on a preliminary final basis.

The following is a detail of cash advance for the month of October as compared to September, 1951.

| | OCTO | BER | | SEPTEM | BER | 17. | |
|---|------------------|---------------|--------------|-------------------|------|----------------|-----|
| | No. of Accts. | | nt | No. of Accts. | Amo | nint | |
| Beginning Balance Cash Advance made Cash Receipts & Expense Reports | 89 | \$21 7 | '08 | 11. 75 *** | \$16 | | |
| processed Transferred Accounts | | 16 0 6 | 988 0 922 | | 9 | 503 (270 (| Cr. |
| Net Balance at end of Month | 101 | <u>\$27_5</u> | 55 | 89 | \$21 | 708 | |
| Travel expenses billed to AEC during October amounted to Actual amount paid to employees Charges to Travel and Living | • | | 351 | d. He je | • | | |
| Variation account | • • ; | 4 | 14 | • • | | | |

Of the above balance of \$27 555, accounts over 30 days old amounted to \$4 475.

Retroactive drafting unit payroll payment in the amount of \$21 000 was charged to cost on the basis of the drafting cost distributions for the period covered by the payment, April through September 1951.

Accounts for drafting formerly performed by Design & Development Unit have been consolidated with drafting accounts of Engineering Services Unit to conform to reorganization consolidating drafting.

Subcontractor Payroll Statistics

| Payrolls | • | October | <u>s</u> | eptember |
|---|-------------|--|-------------|-------------------------------------|
| Average number of employees reported by CPFF Subcontractors (Including Service | | r g <mark>antorello</mark> i en Lorgia di c | | |
| Contract) | | 7 099 | | 6 573 |
| CPFF Construction Subcontractors Payrolls CPFF Minor Construction Payrolls CPFF Architect Engineer Payrolls | \$2 | 908 81.2 370 801 234 396 | \$ 3 | 500 449-1) 471 113-1) 123 088 |
| Total CPFF Payrolls (1 - Five-week month Average per week (excluding Architect | \$ 3 | 514 009 | \$4 | 094 650 |
| Engineer Payrolls) Average Weekly Earnings | \$ | 819 903 115.49 | \$ | 794 312 120.85 |

ENGINEERING ACCOUNTING SECTION MONTHLY REPORT FOR OCTOBER, 1951

-3-

| Forces | • | | |
|-----------------------------|---|---|--|
| | | October 18 | <u>Sertember 20</u> |
| Atkinson-Jone | 8 | | |
| C-187-D C-187-E C-361 | Laboratory Waste Metal Sweetening | 37 2 | 93 2 |
| C-362 C-413 C-431 | & Conversion Facility TBP Expansion of 234-5 Capacity Production Facility 101 Area Minor Construction | 58 1 724 138 3 161 173 704 | 210 1 655 119 2 713 158 707 |
| | Total Direct | 5 997 | 5 657 |
| Atkinson | -Jones Indirect | 669 | 562 |
| Minor Co | nstruction Indirect | 18 | 19 |
| | | 6 684 | 6 238 |
| General Elect | ric Design and Construction | 895 | 891 |
| Total Nu | mber of Workers | 7 579 | 7 129 |

Lump Sum and Unit Price Subcontractor forces are not included in this report.

Personnel of the Engineering Accounting Section increased from 97 at the end of September to 101 at the end of October. The increase resulted from two new hires, three transfers from other Sections and one termination.

COMMUNITY REAL ESTATE AND SERVICES ACCOUNTING SECTION MONTHLY REPORT FOR OCTOBER, 1951

| ORGANIZATION | | | ••• | . • | |
|--|------------------|---|----------------------------|----------------|-------------------------------------|
| Employees-Beginning of menth Transfers In Transfers Out New Hires | 29 2 3 | Exempt Non-exempt | 22 27 | Male Female | -7 20 27 == |
| Terminations Total - End of Month | <u>= 1</u> | | f • | | |
| RENTS | | | | | |
| House? Leases Processed | | . <u>0ct</u> | ober | Se | ptember |
| Total active leases beginning New leases Cancellations Total active leases end of mon | | | 5743 323 246 582 | | 5712 164 133 5743 |
| Mcdifications | ••• | • * | 11 | | 7.5 |
| Dormitory Total occupancy beginning of modern New assignments Removals Total occupancy end of month | onth | : | 1075 138 128 1085 | | 1080 139 144 1075 |
| Rental Revenue was as follows: | | | | | - 4 1 54 |
| Equipment House: #2 | | , \$ 12 | 2.45 | \$ | 12.45 |
| Basic rent Electricity Water | • | 204,79° 49,35° 8,20° | 0.16. | 43,6 | 35.49 59.51 |
| Facility: Basic rent Electricity Water Dormitory | eri Marie eri | 48,579 3,43 49 14,80 | 3.92 0.00 | 3.1 | 94.54 133.92 190.00 191.73 |
| Utilities-Electrical | | 3,04 | | | 79.50 |
| | | \$332 72 | 7.75 | \$325 2 | 238.96 |
| TELEPHONE | | • | | • | |
| Number of work orders processed Number of working telephones Revenue including services - | | . \$ 19 25 | 312 5228 8.95 | \$ 19,1 | 348 5229 113.31 |

Community Real Estate & Services Accounting

| MISCELLANEOUS | October | September |
|--|--------------------|--------------------|
| Invoices prepared during month Revenue derived from invoices | 378 \$ 2,894.15 | 320 \$ 2,916.87 |
| Collection Agency Accounts | | |
| Yalima Adjustment Service: | | |
| Total submitted (64 accounts) Collected by Yakima Adjust. Serv. Collected by General Electric Co. Returned - Written Off Recalled - No Charge Returned - Transferred to Credit Bur of Benton and Franklin Co | 24.87 | \$444.07 |
| Credit Bureau of Benton & Franklin Co' Total submitted to 10-31-51 (22 acco Collected by Credit Bureau Collected by General Electric Co. Returned - Written Off Recalled - No Charge | | <u>267.48</u> |
| Balance - Agency Accounts 10-31-51 | | \$711.55 |

ACCOUNTS PAYABLE

Accounts Payable Activities were transferred to the General Accounting Section in October.

cost

Reports

The September Operating Report was issued October 18, 1951. The Expenditures on Appropriations Report was issued October 18, 1951.

SERVICE ORDER

Service Order Charges

| QUANTITY (A) | LABOR | COST | MATERIA | L COST | TOTAL | COST |
|---|--|--|--|---|--|--|
| Code Sept. Oct. | Sept. | Oct. | Sept. | Oct. | Sept. | Oct. |
| 1 1,244 1 051 2 1,752 1,298 3 193 375 4 146 111 5 276 137 6 426 227 4,037 3,199 | \$2,024.61 2,182.45 545.20 343.30 562.73 1,056.93 \$6 715.22 | \$1,660.35 1,421.84 778.40 172.55 201.95 509.95 \$4,745.04 | \$1,300.74 2,535.91 371.82 189.37 608.47 256.51 \$5,262.82 | \$1,356.84 1,636.09 393.88 .105.74 292.81 141.37 \$3,926.73 | \$ 3,325.35 4,718.36 917.02 532.67 1,171.20 1,313.44 \$11,978.04 | \$3,017.19 3,057.93 1,172.28 278.29 494.76 651.32 \$8,671.77 |

Community Real Estate & Services Accounting

Service Order Charges (Con't)

| (B) | - 8 38 | -3 | 1,970.18 | -1 | ,336.09 | -3 | ,306.27 |
|-----|----------------------|------|----------|------|---------|------|---------|
| (C) | | 1.66 | 1.48 | 1.30 | 1.23 | 2.96 | 2.71 |

- (A) Quantity covers the number of Service Charges made since some Service Orders include several charges.
- (B) Over (≠) or Under (-) previous month.
- (C) Average costs per job, labor, material & total.
- (D) Reporting period covers only 3 weeks which accounts for the decrease in Service Calls.

| 1 | Plumbing | 3 | Heating & Ventilating | 5 | Lock & Key |
|---|------------|---|-----------------------|-----|------------|
| 2 | Electrical | 4 | Glazing | 6 . | Carpentry |

WORK ORDERS

| | August | September | October |
|-----------------------------------|-----------------------------------|-------------------------------|-------------------------|
| Active Routine Active Normal | 263 1,926 2,189 | 263 1,7 33 1,996 | 254- 1,275 1,529 |
| W. O. Received W. O. Completed | 1,567 2,345 7778 | 1,038 1,231 + 193 | 1.343 1.810 7.467 |

GENERAL LEDGER

General Ledger Activities were transferred to the General Accounting Section effective the close of September business.

ACTIVE SUBCONTRACTS

Subcontracts-Assigned to AEC-Incomplete

| Subcontractor | Sub.Cont. | Amount Awarded | Bocked for Fayment This Month | Accumulative Payments |
|---|----------------------------|---|-----------------------------------|--|
| Baldwin-Dunham Co. Erwin Construction Co. D - H Paving Baldwin-Dunham Co. Scattle Chain Link Feno | G-390 G-397 es G-410 | \$1,392,169.00 11,364.50 224,141.49 8,464.00 4,338.00 \$1,640,476.99 | 2,012.23 88,962.69 8,464.00 | \$1,392,169.00,(A) 11,364.50;(A) 147,130.67; 8,464.00;(A) 4,121.10 \$1,563,249.27 |
| Subcontracts Not Assig | ned to AEC- | -Incomplete | | |
| C. T. Malcom & Co. Roof Service, Inc. (A) Completed in Octob 3. | G-377 G-350 er | \$ 12,087.80 61,599.00 \$ 73 686.80 | 3,345.95 | \$ 12,087.80 (A) 61,599.00 (A) \$ 73,686.80 |

PLANT SECURITY AND SERVICES SECTION

MONTHLY REPORT - OCTOBER 1951

SUMMARY

There were no lost time injuries during the month. There have been five lost time injuries this year for a frequency rate of 0.34.

The 300 Area completed one year without a last time injury an October 17, 1951. On October 29, 1951, 100-B Area completed its second consecutive year without a lost time injury.

There were five minor fires in the industrial areas with a loss of 0250.

Forms Control activities resulted in savings of \$923. of which \$766. will recur annually.

On October 15, one supervisor and 15 Security Patrolmen were assigned to special duty at the Las Vegas, Nevada tests. The period of duty is to be approximately seven weeks.

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PLANT SECURITY AND SERVICES SECTION MONTHLY REPORT - OCTOBER 1951

ORGANIZATION AND PERSONNEL:

Number of employees on payroll:

| . and of our payments | Beginning of Tonth | End of Month | Increase | Decrease |
|--|--------------------|-----------------|----------|----------|
| Staff | 6 | 6 | | |
| Patrol and Security | 648 | 654 | 6 (a) | |
| Safety and Fire Protection | 148 | 149 | l (b) | |
| Office Services (Building and Laundry Service, Clerical Services, Records Control and Procedures Analysis) | 298 | 306 | 8 (c) | |
| TOTALS | 1,100 | 1,115 | 15 | |

NET INCREASE: 15

(a) - Patrol and Security

- 21 New Hires
- 4 Reactivated
- 7 Transferred to other Departments
- 4 Deactivated, personal illness
- 8 Terminations

(b) - Safety & Fire Protection

- 4 New Hires
- 1 Transferred from another Unit
- 1 Deactivated, personal illness
- 3 Terminations

(c) - Building and Laundry Service

- 8 New Hires
- 1 Reactivated
- 1 Deactivated, personal illness
- 5 Terminations

Clerical Services

- 14 New Eires
- 2 Transferred from other Departments
- 8 Transferred to other Departments
- 3 Terminations

SAFETY AND FIRE PROTECTION

Days since last Major Injury

Accumulated Exposure Hours since last Major Injury
4,199,593

| | September | October | Year to Date | Comparative Period - 1950 |
|--------------------|-----------|-----------|-----------------|------------------------------|
| Major Injuries | 0 | o | | 6 |
| Sub-Major Injuries | 2 | 3 | 16 | 24 |
| Minor Injuries | 298 | 300 | 3,108 | 3,138 |
| Exposure Hours | 1,499,574 | 1,591,633 | 14,580,444 | 12,528,813 |
| Major Injury F/R | 0.00 | 0.00 | 0.34 | 0.48 |
| Major Injury S/R | 0.00 | 0.00 | 0.03 | , 0,009 |
| Penalty Days | 0 | 0 | 450 | 0 |
| Actual Days Lost | 0 | . 0 | 56 | 111 |
| Minor Injury F/R | 2.06 | 1.88 | 2.13 | 2.12 |

ESTIMATED MEDICAL

TREATMENT TIME REQUIRED- 1,208 hours 1,224 hours 13,021 hours

Safety Activities

The 300 Area completed a year without a lost time injury on October 17, 1951, their fourth since startup. During the past twelve months, almost 1,800,000 hours of work exposure were accumulated.

The 100-B Area completed their second consecutive year without a lost time injury on October 29, 1951. This marks their sixth injury-free year since startup.

A new record board has been erected in the 200-E area. They have operated 1,036 days without a lost time injury.

Participation in Safety Orientation programs has increased considerably in all areas due to increase in personnel.

A new condensed monthly H. W. accident statistical report is being released to all supervision. It involves a savings in paper of 84,000 sheets annually, and in clerical labor of approximately six hours per month.

A revision in the method of recording the minutes of the Manufacturing Department and Nucleonics Safety Councils has resulted in a paper savings of approximately 1800 sheets annually. About one hour per month is saved in clerical time.

Fire Protection Activities

Considerable activity and interest was created during Fire Prevention Month by a trailer display of fire fighting equipment and demonstrations shown in all areas.

On October 31, at 10:50 A.M., a fire was discovered in the rest room of the No. 6 Warehouse in Pasce. There is no doubt that this would have been a serious fire had the warehouse men been working in another part of the building and not discovered it early. The fire was caused by a wooden duct too close to a blower-type electric heater.

Fire Protection Activities (Contin)

Fire Protection Surveys were completed on 100-D and 100-DR water supply and Building 2704-W.

Building evacuation drills were held in 1704-B, 1703-B, 1704-D, 1704-F, 108-F, 2704-E, 2704-W, 222-S, 2724, 3702, 3706, 703 and 760 Buildings.

The fog system in 276-S Building was put into service and Fire Department officers, S Division, and Maintenance personnel were given necessary instruction on its operation and maintenance.

Nine patrolmen at the training school were given instruction on the operation of the fire alarm system and first aid fire extinguishers.

A gas explosion demonstration was given before 198 employees in the 300 Area during the month.

The Fire Department made several tests with "wetter water". They are finding that fires can be extinguished faster and with less water; also the chances of rekindling are greatly reduced.

Two hundred and thirty-one drills were conducted by the Fire Department.

The plans of the C-Area water supply were reviewed and comments submitted.

| Industrial Fires | | W | | |
|-------------------------------|-------|-----------------|---|------------------|
| Department | Area | No. of Fires | Cause | Loss |
| Utilities & Gen'l Services | 300 | 1 | Defective contacts in fuse box. | None |
| Separations | W-0CS | l _i | Oxygen mixing with accumulated vapors in tar pot caused mixture to flash. | None |
| Reactor | 100-B | 1 | Chemical reaction between chromic acid & acetone. | None |
| Utilitics & Gen'l Services | Outer | 1 | Tumble weeds wrapped around drive shaft of Patrol car and ignited from heat off exhaust pipe. | None |
| Stores | Pasco | 1 | Combustible material too close to electric heater. | \$25 0.00 |
| TOTAL FIRES | | 5 | TOTAL LOSS | \$250.00 |

OFFICE SERVICES

Building and Laundry Service

| Plant Laundry (200-W) | September | October |
|--|---------------------------|---------------------------|
| Pounds Delivered Pounds Rewash | 180,172 17,758 | 180,125 |
| Total Dry Weight | 197,930 | 211,933 |
| 700 Laundry | | |
| Flatwork - Pounds Rough Dry - Pounds Finished - Pounds | 68,732 22,757 2,918 | 62,317 28,531 2,639 |
| | 102 (72 | 300 169 |
| Estimated Pieces | 123,673 | 122,468 |
| Total Dry Weight - Pounds | 94,407 | 93,487 |
| Monitoring Section (200-W Laundry) | · . | |
| Poppy Check - Pieces Scaler Check - Pieces | 136,399 | 156,356 165,756 |
| Total Pieces | 292,135 | 322,112 |

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Clerical Services

Funds became available the latter part of this month for procurement of office furniture and machines for Fiscal Year 1952 requirements.

Central Mail

The 703 Building Directory was completed and distributed during the week ending October 13.

The teletype machine operating on the GE National Network is receiving an increasing amount of messages.

The volume of mail increased this month over the previous month because of many heavy mailings of material on Fire Prevention Week, Civil Defense, and Public Health Bulletins.

| | Types and Pieces of Mail Handled | A | September | October |
|----------|----------------------------------|---|----------------------------|----------------------------|
| | Internal Postal Registered | | 822,950 78,451 1,450 | 892,304 83,468 1,294 |
| <u> </u> | Insured Special Delivery | ં | 357 223 | 1,17 22h |
| | Total Mail Handled | | 903,431 | 977,707 |

Total Mail Hand

Central Mail (Contin)

| | Sentember | October |
|----------------------------|----------------|------------|
| Total Postage Used | 32,004.19 | \$2,519.84 |
| Total Teletypes Handled | ó , 357 | 5,606 |
| Total Store Orders Handled | 418 | 146 |

And Control of the Action

Office Equipment

Project furniture is now being delivered in quantity as new facilities are being completed.

Many large moves were completed in consolidating the Engineering Departments in 760 and 762 Buildings.

After a series of meetings with the AEC to clear up misunderstandings relative to the policy followed with respect to procurement and replacement of office machines, all major requisitions for same were cleared and sent to Government Procurement on October 29.

| | October |
|------------------|-----------------------|
| 214 538 | 238 603 |
| 752 | 841 |
| *** | |
| 56 42 6 | 105 77 0 |
| 23 377 775 | 0 388 955 26 |
| | 538 |

Central Printing

 $(x_1, x_2, x_3, \dots, x_n) \in \mathcal{A}_{p_1}^{p_2}(\mathbb{R}^n)$

The major task of composition and printing of the Four Year Book for Mr. B. R. Prentice of Schenectady is progressing satisfactorily. San 15 ·

The volume of work in Printing is showing sharp increase, due primarily to the large amount of offset duplicating being performed.

Orders were placed this month for new equipment including contact printing frame, line-up table, folding machine and darkroom precision camera. .

| Multilith Orders | Septembe | <u>or October</u> |
|--------------------------------|------------|-------------------|
| Received Completed - Day Shift | 435 207 | 517 |

Central Printing (Contin)

| Multilith Orders (Contin) | September | October |
|---------------------------|-----------|-----------|
| Completed - Night Shift | 217 82 | 83 124 |
| Camelled Orders | 0 | 0 |

Stenographic Services

Loan requests have been quite heavy this month and an effort is being made to encourage departments to submit their work for preparation in the Steno Pool.

| Breakdown of Hours | September | October |
|--|---|---------|
| Dictation and Transcription Machine Transcription Letters Rough Drafts Stencils, Dittos, and Duplimats Miscellaneous Meeting Time Training Unassigned Time | :00 43:00 14:45 16:00 453:35 602:35 5:00 223:35 85:00 | |
| Total | 1443:30 | 2493:35 |
| Employees Loaned to other department | nts1230:30 | 927:00 |
| Total Hours Available | 2674:00 | 3430:15 |

Duplicating Services

The 100 and 200 Area Managers were contacted during this month to work out plans for inaugurating duplicating services in their respective areas.

The new equipment, including Todel 80 and Model 1250 presses and Xerography equipment, was ordered the latter part of the month. It is anticipated that delivery will be made and the duplicating program placed in operation prior to the first of the year.

| Stencil and Fluid Duplicating | | September | October |
|-------------------------------|---|-----------|----------|
| Orders Received | | 932 | 963 |
| Orders Completed | - | 941 | 972 |
| Orders on Hand | | . 11 | 2 |
| Number of Stencils | • | 2,463 | 2,830 |
| Number of Copies | | 501,496* | 717ومليا |
| Number of Dittos | | 1,732 | 1,353 |
| Number of Copies | | 75,093 | 54,378 |
| Collated Orders | | 27 | 59 |
| Collated Copies | | 62,450 | 272,650 |

*Correction of error on last month's report

 \mathbb{C}^{2}

Records Control

Quantity of Records Received, Processed and Stored:

| Community Real Estate & Services Department | 10 | Standard | Storage | Cartons |
|---|------|------------|--------------|---------|
| Employee & Public Relations Department | 6 | I † | 11 | 11 |
| Engineering Department | 180 | · H | 17 | t1 |
| Financial Department | 102 | TT . | 11 . | 11 |
| General Administrative Department | 2 | . 11- | . 11 | 11 |
| Legal Department | 2 | 11 | 11 | · 18 |
| Manufacturing Department | . 93 | 11 | tt | . 18 |
| Medical Department | 22 | 11 | 13 | . 11 |
| Radiological Sciences Department | 9 | u | rt | 11 |
| Sub-Contractor - Vitro Corporation | 9 | 11 | , 1 1 | . 11 |
| Utilities & General Services Department | 69 | · , 11 | 11 | 11 |

Total

504 Standard Storage Cartons

Persons provided records service: 835 In addition to the individual services, 36 man hours were expended providing service for the Financial Department.

Records Cartons Issured: 1116

Filing Service Provided: 57 manhours were expended filing records in with those already in storage.

Percentage of the Records Service Center vault occupied by records is 79%, excluding Civilian Defense portion.

Organization and Policy Guide No. 10.4 was issued establishing Uniform Filing to include file manual. The Uniform Filing Manual was issued as Section II of the Stenographic manual "This Way, Please".

Uniform filing was established in eight offices during the month.

A training course on the uniform filing system was started by the Special Programs Group for all clerical personnel.

A program for conservation of paper for the Nucleonics Division was developed and approved by the Atomic Energy Commission. An Organization and Policy Guide to put the program into effect was submitted for approval and issuance.

| Procedures Analysis (MARCA) | | |
|--|-----------|---------|
| | September | Öctober |
| Printing Orders Received | 757 | 508 |
| Printing Orders Cancelled | 11 | |
| New Numbers Assigned Forms Designed | 58 | |

Procedures Analysis (Contin)

The first revision to "This Way, Please" has been received from the Printer. This revision includes the new plantwide standard filing procedure. Approximately 570 revisions have been mailed out to personnel that have a book assigned to them.

The following analysis studies were started this month:

- (1) Forms and Procedures Survey, Community Farks & Recreation
- (2) Terminal Clearance Procedure

Forms Control

Preliminary discussions have been held in regard to starting a new procedures survey in the Housing and Maintenance Unit of Community Real Estate Section.

Savings realized this month:

| | Annual |
|------------------|-------------------|
| Cne Time Savings | Recurring Savings |
| 923. | \$766 . |

PATROL AND SECURITY

Number of General Electric emploses given security orientation talks: 291

.

Number of General Electric employees given termination interviews:

Number of Security Meetings held: 216 Attendance: 3,507

The following security education items were issued during the month:

Four security articles appeared in the Works NEWS.

A representative of the Security Unit showed the following security films:

"Fitting 'U' Into Security" at one meeting, 25 people attending.
"The Case of the Smokeless Chimney" at 24 meetings, with
a total attendance of 600 employees.

On October 17, a representative of Security showed the films "The Case of the Smokeless Chimney" and "Sabotage" at a security conference attended by Security Agents from the General Electric Company, New York City.

Patrol and Security (Contin)

The following "A-B-C" security pamphlets were issued during the month:

of the trade of the second of the second

10,000 copies of pamphlet entitled "Loose Talk".
8,000 copies each of pamphlets entitled "Who's Out of Bounds" and "Moose Talk".

The following emergency plans were placed into effect during the month throughout the plant areas:

| Number | of | practice | evacuations | held: | 4 |
|--------|----|----------|--------------|-------|--------|
| | | | blackouts: | - | 12 |
| Number | of | practice | mobilization | ns: | 12 |

On October 1, a new flat type badge rack was placed in operation in the 100-C Badge House. It was found to be more efficient than the conventional type vertical badge rack. Arrangements were made to install this new type rack in each of the other main Construction and Operations badge houses.

A procedure was established October 3 for securing the Instrument Marehouse in White Bluffs when classified work is started for the 100-C Area.

An unauthorized plane landed northeast of Gate No. 137, 100-B Area on October 7. After investigation of the incident, the plane was permitted to take off at 11:29 A.M., October 9.

Effective October 9, Room 172, 234-5 Building, 200-W Area, was established as a vaulted area and the alarm placed in operation.

Film work in connection with the production of the latest security film entitled "The Man on the Left" has been completed.

On October 15, one supervisor from the Security Field Inspection Group and fifteen Security Patrolmen were assigned to special duty at the tests in Las Vegas, Nevada, upon the request of the atomic Energy Commission. The period of special duty is to be approximately seven weeks.

A procedure was set up in the 234-5 Area on October 18 wherein an individual pat search could be initiated in the event process material was found missing.

Two Security Patrol training instructors and twelve Security Patrolman were assigned to the production work of a special film which is being produced by the atomic Energy Commission. This assignment began October 19.

On October 31, the following procedure was established in all the 105 Buildings, 100 Areas, in the event SF material could not be accounted for:

- (a) Exclusion Area Supervisor notifies Patrol at Exclusion Area to start pat search at once.
- (b) Patrol Supervisor in area at same time places search in effect at Main Badge House.

Patrol and Security (Contin)

- (c) Emergency Officer is notified.
- (d) Emergency Officer notifies Atomic Energy Commission Duty Officer and General Electric Duty Officer and Security Supervision.

Security Field Inspection Activities:

| Contacts made for missing documents: | 31 |
|--|----|
| Searches were conducted for missing documents: | 13 |
| Classified documents located: | 16 |
| Combinations changed on file cabinets: | 14 |

There were 20 violations by General Electric and Atomic Energy Commission personnel regarding the improper storage of calssified material.

A total of 554 pat searches were made during the month. Escorts handled totalled 504.

Patrol made 25 ambulance runs during the month.

There were 3,075 badge transactions completed during the month, including "A", "B" and temporary type badges.



HANFORD WORKS General Electric Company Richland, Washington

REPORT OF VISITORS FOR PERIOD ENDING OCTOBER 31, 1951

Restricted Lata

| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Clasc. | Unclass | Areas |
|---|---|--|----------|-----------|------------|----------------------|---------------------------------|
| MEDICAL DEPARTMENT | • | | | | | | |
| I. Visitors to this Works | | | | | • | | • |
| S. T. Cantril Tumor Institute Swedish Hospital Seattle, Washington | Medical consultation | W. D. Norwood, M. D. 10-8-51 P. A. Fuqua | 10-8-51 | 10-9-51 | × . | | |
| II. Visits to other Installations | guol | | | | | | |
| W. D. Norwood, M. D. to: Atomic Energy Commission Tas Vegas. Nevada | Laboratory Directors' Meting | T. Shipmen | 10-31-51 | 11-7-51 | × | | |
| | • | ; | | | . · | - | |
| DESIGN AND CONSTRUCTION SECTION | 5. | | | | • | | |
| I. Visitors to this Works | | | | : | | | |
| A. A. Batza General Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingails | 4-2-51 | 1-1-52 | H | 200 -W 234 | 200-W 234, 235. 234~5 Const. |
| W. C. Bellows General Engineering Laboratory Schenoctady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 9-7-51 | 10-27-51 | × | 74-008 234 | 200-W 234,235 234-5 Const. |
| C. D. Carroll General Engineering Laboratory Schunectady, New York | | W. P. Ingalls | 10-1-51 | 11-15-51 | × | 200-W | 200-W 234,235 234-5 Const. |

| | | | | | Restricted Data | ed Data | |
|---|---|------------------|----------|-----------|-----------------|--------------------------------------|---|
| Name - Organization | Purpose of Visit. | Person Contacted | Arrival | Departure | Class. | Uncless Areas | |
| F. J. Champlin General Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 9-5-51 | 11-4-51 | × | 200-W 234,235 234-5 Const | |
| F. A. de Fillips General Engineering Laboratory Schenectudy, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 10-1-51 | 10-7-51 | H | 200-W 254,235 234-5 Const. | |
| E. P. Diehl General Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 11-5-51 | 7-1-52 | × | 200-V 234,235 234-5 Const | |
| L. H. Duff General Engineering Laboratory Schenectady, New York | Consultation and in- grallation of equip- ment on 432 Project | W. P. Ingalls | 10-22-51 | 11-30-51 | × | 200-W 234,235 234-5 Const | |
| C. W. George General Engineering Laboratory Schenootady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 10-1-51 | 11-0-51 | × | 200 -W 234,235 234-5 Const | |
| J. N. Hall General Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 10-10-51 | 10-20-51 | × | 200-W 234,235 234-5 Const | |
| F. A. Koohler General Engineering Indoratory Schenectady, Now York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 10-9-51 | 10-19-51 | × | 200-W 234,235 234~5 Const | |
| E. Long General Engineering Laboratory Schenoctady, New York | Consultation and installation of equip- ment on 432 Project | W. P. Ingalls | 6-26-51 | 7-1-52 | × | 200-W 234,235 234-5 Const | |
| D. H. Marquis General ingincering Laboratory Schenoctady, New York | Consultation and installation of equipment on 432 Froject | W. P. Ingalls | 928-51 | 10-13-51 | × | 200-W 234,235 234-5 Const | • |



| · · · · · · · · · · · · · · · · · · · | | | | - | | : | |
|---|--|------------------|------------------|-----------|----------------------------------|------------------------------|----------------------------|
| Nome - Organization | Purpose of Visit | Person Contacted | Arrivel | Departure | Restricted Rata Class Unclass | | Arong |
| W. W. Moles General Engineoring Laboratory Schemectady, Now York | Consultation and installation of equip- | W. P. Ingalls | 10-15-51 | 12-15-51 | × | 200~W 234,275 234~5 Const | 0~V 234,275 234~5 Const |
| R. N. Poole General Engineering Laboratory Schenectady, New York | Constitution and installation of equip- mont on 432 Project | V. r. Iugalls | 10-1-51 | 7-1-52 | × | 200-W 234,235 234~5 Const | 0-W 234,235 234-5 Const |
| T. O. Rogan Goneral Engineering Laboratory Echenoctady, New York | Consultation and installation of equipment on 432 Project | w. P. Ingalls | 9-17-51 | 16-6-51 | × | 200-W 234,235 234-5 Const | o-w 234,235 234-5 Const |
| C. P. Shorman Goneral Englacering Laboratory Schonoctady, Now York | Consultation and installation of equip- ment on 432 Project | W. P. Ingalls | 10-17-51 | 7-1-52 | H | 200-W 234,235 234-5 Const | 0-W 234,235 234-5 Const |
| R. Siftar G _o noral Engineering Laboratory Schenoctady, Now York | Consultation and installation of equipment on 432 Project | V. P. Inguils | 10-1-51 | 11-15.51 | × | 200-W 234,235 234-5 Const | 54, 235 Const |
| L. D. Singloton fadloy Associatos Burlington, Vornont | Consultation and installation of equipmont on 432 Project | W. F. Ingalls | 10-22-51 | 12-15-51 | × | 234~5 Coner 234~5 Coner | ∪.W 234,235 234.5 Const |
| R. W. Stanhouse General Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 10-17-51 | 12-1-51 | × | 200-W 234,235 234~5 onst | 34,235 onst |
| M. W. Vittum General Englucering Laboratory Schonoctady, Now York | Consultation and installation of equipment on hiz Project | W. P. Ingalls | 10.30-51 | 12: 1551 | × . | 200-W 234,235 234-5 Const | 34,235 Const |
| B. H. Womple General Engineering Inboratory Schenectady, Now York | Consultation and in- rallation of equip- ment on 432 Project | W. P. Ingalls | 9-18-61 17-61 | 10-50-51 | × | 200-4 234,235 234-5 Const | 0-V 234,235 234-5 Const |

| .• | 1 1 1 | | | | | Rostrictod Data | |
|-----|--|--|--|--------------------|---------------------|--------------------------------|----------------|
| | Namo - Organization | Purposo of Visit | Porson Contactod | Arrival | Doparturo | : - | Aroas |
| • | N. H. Wood Goneral Engineering Laboratory Schenectady, New York | Consultation and installation of equipment on 432 Project | W. P. Ingalls | 4-2-51 10-15-51 | 1-23-52 12-15-51 | X 200-W 234,235 234-5 Const | , 235 Jonet |
| | J. B. Sampson Knoils Atomic Power Laboratory Schenectady, Now York | Consultation on equip- ment on 432 Project | W. P. Ingalls A. A. Batza | 10-18-51 | 10-19-51 | I 200-W 234-5 Const. | ₹- • |
| | D. L. Boomon General Electric Company Schonectady, New York | Discuss design of power systems | E. P. Peabody I. A. Garcia E. J. Barrett | 10-29-51 | 10-31-51 | X 700 | |
| | II. Visits to other Installations | ons | | | | | |
| · . | R. K. Andorson to: Vitro Corporation New York, New York | Consultation on architoct engineer sorvices on C-431-B Pro- | G. White, Jr. Project | 10-15-51 | 10-16-51 | × | |
| | D. V. Bergman to: Vitro Corporation Now York, Now York | Gonoral auditing | H. J. Nullmoyor | 10-4-51 | 10-20-51 | * | |
| | D. V. Borgman to: Charlos T. Main, Inc. Boston, Massachusotts | Goneral auditing | A. B. Boll | 10-15-51 | 10-20-51 | × | |
| | B. R. Elder to: Vitro Corporation Now York, New York | Consultation on architect engineer sorvices on C-431-B Project | G. White, Jr. | 10-15-51 | 10-16-51 | 1 | : : |
| | O. H. Pilkey to: Atomic Energy Commission Ins Vogas, Nevada | Discuss and witness tests of structures | M, S. Goorgo | 10-2-51 | 10-6-51 | | |
| | R. S. Harmond to: Vitro Corporation Now York, New York | Transmit vendor information on Project C-431-B | S. Stollor T. G. Watkins J. L. Sholeno | 10-25-51 | 10~27-51 | * | 9 |

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| 1 10 | | | | ٠ | Restric | Rostricted Data | |
| Namo - Organization | Furposo of Vieit | Porson Contactod | Arr:1val | Departure | Çinse. | Unclass | Arcae |
| E. S. Day to: Vitro Corporation New York, New York | Consultation on instru- ment design for 105°C | J. S. Atwood T. G. Watkins | 10-3-51 | 10-8-51 | × . | | |
| E. S. Day to: Connx Corporation Buffalo, Now York | Design application for a 100 Area instrumentation | κ. Ψ. Csmol. n | 10-9-51 | 10-10-51 | | × | • |
| E. S. Day to; Panollit Corporation Chicago, Illinois | Design application for 100 Area instrumentation | A. Sporry n | 10-11-51 | 10-38-94 | | > 4 | : · |
| B. E. Woodward to: Standard Flastics Los Angelos, California | Discuss thermocouple connector design | Mr. Nacross | 10-3-51 | 10-6-51 | . · · · · · | >< | |
| C. W. Harrison to: Pugot Sound Navy Shipyard Bromorton, Wushington | Consult on order HS-47 "B" block fabrication | S. L. Allison | 10-10-51 | 10-13-51 | × | | |
| J. R. Carroll to: J. M. Gauntlott Company Soattle, Washington | Shiold plug facility | R. M.Carthy | 16-22-51 | 10-22-51 | | ×. ⊭ • • • • • • • • • • • • • • • • • • • | |
| J. R. Carroll to: Skagot Iron Works Scattle, Washington | "r" and "B" cast from blocks | S. Modaff | 10-23-51 | 10-25-51 | | , | , . |
| J. R. Cerroll to: Pugot Sound Havy Shipyard Bromorton, Washington | "B" block fabrication | C. Powors | 10-24-51 | 10-24-51 | × | | |
| R. C. Hollingsheal to: Stoarns Rogar Mfg. Co. Donvor, Colorado | Obsorvo performance test of pulse generator | M. S. Rosongren c M. S. Rosengren | 10 16-51 20-18-51 | 10-5-51 10-25-51 | | ×× | |

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| Namo - Organization | Furposo of Visit | Person Contacted | Arrival | Arrival Doparture | clues | OUCTOEB | Arons | |
| J. M. Framo to: Grano Company Chicago, Illinois | Dosign consultation on exterial boing procured | F. M. Woiss | 10-29-51 | 11-2-51 | | × | | |
| B. G. Blanchotto to: Modol & Instrument Works Seattle, Washington | Inspect equipment for Project C-431~B | Mr. Clauson | 10-22-51 | 10-22-51 | æ. | × | | |
| <pre>0. W. Priebe yo: Bunstead-Wolford Soattle, Washington</pre> | Liaison on currect G-382 | O. H. Wolford | 10-5-51 | 10-5-51 | | × | | |
| J. W. Conley to: Byron-Jackson Company Los Angelos, California | Witness pump tosts | E. Lindros | 10-5-51 | 10-10-51 | | × | | |
| EMPLOYEE RELATIONS DEPARTMENT | | | | | | | | |
| I. Visitors to this Works | | | | | ; | • | 1 | |
| B. S. Havons Gonoral Electric Company Schonoctady, Now York | Discussion on Hanford Toghnical Report | G. L. Browne | 10-16-51 | 10-16-51 11-14-51 | ∺ , | • | 50 | |
| W. V. Morrihuo Genoral Electric Company | Discuss ouployee relations and | H. E. Callahan J. R. Rus | 10-18-51 | 10-19.51 | × | | 105-11 105 | |
| (New York Office of GE) | Topon Circum | | | | • | | | |
| | The state of the s | | | | | | | |

RADIOLOGICAL SCIENCES DEFARTMENT

I. Visits to other Installations

H. M. Parkor to: Atomic Enorgy Countesion Ics Vogas, Novada

Leberatory Directors' T. Shipmon Moeting

10-31-51 11-7-51

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| | Purpose of Visit | Person Contacted | Arrival | Doparturo | Class. | Unclass | Aroas |
| C. C. Genertsfolder | Laboratory Directors' Mouting | T. Shipan | 10-31-51 | 11-7-11 | × | | • |
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| MINAGEMENT | | | • | | | | |
| I. Visitors to this Works | | | | | | 6 | |
| S. Glasstone Consultant Washington, D. C. | Obtain information for classified volume on reactor engineering for Oak Ridge | D. W. McLonogen | 10-1-51 | 10-3-51 | ⊭ , | 100-D 109 100-H 105 200-W 221 Redox,231 300 XXX | 105 221-T, 231 |
| Violotte Glasstono Consultant Washington, D. C. | Obtain information for classified volume on reactor engineering for Oak Ridge | D. W. McLonegan | 10-1-51 | 10-3-51 | × | 100-D 105 100-H 1C5 200-W 221 Rodox,231 300 XXX | 105 1105 1 221-T; 1,231 |
| S. E. Hazlot State College of Washington Pullman, Washington | Inspection in regard to research contracts for AEC | D. W. McLonogon | 10-25-51 | 10-25-51 | | X JC | 100-F 108 |
| S. T. Stephenson State College of Washington Pullron, Washington | Inspection in regard to research contracts for AEC | D. W. McLonogan | 10-25-51 | 10-25-51 | | 7. 10 36 | 100- f 108 300 xxx |
| L. C. Cady University of Idaho Moscow, Idaho | Inspoct resoarch apparatus | D. W. McLonegan | 10.17-51 | 10-17-51 | | | 100-B 108 |
| C. O. Reiser University of Idabo Moscow, Idabo | Inspect resessed | D. W. McLonegan | 13-17-51 | 10-17-53. | | *: | 001 5- 001 |

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| Nario - Organization | Furpose of Visit | Porson Contactod | Arrival Doparture | OTUBB. |
| II. Visits to other Installations | suc | • | | |
| H. W. Huntloy to: Charlos T. Main, Inc. | Consultation on accounting matters relating to contract | A. B. Boll | 10-18-51 10-19-21 | |
| W. E. Johnson | Management information | B. R. Prontice | 10-5-51 10-5-51 | ************************************** |
| to: Knolls Atomic Power Lab. Schonectady, Now York | | | 10-11-51 | |
| D. W. McLonogan to: Knolls atomic Powor Lab. Schonoctady, New York | Discuss technical porsonnol needs, oducational problems | K. H. Kingdon D. E. Irwin W. W. Kuyper | T(25,00) | |
| MANUFACFURING DEPAKTMENT | | | | |
| I. Visitors to this Works | | | | , x 300 303, 305 |
| K. B. Bakor Aluninun Company of Anorica | Consultation on ratters pertaining | W. M. Mathib G. E. McCullough E. W. O'Rorko | 10-22-01 10-23-01 | 4 |
| Edgowator, New Jorsey | 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | W. M. Mathis | 10-22-51 10-23-51 | 11 X 300 305, 305 |
| J. C. Finloy Aluminum Cormany of America Seattle, Washington | Consultation of the control of the c | ⊠ ≯ | | |
| C. G. Kruso | Inspect IBM equipment | J. H. Warron | 11-5-51 11-7-51 | 4 |
| Internation, Weshington | | · · | • | |
| II. Visits to other Installations | tons | | [5~[5~]] [10~5] ~1 | 51 X |
| J. E. Maidor to: Knolls Atonic Power Lab. | Consultation concorn. B ing Hanford Works rattors | B. R. Prontico tors | | |
| Schonoctady, Now York | | | S | |



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| Naro - Organization | Purpose of Visit | Porson Contacted | Arrival | Departuro | Class. | Class, Unclass | yroa s | |
| J. E. Maidor to: Creno Company Chicego, Illinois | Consultation on oquipment on order | P. M. W.188 | 11-1-51 | 11-1-51 | ٠ | × | | |
| W. M. Mithis to: Wostinghouso Electric Corp.discussions on spcial Pittsburgh, Pennsylvenia irradiation | Examine slugs and | W. E. Johnson | 9-12-51 | 9-14-51 | × | | | |
| E. F. Loe to: Knolls Atomic Powor Lab. Schenoctady, Now York | nspootion of facilities | B. R. Prontice | 10-30-51 | 10-31-51 | × | | | |
| UTILITIES AND GENERAL SERVICES DEPARTMENT | DEP ARTMENT | • | | | | | • | |
| Plant Socurity and Sorvicos Soction | tion | · · | | | | | | |
| I. Visits to other Installations | su. | | | | | | | |
| T. B. Furloy to: Gonoral Eloctric Company Now York, Now York | Attond security conference | R. E. White | 10-16-51 | 10-18-51 | | × | | |
| Purchasing and Storos Soction | | | | | | | | |
| I. Visitors to this Works | | | | | | | | |
| H. A. Wilcox Enstorn Industrios Morcor Island, Washington | Superviso agitator run-in tost | G. J. Hayward P. M. Murphy | 10-29~51 10-22-51 | 11~5~51 10~31~51 | | X 241-WE 241-UF 277-S | 241-WR 24 1 -UR 277-S | • |
| G. Fuson Consolidated Enginooring Corp. Pasadona, California | Service check of mass spectrometer | G. J. Hayward | 9-28-51 | 10-1-51 | | х 100-г | 100-B 105, 106 | |
| J. H. Wills Genoral Michinery Company | Supervise erection of Nagle pumps and maters | G. J. Hayward R. C. Hollingshoad | 10-6-01 | 10-10-27 | | x 277-u | n- | |
| apokato, washingcon | | 一年 一日 日本の日 にある 日本の日 日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日 | | 2. 2. 2. 2. 2. | · · | | | |

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| | Furpose of Visit | Person Contacted | Arrival | Departuro . | Rostricted Data Class. Unclass | 26. · ATOMB |
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| C. A. Black Detrox Corporation Souttle, Washington | Supervise installation of degreeser | G. J. Hayward | 10-16-51 | 10-17-51 | × | 100-D 1717 |
| E. E. Stevens Bunstead-Wolford Company Seattle, Washington | Supervise erection of water softener | G. J. Hayward | 10-29-51 | 11-5-51 | * | 200-w 284 |
| B. Stanloy Liquid Carbonic Corporation Soattlo, Washington | Dollyer liquid carbon gas | G. Hondrickson | 10- 2-51 10-29-51 | 10-2-51 10-29-51 | ×× | 100-H 105 100-H 105 |
| H. A. Riggs Wost Const Frst Froight Konnowick, Washington | Doliver material on order | W.H. Sutton | 10-3-51 | 10-3-51 | * | 200-W 202-S |
| J. Holima Wost Coast Fast Froight Konnowick, Washington | Dolivor material on order | W. H. Sutton | 10~351 | 10-3-51 | | 100-H XXX |
| R. Bagby Wost Coast Fast Froight Kennewick, Washington | Dollver interial on order | W. H. Sutton | 10-3-51 | 10-5-51 | * | 100-B 185 |
| G. Hixon | Dollyor interial on: | W. H. Sutton | 10-1-51 | 10-1-51 | X · · · · · · · · · · · · · · · · · · · | 100-D 105 |
| Inland Motor Froignt Konnowick, Washington | Order BW 63029-M Order BW 65088-M | . | 10-2-51 | 10-2-51 | ** * | 100-D 105 200-E 275 200-W 2028 |
| | Order HW 85029-M Order HW 87726-M Order HW 87726-M Order HW 87725-M | W. H. Sutton W. H. Sutton W. H. Sutton W. H. Sutton | 10-5-51 10-8-51 10-10-51 10-12-51 | 10-5-51 10-8-51 10-10-51 10-12-51 | < × × × | 200-W 2023 100-B 105 300 303-J 500 303-J |
| F. F. Suith | Dollver raterial on | W. H. Sutton | 10-4-51 | 10-4-51 | X | 100-F 105 |
| Intrna Lotor Froight Konnowick, Washington | | W. H. Sutton | 10-12-51 10-12-51 | 10-12-51 | X X | 100-F 105 100-B 105 |

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| Name - Organization | Introse of Visit | Porson Contactod | Arrival | Departure | Cless, Un | Unclass Arons | |
| G. Zank Loo and Estos Konnowick, Washington | Doliver interial on order HVC 11841 | W. H. Sutton | 10-10-51 | 10-10-51 | | I 300 303-I | |
| M. Brill | Dollyor interial on | W. H. Sutton | 10-17-51 | 10-17-51 | | Z 100-D 105 | |
| Loo and Estos Konnewick, Washington | ordor HW 88204-G Ordor HW 83029-M Ordor HW 83029-M | W. H. Sutton W. H. Sutton | 10-17-51 10-29-51 | 10-17-51 10-29-51 | | X 100-F 105 X 100-D 105 | |
| L. Wilson Lee and Estos Konnowick, Washington | Doliver interial on order HW 83029-M | W. H. Sutton | 10-22-51 | 10-22-51 | | X 100-B 105 100-D 105 | |
| B. Stanley Liquid Carbonic Corporation Scattle, Washington | Doliver raterial on order HW 87754-M | W. H. Sutton | 10-29-51 | 10-29-51 | | х 100-н 105 | |
| II. Visits to other Installations | suc | | | | | • | |
| J. C. Earliten to: Puget Sound Navy Shipyard bronorton, Washington | Inspection and expeditating | S. L. Allison W. L. Hornor | 10-23-51 | 10-24-51 | × | | |
| J. C. Hamilton to: Alaskan Coppor & Brass Wks.and expediting problems Seattle, Washington | Discuss inspection | E. Cahill | 10-23-51 | 102451 | | × | |
| J. C. Hamilton to: J. M. Gauntlett Co. Seattle, Washington | Expediting and inspection | R, G. McCarthy | 10-23-51 | 10-24-51 | | × | |
| C. P. Floning to: Puget Sound Navy Shipyard Bremorton, Washington | Expoditing | Mr. Churchiil Mr. Marifiold Mr. Agar | 10-18-51 | 10~20-51 | × | | |
| T. L. Lindgren to: Fugot Sound Navy Shipyerd Bronerten, Washington | Inspection and expediting | W. L. Hornor S. Laillison | 10-23-51 10- | 10-24-51 | × | | |

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| Namo - Organization | Purpose of Visit | Ferson Contacted | Arrival | Departuro | Class Unclass | Unclass | Arons |
| H. A. Hauser tio: Standard Plastics Los Angolos, California | Irocuronont of thermo- couple connectors | J. Norcross | 10-4-51 | 10-5-51 | | * | |
| H. A. Hausor to: Viking Electric Los Angelos, California | Procurement of thermacouple connectors | V. V. Wood | 10-4-51 | 10-5-51 | • | * | |
| H. A. Hauser to: Southwest Welding Pasadena, California | Nogotiato cancellation settlement | R.M. Cutlor | 10-8-51 | 10-8-51 | | × | |
| C. W. Rushmore to: Crone Company Chicago, Illinois | Confirm quantities on HWC 10230, 10231, and 10232 | P. M. Welss | 10-5-51 10-22-51 | 10-9-51 10-25-51 | | ×× | |
| C. W. Rushroro to: Alleghony Ludluu Chicago, Illinois | Order INC 25442 | A. M. Hausor | 10-10-51 | 10-10-51 | | × | |
| R. J. General Chomical Div. to: General Chomical Div. Allied Chomical & Dye Ourp. New York, New York | Essential interial discussion | MM. Biddison | 9-24-51 | 9-24-51 | | × | |
| R. J. Gandy to: Amorica Agriculture Corp. New York, New York | Essential interial discussion | F. R. Georgo | 9-24-51 | 9-24-51 | | × | |
| R. J. Gandy to: Stauffer Chemical Corp. Now York, Now York | Essontial ratorial discussion | H. Stauffer | 9-25-51 | 9-25-51 | | × | • |
| R. J. G.ndy to: National Coal Assn. Washington, D. C. | Discuss future productions tion and rarket conditions of coal | J. Battle ons | 9~28~51 | 10-1-51 | | * 1 | |

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| Name - Organization | iurpose of Visit | Ferson Contacted | Arrival | Departure | Class | Unclass | укезв |
| R. J. Gondy to: Goneral Eloctric Company Schenectady, New York | Discussion on buying problems | C, M. Bryan | 10-2-51 | 10-2-51. | | × | |
| TECHNICAL SECTION | | | | | | | |
| I. Visitors to this Works | | | 1 | | | | |
| D. H. Ahrann Knolls Atomic Power Laboratory Schenectady, New York | Redox assistent to Hanford problens and P-10 consultation | V. R. Cooper W. M. Harty | 16-22-51 | 10-25-51 | × | 700 XXX 100-B 10 200-W 2 221-U 224-U Redox | 300 XXX 100-Β 108 200-Ψ 231 221-U 224-U Rcdox |
| K. B. Bakor Aluminum Company of America Edgewater, New Jersey | Consultation on metal proparation mothods | G. E. McCullough | 10-22-51 | 10-23-51 | × | 300 303, | 33, 305 |
| W. G. Baxter Goneral Electric Company Ock Ridgo, Tonnossoe | Discussion on insulation, thermocouple calibration and propose experiments | isu- J. B. Lambort huplo R. E. Nathor proposed H. L. H _o nry | 10-15-51 | 10-18-51 | × | 100-B 105 100-D 105 100-F 105 100-H 105 500 XXX | 105 105 105 XX |
| A. M. Bounds Superior Tube Company North Town, Fennsylvania | Consultation on zirconium | ium J. H. Bach | 11-1-51 | 11-13-51 | × | 100-D 105 300 303, | 100-D 105 300 303, 305 |
| L.C. Cady University of Idaho Moscow, Idaho | Inspect equipment used by Filo Tech. people submitting thosis to U. of Idaho | G. E. McCullough W. M. Harty | 10-17-51 | 10-18-51 | × | 100-B 108 | 108 |
| C. O. Rolsor Univorsity of Idaho Mascow, Idaho | Inspoct equipment used by Pile Tech. people submitting thesis to U. of Idaho | G. E. McCullough W. M. Harty | 10-17-51 10-18-51 | 10-18-51 | , | 100-B 108 | 108 |

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| Naro - Organization | Purpose of Visit | rergon contacted | WIT TANK | o the midar | • | t | |
| D. Crumb Intornational Businoss Machinos Richland, Washington | Inspect IBM equipment J. P. | . W. Underwood . M. Theupson | 10-1-51 | 10-51-51 | | x 300-3707-c | |
| J. E. Draloy Argamo National Laboratory Chicago, Illinois | Discuss alrainum corrosion of aluminum alloys in process water | . S. Dalrymple | 10-30-51 | 11-2-51 | ∺ | 100-B 105 100-D 105 300 305 | |
| L. H. Duff General Engineering Laboratory Schenoctady, New York | E-10 consultation W | W. M. Harty | 10-25-51 | 11-17-51 | × 1. | 100-B 108 | |
| J. F. Flagg Knolls Atonic Powor Laboratory Schenoctady, New York | Rodox assistant to V. Hanford problems R. and separation impurities of uranium | . R. Cooper . B. Richards . W. R. Schridt . W. Marshall | 10-22-51 | 10-26-51 | × , | 300 XXX 200-W 234,235 231 Rodox | |
| R. B. Forminger E. I. du P _o nt do Nemours & Co. Wilmington, Dolawaro | Study laboratory 0. oquipment and analyticalD. methods | 0. P. Anacker D. F. Shepard L. M. Knights | 10-1-51 | 10-4-51 | × | Rodox 300 XXX | |
| R. J. Halo E. I. du Pont do Nomours & Co. Wilmington, Dolaware | Study laboratory oquipment and analytical wothods | 0. P. Ancokor D. F. Shepard L. M. Knights | 10-1-51 | 10-4-51 | × | Rodox 300 XXX | |
| N. B. Garden Radiation Laboratory Burkoloy, California | Obtaining americium F | F. W.Albaugh R. E. Nather | 10-24-51 | 10-26-51 | × | 300 XXX Redox 200-W 231,234 235 | |
| R. E. Githons | Discussion on insu- | æ. | 10-15-51 | 10-18-51 | × | 100-F 105 100-F 105 100-F 105 | |
| Gonofal Electric Company Ock Ridge, Tennessoe | e posca | R. E. Nother H. L. Honry | : · · · · · · · · · · · · · · · · · · · | . % | | | |
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| Name - Organization | Purpose of Visit | Person Contacted | Arrival | Departure | Class. | Unclass Areas |
| W. A. Jenkins, Jr. Radiation Laboratory Berkeley, California | Discuss methods of obtaining americium | R. B. Richards | 10-24-51 | 10-27-51 | * | 300 XXX 200-W 231,234 235 Redox |
| R. A. Koehler General Engineering Laboratory Schenectady, New York | P-10 consultation | W. M. Harty H. F. Zuhr | 10-17-51 | 10-17-51 | × | 100 ~B 108 |
| D. H. Marquis General Engineering Laboratory Schenectady, New York | Discuss caming | H. L. Mars E. A. Smith | 10-5-51 | 10-5-51 | × | 300 XXX |
| M. E. Norby International Business Machines Kennewick, Washington | Service IBM equipment | P. M. Thompson G. E. McCullough | 10-1-51 10-19-51 | 10-31-51 10-20-51 | | x 300 xxx x 100-d 105-dr |
| E. C. Pitzer Knolls Atomic Power Laboratory Schenectady, New York | Discussion on corrosion G. E. McCullough problems | on G. E. McCullough | 10-3-51 | 10-10-51 | × | 100-B 105,108 100-D 105 100-H 105 101; 300-XXX |
| J. B. Sampson Knolls Atomic Power Laboratory Schenectady, New York | Discuss pile physics and pile operations | W. J. Ozsroff P. F. Gast | 10-16-51 | 10-19-51 | × | 100-B 105 100-D 105 100-F 105 200-W 234 300 XXX |
| S. G. Thompson Radiation Laboratory B _e rkeley, California | Work out method for obtaining americium | R. B. Richards | 10-24-51 | 10-27-51 | × | 300 XXX 200-W 234,235 231 Redox |
| T. E. Usher General Electric Company | Discussion of mass spectrometer | R. J. Brouns | 10-29-51. | 11-9-51 | × | 100-B 108 300 XXX |
| Schenectedy, New lork | | STATES OF STATES OF STATES OF STATES | | | | |

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Schonestady, Now York

C. E. Wobor

E. I. du Pont do Nemours & Co.

E. B. Sheldon

Wilmington, Dolaware

J. B. Lambort R. E. Nathor R. Ward

H, L. Honry

W. M. Harty

10-31-51 10-31-51 234-5 recovery problems R. B. Richards E. I. du Pont do Nemours & Co. Wilmington, Dolawaro R. L. Folger

J. S. Stoakes P. F. X. Dunigen B. F. Butler L. G. Waters quality control system sotting up statistical F. I. du Pont de Nemours & Co. Wilmington, Delaware F. J. Roorda

Voorhees, Walker, Foley & Smith dosign and equipment Aikon, South Carolina

Discuss laboratory Discuss laboratory equipmont E. I. du Pont de Nenours & Co. Wilmington, Delaware W. D. Singlevich

equipment E. I. du Pont de Nemours & Co. Wilmington, Delaware L. T. Haag

Person Contacted

R. B. Richards

University of Texas

G. W. Watt

Austin, Texas

Namo - Organization

100-B 105,108 200-W 221-T, 231,234,235 234-5 Const. Restricted Data Class Areas 200-E 221-B Rodox,277-S 221-U,224-U 300-XXX Class. Departure 10-22-51 :10-26-51 Arrival

100-B 105,108 100-D 105 100-H 1105 100-F 105 300+XXX; 10-16-51 10-19-51

200-W 234,235 300. XXX 10-15-51 10-17-51

. 300 XXX. 10-15-51 10-17-51

200-W 234,235

X 300 XXX

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| Name - Organization | Purposo of Visit | Person Contacted | Arrival | Doparture | Class. Unclass | Arons | 81 |
| II. Visits to other Installations | lons | | • | | | | |
| R. J. Anicetti to: Los Alamos Scientific Lab. coramics operations Los Alamos, New Mexico | Consultations on coramics operations | J. M. Taud | 10-4-51 | 10-8-51 | × | | |
| L. P. Bupp to: Battelle Memorial Institute on graphite Columbus, Ohio | cussion | on HZ. Schoffeld | 10-17-51 | 10-19-51 | × | | |
| L. P. Bupp Knolls Atomic Power Laboratery Schonectady, New York | Technical discussion on on graphite | п Ј. Р. Ноwе | 10-22-51 | 10-23-51 | × | | • |
| L. P. Buppto: Argonne National LaboratoryChicago, Illinois | Tochnical discussion on ry on graphito | n O. C. Simpson | 10-23-51 | 10-24-51 | × | . • | |
| A. H. Bushey to: Los Alamos Scientific Lab. cations Los Alamos, Now Moxico | Discuss P-10 specifi- | M. F. Roy | 10-8-51 | 10-9-51 | × | | |
| P. A. Carlson to: Argonno National Laboratory Chicago, Illinois | P-10 consultation | C. E. Stevonson A. Glassnor | 10-1-51 | 10-2-51 | × | | |
| P. A. Carlson to: Knolls Atomic Power Laboratory Schonoctady, Now York | P-10 consultation | C. Monnal | 10-5-51 | 10-5-51 | × | | |
| D. E. Davonport to: North American Aviation Downoy, California | Conference on pile physics | S. Slogol | 10-11-51 | 10-13-51 | X | | |
| M. D. Fitzsirmons to: Argonno National Lab. Chicago, Illinois | Discuss futuro irradia- tions in P-10 facility | - G. A. Anderson H. Etherington A. Arorosi | 10-6-51 | 10-12-51 | × | | |

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| . 18 - | | | | l | 히 | • |
| Name - Organization | Purposo of Visit | Porson Contactod | Arrival | Doparturo | Class. Unclass | Aroas |
| G. L. Flint to: Mound Laboratory | Discuss motal coating mothods | M. M. Hering F. H. Bolcher | 10-10-51 | 10-12-51 | X | |
| Micmisburg, Ohio | Elithour footsome from Elithour | W. Wilkinson | 10-17-51 | 10-19-51 | * | |
| G. L. Flint to: Argonno Netional Laboratory | Multimeter program | | | • | | |
| G. C. Fullmor to: Argonno Netional Lab. | Discuss Hanford opera- J | J. M. Wost ck R. Swank | 10-29-51 | 10-30-51 | × ** | |
| Chicago, Illinois | on status or vontractor scintillation detector | | | | | |
| P. F. Gast | Conforence on pile | S. Slogel | 10-11-51 | 10-13-51 | X | • |
| to: North American Aviation Downoy, California | physics | ************************************** | <i>:</i> | . | | |
| W. M. Harty | P-10 consultation | M. F. Roy | 10-8-51 | 10-9-51 | ×. | |
| to: Los Alamos Scientificados. Los Alamos, New Maxico | | | | | | |
| W. K. Kratzer to: Argonno Nutional Lab. | Obsorvo motal fabri- cation | F. L. Yaggoo L. R. Kolman | 10-11-51 | 10-15-51 | ⊀ | |
| Chicago, Illinois | n 10 consultation | C. E. Stovenson | 10-1-51 | 10-2-51 | × . | |
| L. W. Lang to: Argonno National Lab. Chicago, Illinois | | G. | | | • | |
| L. W. Lang | P-10 consultation | C. Mannal | 10-3-51 | 10-5-51 | × | |
| to: Knolls Atonic Powor Lab. Schonectady, Now York | | | 90 | 10-20-51 | * | |
| ~ | Consultation concorning C. | g C. J. Borkowski | TC=62=0T | マグ-0グ-0T | • | , |
| to: Oak Hidge Macions: Lab. Oak Ridge, Tonnessee | J | uo | | | | |
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| Nello - Organization | Purpose of Visit | Person Contacted | Arrival | Delirture | Olass, Unclass | Arcas |
| F. J. Loitz to: E. I. du Pont de Nomurs Wilmington, Delaware | Discuss gasoous wasto probloms | F.S. Chamburs | 10-29-51 | 10-36-51 | × | |
| D. B. Lovett to: Brookhaven National Lab. Upton, Long Island, New York | Discussion on graphite | D. H. Gurinski | 10-3-51 | 10-5-51 | k | |
| L. A. McClaino to: Battello Morial Institute on graphite Columbus, Ohio | Tochnical discussion on graphito | H. Z. Schofield | 10-17-51 | 10-19-51 | M | |
| L A. McClaine to: Knolls Atomic Powor Lab. Schonoctady, New York | Tochnical discussion on graphito | J, P. Howo | 10-22-51 | 10-23-51 | × | • |
| L. A. McClainc to: Argonna National Lab. Chicago, Illinois | Tochnical discussion on 0. graphito | o, C. 1rrpson | 10-23-51 | 10-24-51 | × | |
| D. B. Lovott to: Buttollo Morperial Instituto Columbus, Ohio | Tochnical discussion on to graphito | H. Z. Schofiold | 10-1'(-51 | 10-19-51 | × | |
| G. E. McCullough to: Los Alaws Scientific Lab. Los Alamos, New Mexico | P-10 consultation | M. F. roy | 10-8-51 | 10-9-51 | × | ÷ |
| W. J. Ozoroff to: North American Aviation Downey, California | Conference on pilo physics | S. Slogul | 10-11-51 | 10-13-51 | X | |
| F. H. Roinkor to: Battollo Momorial Instituto on graphito Columbus, Ohio | Tochnical discussion to on graphito | II. Z. Schoficld | 10-17-51 | 10-19-51 | × | |



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| Naro - Organization | Furpose of Visit | Person Contacted | Arrival | Departure | Rostricted Data Class. Unclass Areas | to t |
| P. II. Roinkur to: Knolls Atomic Powor Lab. Schonoctady, New York | Technical discussion on graphite | J. F. HOWO | 10-22-51 | 10-23-51 | × | |
| P. II. Roinkor to: Argonno National Lab. Chicago, Illinois | Tochnical discussion on graphito | 0.C. Sinpson | 10-23-51 | 10-24-51 | X | |
| R. P. Snith to: Mound Laboratory Mianisburg, Ohio | Discuss motal coating mothods | M. M. Haring F. H. Bolchor | 10-10-51 | 10-12-51 | ± | |
| C. G. Stovonson to: Argonno Metional Lab. Chicago, Illinois. | Attend meeting of J. Technical Information Panel and discuss document control operations | J. D. Young | 10-15-51 | 10-20-51 | × | |
| J. B. Work to: Mound Laboratory Manisburg, Ohio | Discuss motal coating mothods | F. II. Bolchor M. M. Haring | 10-10-51 | 10-12-51 | × | • |
| <pre>II. F. Zuhr to: Los Alamos Sciontific Lab. Los Alamos, New Maxico</pre> | F-10 consultation | M.F. Roy | 10-8-51 | 10-9-51 | * | |
| R. H. Loyso to: General Engineering Lab. Schenectady, Now York | Follow shop construction L. of Project C-410 R. | n L. E. Webor R. E. Currow | 7-14-51 | 10-31-51 | X | |
| J. F. Fletchor to: General Engineering Lab. Schenoctady, Now York | F-10 consultation | II. W. Bousman | 10-10-51 | 16-31-51 | × | |
| J. F. sullivan to: General Engineering Lab. Schenectady, New York | F-10 consultation | H. W. Boustron | 10-10-51 | 10-51-51 | | |
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| Restricted Data | | | | | | | | | |
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| Rostr Class | × | × | × | × | × | × | × | × | × |
| Doparturo | 16-31-51 | 10-31-51 | 10-11-51 | 10-11-51 10-11-51 | 10-12-51 | 10-12-51 | 10-12-51 | 10-16-51 | 10-31-51 |
| Arrival | 10-10-51 | 10-10-51 | 10-11-51 | 10-11-51 | 10-10-51 | 10-10-51 | 10-10-51 | 10-16-51 | 10-17-51 |
| Person ontacted | D. II. Ahrann | D. II. Ahrenn | R. C. Dalzall | R. C. Dalzall | II. II. Hausnor | K. II. Hausnor | deal J. P. Howe | A. ". Johnson | II. W. Bousman D. II. Marquis |
| Purpose of Visit | r-10 consultation | F-10 consultation | Zirconiun symposiun mooting | Zirconium symposium moting | Consultation on pewdor notallurgy | Consultation on powdor motallurgy | Conforonco on motallurgical work | Discussion of problems in pilo dosign | F-10 consultation |
| - 21 - Nome - Organization | J. F. Flotchur to: Knolls Atomic Powor Lab. Schenoctady, New York | J. F. Sullivan to: Knolls Atonic Powor Lab. Schonoctady, New York | J. H. Bach to: Atomic Backgy Commission Washington, . C. | W. L. Schalliol to: Atomic Enorgy Commission Washington, D. C. | J. II. Each to: Sylvania Eloctric Co Enysido, Now York | W. I. Schalliolto: Sylvania Eloctric Co.Dayside, Now York | R. J. Schlor to: Knolls Atonic Power Lab. Schonoctady, New York | F. H. Roinkor to: E. I. du Pont do Norours Wilnington, Dolaware | D. L. Condotta to: General Enginecring Lab. Schenecady, New York |

Schonegady, New York

| - 22 - | | | | Rostricted Data |
|---|---|------------------|---------------------|---|
| Name - Organization | Furpose of Visit | Ferson Contactod | Arrival Doparturo | Class, Unclass A roas |
| <pre>II. F. Zukr to: General Engineering Lab. Schonoctady, New York</pre> | 1-10 consultation | | 10-17-51 10-51-51 | |
| L. J. Chockio to: Argonno Mational Lab. Chicago, Illinois | Consultation on motal S. II. Pains polishing in their hot cell | S. II. Paino | 10-22-51 10-24-51 | |
| R. Ward to: Atonic Enorgy Countsion Wishington, D. C. | Discussion on dironsional D. W. Lillio stability of fuel clouents | 1 D. W. Lillio | 10-23-51 10-23-51 | -25-51 10-23-51 X |
| R. I. Dickeran to: Angomo Kational Lab. Chicago, Illinois | Consultation on experimentall, M. West physics | ontalJ. M. Wost | 10-29-51 10-30-51 X | 51 10-30-51 X |
| R. J. Drowns to: Consolidated Enginoering Fasadena, California | Discuss mass spectro- notor | A, P. Gifford | 10-1-51 10-1-51 | ★ /ul> |
| | | | | |

PURCHASING AND STORES SECTION UTILITIES AND GENERAL SERVICES DEPARTMENT SUMMARY - OCTOBER 1951

Personnel of the Purchasing and Stores Section showed a net increase of 13 as noted below:

| A 1 | TOTAL PE | RSOMEL | |
|------------|-----------------|-------------|-------------|
| | 9-30-51 | 10-31-51 | Net Change |
| Exempt | - 57 | 36 | -1. |
| Mon-Exempt | 321 | 33 5 | <i>+</i> 14 |
| | 403 | 421 | 713 |

Shipment of all stainless steel from the Pittsburgh warehouse was virtually complete by October 31, 1951. Approximately ten tons of plate and bars remain which will be shipped when our purchase order for one evaporator is placed. U. S. Steel Supply Company has agreed to werehouse this material without further charge until the consignee is known.

Developments within the Controlled Materials Plan necessitated a survey of all open orders for controlled materials and revalidation of quarterly certification on all such orders not shipped prior to October 0, 1951.

Except for Construction Stores materials and some minor items of process equipment, all material for the current CPFF Construction Projects is on order. With few exceptions, the purchase of material for projects C-187-D, C-361, and C-362 is complete. Of an estimated \$17,660,000 material requirement projects C-431-A and C-431-B, approximately \$17,000,000 was committed as of the end of October,

In offer made to Stainless Engineering and Equipment Corporation for purchase order cancellation was refused. The matter has been referred to the Atomic Energy Commission for action as all attempts made by General Electric Company to settle the claims have failed.

The copper "scalpings" which were purchased on a trial basis in an effort to develop a substitute for the presently used 22 pound ingot have proved unsuccessful. There is too much danger of foreign material, impurities, or contamination in these "scalpings" to risk their use in the canning process.

The first purchase order on an extended delivery schedule basis was placed for Hydrogen Fluoride Anhydrous in 200 pound cylinders instead of the 100 pound size previously used. The problems of changing cylinders on the line and returning empties to the vendor for refilling should be reduced.

The Superintendent of Inspection and Expediting, with the Superintendent of Stores and representatives of A.E.C., made a visit to the Puget Sound Naval Shipyard and the Seattle area. The purpose of this visit was to develop a procedure for an inventory to be taken of equipment and materials furnished to the Puget Sound Naval Shipyard for fabrication of shielding. A procedure was worked out which was acceptable to Stores and A.E.C. To complete this inventory by January 1, 1952, or before, two additional rotational trainee engineers will be transferred to this Unit for about sixty days.

PURCHASING AND STORES SECTION SUMMARY

A program has been instituted to determine limiting items as far in advance as possible. Upon receipt of a copy of a purchase order and the inspection brief covering that order, the inspector will immediately visit the vendor and obtain a detailed production schedule along with copies of all the vendor's purchase orders for materials. Through contacts by Inspection and Expediting, an attempt will be made to determine which items may become limiting so proper priority assistance can be requested.

2746 purchase requisitions were processed through screening and 1237 items were furnished from plant sources. 20 items of stainless steel not immediately available on the open market were furnished to fabricators from plant inventories.

A scrap metal accumulation program was announced during the month. Approximately 250 tons of various scrap metals have already been delivered to the North Richland scrap yard.

Due to the increase in volume of movements of household goods between major California points and Richland, a proposal was submitted to carriers of household goods to publish reduced rates between these points. The carriers acted favorably on our proposal and reduced rates up to 50¢ per hundredweight were published October 25, 1951.

As a result of rate reductions obtained from the carriers, there was a total savings in freight charges for the month of October of \$13,115.43. This makes a total savings from September 1, 1946, to date of \$1,651,190.46.

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FURCHASING AND STORES SECTION STAFF OCTOBER 1951

The volume of work in the clerical group increased considerably over the previous month. The requisitions on hand, assigned and placed, the number of Atkinson & Jones requisitions, the number of return orders, and the number of alterations have all increased.

Shipment of stainless steel contained in the Pittsburgh Warehouse was virtually complete by the expiration date of October 31, 1951. The only remaining material is approximately 10 tons of plate and bar, which will be released in one shipment upon the placement of our purchase order for one evaporator. The U. S. Steel Supply Company has agreed to warehouse this one shipment without further charge until the consignee is known.

Developments within the CMP program necessitated a survey of all open orders for controlled materials and revalidation of quarterly certification on all such orders which were not shipped prior to October 8, 1951.

Priorities and Allocations moved to the 762 building this month. The new quarters are very satisfactory and conducive to more efficient operation.

Four NPA Directives were obtained and one Diversion Order was issued for the delivery of production equipment.

Three directive requests were consummated through NPA arrangements with the vendors to deliver as required.

Six requests for directives were returned to the field after satisfactory delivery schedules were developed.

Supplemental allotments of controlled materials requested and received in October are as follows: Carbon steel plate - 110 tons; other carbon steel - 14-1/2 tons; stainless steel - 144,500 lbs.; copper and copper base alloy - 1,065 lbs.; copper wire mill products - 19,600 lbs.; aluminum - 121,000 lbs.

One special request for advance aluminum allotment to cover long range operational needs was made and the requested allotment received.

A survey of stainless steel required for the balance of the 4th quarter, 1951, was made and stainless steel allotment in excess of immediate known requirements was returned.

All unused 3rd quarter allotments of controlled materials were returned to the Commission, thereby closing out our 3rd quarter allotments.

The procedure for Accumulation of Materials for the Surplus Sales Program has been completed.

Procedure G-3, Credit for Material Returned to Stores Stock, has been revised and distributed. This procedure was presented in a group meeting to Stores' supervision and personnel assigned to this phase of work.

FURCHASING AND STORES SECTION

PERSONNEL

| | Α | s of 9-3 | 0-51 | _ As | of 10-3 | 1-51 |] | Net Chan | ge |
|--------------------------|-----|------------|-------|------|---------|-------|-----|----------|------------|
| | Ex. | Non-Ex- | Total | Ex. | Non-Ex. | Total | Ex. | Non-Ex. | Total |
| Staff | 4 | 3 | 7 | 4 | 2 | 6 | ٥. | -1 | -1 |
| Priorities & Allocations | 1 | 12 | 13 | 1 | 12 | 13 | ο. | 0 | 0 |
| Inventory Audits | 2. | 10 | 12 | 2 | 10 | 12 | 0. | . 0 | . 0 |
| Office Services | 2 | 2 8 | 30 | 2 | 32 | -34 | . 0 | /4 | ∤ 4 |
| | 9 | 53 | 62 | 9 | 56 | .65 | 0 | 73 | 73 |

SAFETY AND SECURITY

Safety and Security Meetings Scheduled 1 Number of Employees Attending 60

STATISTICS

The following schedule reflects October allotments received and allotments used or extended to suppliers and subcontractors during October. Top figures under each item number indicate allotments received from the Atomic Energy Commission. Lower figures under each item number reflect material allotment used or allotted for the quarter indicated.

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FURCHASING AND STORES SECTION STAFF

| | | • | | | | |
|----------------|--|----------|----------------|----------|---------------------|------------------|
| STATI | STICS (Cont.) | • ; | | | | |
| | | CONSTRU | | - • | | |
| Item | | Unit | 4th Q. | lst Q. | 2nd Q. | 3rd Q |
| No. | Controlled Material | Meas. | 1951 | 1952 | 1952 | 1952 |
| | | Short | 3,610.00 | 476.00 | 10.00 | ೮.00 |
| 13 | Carbon Steel Plate | Tons | 8,604.33 | 349.88 | . 0 | 0 |
| | | Short | 2,932.00 | 729.00 | 34.00 | 5.00 |
| 14 | Structural Shapes | Tons | 896.74 | 630.25 | . : 0 | 0 |
| | | Short | 5,631.00 | 1,766.00 | 459.00 | 90.00 |
| 19 | Other Carbon Steel | Tons | 3,162.41 | 438.57 | 425.00 | 0 |
| | Alloy Steel (excluding | Short | 15.00 | 9.00 | 12,00 | - NONE |
| <u>2</u> ට | Stainless Steel) | Tons | 10.99 | 2,12 | . 0 | • |
| | | | 464,438 | 217,900 | 25,000 | NONE |
| 30 | Stainless Steel | Lbs. | 363,532 | 120,577 | 0 | |
| | Copper & Copper Base Alloy | | 67,025 | 29,914 | 2,000 | 1,000 |
| 40 | Brass Mill Products | Lbs. | 9,849 | 20,635 | 0 | , 1,000 . |
| | | | 190,680 | 46,296 | 10,448 | 2,000 |
| 50 | Copper Wire Mill Products | Lbs. | 90,553 | 37,212 | 52 | 2,000 |
| | Copper & Copper Base Alloy | | 9,600 | 3,500 | 1,200 | NONE |
| 6 0 | Foundry Products & Powder | Lbs. | 4,601 | 148 | 0 | NOME |
| | | | 125,000 | 2,500 | 5,000 | NONE |
| 70 | Aluminum | Lbs. | 114,248 | 2,600 |) , 000 | HOME |
| | | | | 2,000 | | |
| STATI | STICS | | | | • | |
| - | | • | G | D | 1 | Total |
| Requi | sitions on hand 10-1-51 | | - | | <u>.</u> | IOUAL |
| -(I | ncludes 77 assigned to Gov't. |) | 591 | • | 13 | 1023 |
| Requi | sitions assigned during Octobe | / ar | 1971 | | 98 | 2869 |
| Regui | sitions placed during October | | 1822 | | 26 | 2648 |
| Redui | sitions on hand 10-31-51 | | 1066 | J | 20 | 2040 |
| (1 | ncludes 92 assigned to Gov't. | 1 | 73 8 | | Ωα | 1101 |
| , | moralist ya abbashed go gov os. | , | 120 | 3 | 83 | 1121 |
| | | | NUMBER | | *** | • |
| H. W. | Orders Placed | | 1365 | . , | VALUE | |
| | Alterations Placed | | 214 | | \$555, <u>575.9</u> | |
| | Total | | | | 13,466.0 | |
| • | | • | 1579 | . • | \$569,041.9 | 5 |
| H. W. | C. Orders Placed | | 438 | • | + 700 | _ |
| | C. Alterations Placed | | . 6 3 8 | | \$723,026.1 | 1 |
| | Total | | 138 | | 122,847.6 | 5 CR |
| . • | IOGEL | | 110 | · · | \$600,178.4 | 6 |
| Δ ም ሮ Ο | rders Placed | • | 26 | • | | • |
| | ders Placed | | 96 | | \$124,359.4 | |
| | Total | | 43 | | 92,660.3 | <u> </u> |
| • | TOTAL . | | 139 | ; | \$217,019.7 | 5 |
| | range (and a second | | | | | •• |
| | · · · · · · · · · · · · · · · · · · · | | | | • . | |
| Corr1+ | Transfers OR | ORC | | | | |
| GUV C | • transiers 0 | 0 | • | | • • | |
| Do+ | orders Issued | -1.0 | | - | | • |
| ne curi | TOTALLE TERMED | 146 | | | | |

PURCHASING AND STORES SECTION CONSTRUCTION PROCUREMENT UNIT OCTOBER 1951

Except for Construction Stores Materials and some minor items of process equipment all material for the current CPFF Construction Projects is on order. With few exceptions the purchase of material for projects C-187-D, C-361 and C-362 is complete. Of an estimated \$17,660,000 material requirement for projects C-431-A and C-431-B approximately \$17,000,000 was committed as of the end of October.

An agreement was reached with Southwest Welding and Manufacturing Company on a formula to be used in arriving at the cancellation charges resulting from cancellation of three vessels on orders HWC 9037-AJ and HWC 9071-AJ. Alterations are being submitted to the Atomic Energy Commission for approval of the formula and cancellation costs.

Order HWC 16286-AJ was placed with the Viking Electric Company, Los Angeles, Calif., for 2300 thermocouple wells and connectors. This order was placed in accordance with the Special Procurement Procedure approved by the Atomic Energy Commission.

The offer made to Stainless Engineering and Equipment Corporation for cancellation charges on our orders HWC 8960-AJ and HWC 9045-AJ was refused by the vendor. The refusal was referred to the Atomic Energy Commission for action as all attempts made by General Electric Company to settle the claims had previously failed.

An audit of all construction purchase orders placed since January 1, 1951 is underway. After the orders are audited and the audit approved they are being sent to Records Center for permanent filing.

A new plant stock screening procedure for Minor Construction was established. Their requirements will now be screened from the field material take-off lists. Copies of the take-off lists will be sent to Purchasing to insure that all items appearing on a requisition have been screened against plant stocks.

Our orders for connectors placed with Crane Company, Chicago, presented two problems during the month. The first was to reconcile our actual requirements which were not clear to all concerned due to several orders being involved and our having changed the design on some items, changed quantities, added items and cancelled other items. The other problem involved the developement of an acceptable operating screw for the one inch connectors as those furnished under our original specifications were shearing off during installation. Both problems were resolved in conferences with Crane. Company at Chicago.

PERSONNEL

As of 9-30-51 Net Change 10-31-51

Ex. Non-Ex. Total

9 10 10 19 9 8 17 0 -2 -2

SAFETY AND SECURITY

Safety and Security Meetings - 1

Number of Employees Attending - 17

6.

PURCHASING AND STORES SECTION OPERATIONS PROCUREMENT UNIT

"OCTOBER - 1951

New contracts have been negotiated for Essential Materials as follows:

- 1. Tributyl Phosphate Virginia-Carolina Chemical Corp.
- 2. Sodium Dichromate Mutual Chemical Company

The copper "scalpings" or "turnings", which were purchased on a trial basis, have proved unsuccessful. Metal Preparations Section feels that there is too much chance for foreign material, impurities, or contamination in such production to risk use in the canning process.

The 9½" cans, with corresponding caps, have been ordered from Alcoa and the first shipment will be made December 1, with weekly shipments thereafter. This is disappointing, in view of their previous promise to make shipments beginning the first of November. Investigation as to the cause of delay convinced us that they are doing all that they can to produce the finished can as soon as possible. In order to provide a backlog of 4" cans, which can be used in case the 9½" cans are not successful, an order for 200,000 small cans was placed with Alcoa and they have promised shipment in time to arrive on the project February 1, 1952. An earlier date has been requested which, if not agreed to by the vendor, may require MPA assistance. The sleeves for the long cans are being received on schedule.

The first purchase order on an extended delivery schedule basis was placed for Hydrogen Fluoride Anhydrous in 200 pound cylinders, instead of the 100 pound size previously used. Although it will take a period of sixty days to use all of the smaller size and shift entirely to 200 pound cylinders, we expect that the problem of changing cylinders on the line and returning empties to the vendor for refilling will be reduced materially by use of this larger size.

An order for 7,000 tons of lump coal was placed with Big Horn Coal Company for delivery, via the Northern Pacific Railroad, at the rate of approximately seven cars per week until completion of the order. This coal will be distributed by Receiving Unit to White Bluffs and 101 area. This coal, as noted in last month's report, will no longer be accounted for in Essential Materials.

Requisitions for maintenance and other operating supplies have finally climbed back to a normal buying load for the unit. Open requisitions in process are averaging between 900 and 1,000. This increase has taken place approximately thirty days later than was anticipated and, apparently, reflects the completion of the reorganization of the Manufacturing Division.

Per sonnel

| - <u>A</u> | s of 9-30 | -51 | As | of 10-31 | -51 | Ne | t Change | |
|------------|-----------|-----|----|----------|-----|-----|----------|----------------|
| | Non-Ex. | | | | | Ex. | Non-Ex. | Total |
| 8 | 15 | 23 | 8 | 16 | 24 | Ō | +1 | / 1 |

Safety and Security

Safety and Security meetings scheduled - 1

Number of employees attending -24

7.

PURCHASING AND STORES SECTION INSPECTION AND EXPEDITING UNITOCTOBER 1951

The reassignment of inspectors has been completed during the past month. Annual vacations for all members of this Unit are scheduled prior to January 1. A considerable number of inspectors have yet to complete their vacations due to the heavy work load of this Unit during the summer months.

The Superintendent of Inspection and Expediting, with the Superintendent of Stores and members of A.E.C., made a visit to the Puget Sound Naval Shipyard and the Seattle Area. The prime purpose of this visit was to develop a procedure for an inventory to be taken of equipment and materials furnished to the Puget Sound Naval Shipyard for shielding fabrication. A procedure was worked out which was acceptable to both Stores and A.E.C. It will be necessary that two additional rotational trainee engineers be transferred to this Unit for approximately sixty days to assist in the preparation of this inventory which is scheduled for completion by or before January 1, 1952.

Inspection Office Supervisor attended the first World Metallurgical Congress held in conjunction with the National Metal Congress and National Metals Exposition at Detroit the week of October 15. Meetings and lectures on metallurgical problems, world conservation of metals, and educational presentations by delegates of participating societies were attended. Over 400 exhibits and displays of the major manufacturers of the world were inspected. We feel that attendance at this conference will materially benefit the Unit.

The Inspector assigned to coordinate the Bay Company purchases for the Hot Semi-Works visited the Project the past month for the purpose of attending a Semi-Works Status Meeting. Many problems of weld quality and finishes were discussed and satisfactorily concluded. A great number of the conclusions were based on the practical workability standards suggested by the Inspection Unit.

The overall work load of both Inspection and Expediting remains unchanged from the previous month.

A program has been instituted whereby we will attempt to forecast limiting items or "bottlenecks" as much in advance as possible. This is accomplished mainly through a procedure whereby the inspector to thom an order is assigned is required to visit the vendor immediately upon receipt of a copy of the purchase order and inspection brief. The Inspector will obtain a detailed production schedule and a copy of all purchase orders for materials. Through contacts by Expediting and Inspection an attempt will be made to determine the limiting items or items which may become limiting to the completed assembly. At the present time we have developed certain limiting items on both C-431-A and B and the TBP Project. Proper priority assistance is being requested where necessary.

Superintendent of Inspection and Expediting will make a visit during November to all vendors holding what at this time appear to be limiting or critical items on the TBP, C-431-A and C-431-B Projects. Members of the interested Design-Engineering Croup will be present on these visits. A number of known engineering and design problems exist and an attempt will be made to uncover other questions, with overall effect of settling problems before they become of a serious nature. The length of this tour will be approximately 22 weeks.

PURCHASING AND STORES SECTION INSPECTION AND EXPEDITING UNIT OCTOBER 1951

Due to more frequent questions on materials arising in the Construction Area, it is necessary that members of the Inspection Office visit the Areas more frequently. At the present time, the frequency of these visits are approximately one per week.

| PERSONNIL | | of 9-30 Von-Ex. |)-51 <u>Total</u> | | of 10-3 | | | et Chang Non-Ex. | e <u>Total</u> |
|--|--|---|--|--|-------------------------------------|----------------|---------------|---|--|
| Inspection Expediting | 32 <u>13</u> 45 | 22 11 33 | 54 <u>24</u> 78 | 31. 13 44. | 22 10 32 | 53 23 76 | -1 0 -1 | 0 - <u>1</u> -1 | -1 -1 -2 |
| SAFETY AND SECU | RITY | • | | | : | : : | | | |
| Safety and Secu Number of Emplo | | | | | | 1 27 | | • · · · · · · · · · · · · · · · · · · · | *** |
| STATISTICS Inspection | • | • | | | • | | ·. | · · · · · · · · · · · · · · · · · · · | |
| Number of of other of of other other of other other of other ot | open ordenev ordenev orden ord | iers bei ers requisition ad order iers requiers bei | ng inspending in ons requires (cancer puiring inspending inspendin | ected ispection iring in elled, w inspecti | n spection aived) on - sul | b-vendor | | | 313 294 61 56 108 28 22 0 |
| Expediting HW Orders HWC Orders Sub-Vendor HWC Orders HWC Orders | expedit expedi Orders complet | ed in October 1986 in October | ctober (: October ced in O ctober | routine) ctober | | • | | | 381 1001 1401 2200* 1060 670 |

* Estimated

PURCHASING AND STORES SECTION STORES UNIT OCTOPER, 1951

GLNLRAL:

2746 purchase requisitions were processed through screening and 1237 items were furnished from plant sources. 20 items of stainless steel not immediately available on the open market were furnished to fabricators from plant inventories.

Maintenance materials and supplies disbursed from operations' inventories were valued at #287,128.27. Incoming shipments continued at a high level. Receiving reports issued during the month totaled 5573.

Materials and equipment valued at \$240,754.28, 18 captions in the 10.20 Account (Construction Held Materials) were disbursed to construction forces during the month. In addition to the foregoing, materials valued at \$8,838.99 were withdrawn for use by operations forces and materials valued at \$53,962.13 were shipped as directed by the Commission.

Materials and equipment valued at \$61,363.53 were withdrawn from the 10.10 Account (Excess) for use on the project. Of this amount, construction forces! withdrawals were valued at \$55.885.80.

During the month, thirty formal excess lists, totaling \$915,914.19, were submitted to the Commission for disposition. Excess materials and equipment valued at \$139,531.63 were shipped from the project as directed by the Commission. Scrap sale revenue for the month amounted to \$14.353.70.

lll representatives of government and private businesses were escorted through our warehouses and yards for the purpose of negotiating the sale of scrap and transfer of excess property.

Plans for a project-wide scrap metals connection program were announced during the month. Approximately 250 tons of various types of scrap metals have already been delivered to our North Richland Scrap Yard.

Bids were called for the new Central Stores Warehouse by the Commission for opening on November 28, 1951.

A Project Proposal for Fencing the North Richland Excess Yard was approved by the A&B Committee and sent to the Commission for their approval.

PURCHASING AND STORES SECTION STORES UNIT

PERSONNEL:

| • | A | s of 9- | -30-51 | As | of 10- | 31-51 | Net Cha | inge |
|--|-------------|-----------|----------|---|-----------|-------------|--|---|
| • | Ex, | Non-Ex. | Total | Ex. | Mon-Ex. | Total | Ex. Non-Ex | . Total |
| A district Charles and the | , | | , | | | | | |
| Administrative Construction Materials | 6 | 0.7 | 6 28 | 6 | 00 | .6 | / 3 | /2 |
| Operations Materials | 1 4 | 27 126 | 130 | 1. | 28 122 | 29 126 | ≠ 1 | <i>-</i> 14 ⋅ |
| Surplus, Salvage & | 4 | 120 | 150 | 4 . | 122 | 120 | - 4 | -4 |
| Materials | 3 | <u>50</u> | _53 | _3 | <u>64</u> | 67 | <u> 1111</u> | 714 |
| TOTALS | 14 | 203 | 217 | 14 | 214 | 228 | . <u>-</u> /11 | /11_ |
| SAFETY AND SECURITY | | | | | | | | |
| Safety and Security Meetir | es Sa | chedul ec | . | 13 | | • • • • • • | t e se e e e e e e e e e e e e e e e e e | • |
| Number of Employees Attende | | | | 209 | | 4. | . ** | . 69 |
| Minor Injuries | | | | 9 | | | | |
| | | | | | | | • | • |
| STATISTICS . | | | | | | | | |
| Construction Materials | | | | | | | | |
| Items in Stores Stocks | | | | | | • | • | 43,697 |
| Items Added to Stock | | | | • * * * * * * * * * * * * * * * * * * * | | | • | 547 |
| Items Completely Liquida | | from Sto | ck | • | • | | | 984 |
| Store Orders Posted (Ite | | | _ | | | | | 2,858 |
| Number of Requisitions S | | ned - A | •J • | | , | | | 675 |
| Number of Items Screened Number of Items Furnishe | | C+ool | | | | | | 5,540 |
| Value of Disbursements | ed ire | om acoci | | | | 1 - S | 4303 | 774 ,555.40* |
| Inventory Valuation at N | ionth | End - 1 | Materia | s | | ** | | 676.67 |
| Value of Materials Recei | | | | | | | | 394.17 |
| Value of Materials Decla | ared l | ess | | | | | | 604.08 |
| * Includes \$240,754.28 | | | | | | Subcon | tractors | |
| 8,838.99 | | | | | | | | |
| 53,962.13 | shipp | ed at the | ne Commi | ission | 's dire | ction | | |
| Operations Materials | المراجع الم | | _1 | | | | | 1 622 |
| Number of Items Added to Number of Items Deleted | | | | • | •• | 40 / 1 | | 1,633 585 |
| Items in Stores Stock at | | | 2 oo car | : | | | | 49,939 |
| Store Orders Posted | | | | | | | | 25,717 |
| Number of Requisitions S | Scree | ned This | Month | -G.E. | | | | 2,271 |
| Number of Items Furnishe | | | | | s Month | 1 | | 463 |

PURCHASING AND STORLS SECTION STORES UNIT

STATISTICS (Continued)

| Inventory Valuation at Month End (903-All Carlorentory Valuation at Month End (Spare Part Inventory Valuation at Month End (Spare Equational Value Inventory Accounts Value of Disbursements, not including Cash Svalue of Cash Sales Value of Sales, Payroll Deduction Value of Materials Declared Excess Value of Materials Returned to Stores Stock * Includes \$56,512.85 disbursed to Construct Surplus, Salvage & Scrap Materials | ts ipment Held in Storag Sale Items for Credit | 3,215,333.19 284,991.85* 673.05 1,463.37 12,278.75 18,153.69 |
|---|--|---|
| | | AT 07(077 07 |
| Balance of Account 10.10 as of 9-30-51 | | \$5,056, 977 . 95 |
| Receipts 9-30-51 to 10-31-51 Lumber 37.00 Material and Supplies 66,114.97 Miscellaneous Equipment 74.20 Adjustments - Classes and Current Market Price | ∍s | 66,226.17 Cr. 16,729.99 5,106,474.13 |
| ○ Diahumanmanta 0 20 Et to 10 21 Et | • | |
| Disbursements 9-30-51 to 10-31-51 | • • • • | |
| On Project | | , |
| Lumber 9,717.67 | | |
| Machine Tools & Equipment 624.16 | | |
| Office Furniture 77.13 | | |
| Material and Supplies 28,595.48 | | • |
| Miscellaneous Equipment 11,727.77 | • | |
| Automotive Equipment 7,587.72 | | • |
| Household Furniture & Equipt 33.60 | 61,363.53* | |
| Stores Material Transfers | 2,689.52 | |
| 5 WICS MADELIAL HEARDIGHS | 2,007.72 | |
| Off Project | | |
| Automotive Equipment 105,742.73 | . • | |
| Material and Supplies 23,384.04 | | |
| Miscellaneous Equipment 10,092.36 | • | |
| Machine Tools & Equipment 170.00 | | |
| Office Furniture 142.50 | 139,531.63 | 203,584.68 |
| Balance of Account 10.10 as of 10-31-51 | | 4,902,889.45 |
| * Includes \$55,885.80 disbursed to Construction | on and CPFF Subcontra | |
| | | • *** |
| Total Receipts to Date | | 42,174,805.27 |
| Total Disbursements to Date | | 37,271,915.82 |
| Proof pounding of Page | | ン・ナー・ーティーノ・コー |

PURCHASING AND STORES SECTION STORES UNIT

| STATISTICS (Continued) | | | | |
|--|---|---------------------------------|---------------------------------|---------------------------------------|
| Scrap and Salvage Disbursed Scrap Sales Completed Scrap Sales in Process | - | 6 . 4 | | |
| Scrap Sales Revenue for Month of Scrap Sales Revenue to Date | of October . | | | 14,353.70 590,208.70 |
| WAREHOUSING, RECEIVING, DISBURSI | NG & SHIPPING | <u>}</u> | | |
| Excess Materials Construction Materials Store Orders Filled Items Filled for Shipping Items Excessed Surplus and Salvage Materials Store Orders Filled Excess Items Received Items Filled for Shipping | | | | 3,213 38 1,088 1,088 |
| Receiving and Shipping Receiving Receiving Reports Issued Shipments Received | • | | | 5,573 5,922 |
| Operations Shipping Orders Completed Weight | | | | 336 432 , 944# |
| Excess Shipping Orders Completed Weight Truckloads of Material Shipp Carloads of Material Shipped | | | | 98 1,362,485# 70 19 |
| Operations Materials Store Orders Registered Items Received (Receiving Re Items Received (Material Tra Emergency Orders | | | | 27,611 2,976 3,366 25 |
| CONSTRUCTION STORLS | Balance | | | Balance |
| Account No. | 9-30-51 | Purchases | Disbursements | <u>10-31-51</u> |
| 10.16-101 Cement 10.16-102 Sand, Blasting Sand, Gr 10.16-103 Plaster, etc. 10.16-104 Lumber | 178.06 ravel 71.50 31.16 29,806.00 | 97.79 -0- -0- 4,362.28 | 97.61 -0- -0- 4,313.28 | 178.24 71.50 31.16 20,855.00 |

PURCHASING AND STORES SECTION STORES UNIT

| STATISTICS (Continued) | - - | | • | Balance |
|---|--|--|---|---|
| Account No. | Balance 9-30-51 | Purchases | Disbursements | 10-31-51 |
| 10.16-105 Reinforced Steel 10.16-106 Miscellaneous 10.16-107 Plumbing 10.16-108 Electrical 10.16-109 Vitrified Clay Pipe 10.16-110 Paint, Glass 10.16-111 Welding Rod 10.16-112 Structural Steel 10.16-113 Concrete & Masonry 10.16-114 Thermal Insulation 10.16-115 Roofing Supplies 10.16-116 Transformers 10.16-118 Automotive 10.16-131 Small Tool Repair F | 5,720.84 h,414.20 60,394.07 Supply 187.19 45.99 2,627.66 1,323.54 50,492.55 | 5,663.89 21,521.80 6,508.24 3.69 622.69 906.88 1,966.03 -0- 4.19 652.00 94.00 6,343.57 3,514.12 3,653.07 | 292.65 4,733.54 8,068.17 6,158.36 -0- 1,124.88 2,163.42 4,249.97 3.78 4.05 1,177.12 50.80 12,778.41 2,166.61 8,128.18 | 94,959.86 108,016.33 1.66 4,918.65 3,157.66 58,110.13 183.41 46.13 1,802.54 1,366.74 44,057.71 4,165.1h |
| Total | \$400,430.81 | \$55,914.24 | \$56,110.83 | \$400,234.22 |

PURCHASING & STORES SECTION THAFFIC UNIT October 1951

GE ERAL

The work load of the Traffic Unit continued to increase over the previous month.

Due to the increase in the volume of the movement of household goods between major valifornia points and Michland, Washington, a proposal was submitted to the Household Goods Carriers to publish reduced rates between these points. The carriers acted favorably on our proposal, and reduced rates up to 50¢ per cwt. were published on October 25, 1951.

On October 10 the security Unit requested travel reservations for a group of sixteen employees between Michland and Las Vegas, Mevada. Meither the airlines nor the rail-roads could accommodate these employees as a group and it would have been necessary to split them up into small groups and use several methods of travel. Passenger officials of the Union Pacific Railroad were contacted and asked to assign a special Pullman car through from Mennewick to Las Vegas for the exclusive use of these men. This request was granted and resulted in the best possible service.

As a result of rate reductions obtained from the carriers there was a total savings in freight charges for the month of October amounting to \$13,115.43. This makes a total savings from September 1, 1946, to date of \$1,651,190.46.

PLRSONNEL

| | s of 9-30 | | | of 10- | | N | et Chang | ge |
|-----|-----------|-------|-----|---------|-------|-----|----------|-------|
| ŁX. | Non-Ex. | Total | Ex. | Non-ix. | Total | LX. | Non-ax. | lotal |
| 2 | 8 | 10 | 2 | 9 | 11 | 0 | 1 | 1 |

SAFETY AND SECURITY

| Safety and Security Meetings | s Scheduled l |
|------------------------------|---------------|
| Meetings Held | 1 |
| Minor Injuries | 0 |

STATISTICS

Savings Report

1. Rate reductions obtained from the Carriers:

| Commodity | <u>Origin</u> | Savings for October | Savings 9-1-46 thru sept.,1951 | Total Pavings 9-1-46 to date |
|--|---|---|-----------------------------------|---------------------------------|
| Lime Phosphoric Acid Phosphoric Acid Salt, Crude Caustic Soda Soda Ash Iron or Steel | Evans, Wash. Newark, Cal. South Gate, Cal. Newark, Cal. Tacoma, Wash. Trona, Cal. San Francisco, Cal. | 24.00 373.92 490.49 120.13 1,186.75 151.50 1,299.99 | | • |

PURCHASING & STORES SECTION THAFFIC UNIT October 1951

STATISTICS (CONT.)

Savings Report (Cont.)

1. Rate reductions obtained from the Carriers (Cont.):

| Commodity Origin | Savings for School | Savings 9-1-46 thru Sept.,1951 | Total Savings 9-1-46 to date |
|---|--|--|------------------------------|
| Iron or Steel Castings, Rough Limestone Pipe B. Blocks Trichlorethlyne Railway Express Truck Hydrocarbon Gas Los Angeles, Cal. Various Various Various Various Various Various Various | 2,138.08 130.01 603.79 104.75 82.68 | | |
| | +13,115.43 | #1,63H,075.03 | \$1,651,170.46 |
| 2. Freight Bill Audit | 517.99 | 73,649.16 | 74,167.15 |
| 3. Loss & Damage & Overcharge Claim | s 425.86 | 108,307.25 | 108,735.11 |
| 4. Ticket Refund Claims | 637.56 | 18,954.56 | 19,592.12 |
| 5. nousehold Goods Claims | 45.27 \$14,742.11 | 15,596.19 \$1,854,584.19 | 15,641.46 \$1,869,326.30 |
| work Volume Report | | | |
| Reservations Made | Rail Air Hotel | | 212 166 230 |
| Expense Accounts Checked | | | 190 |
| Household Goods & Automobiles | Movements A Shipments T Insurance K Furniture R | iders Issued epair ^U rders | 14 3 8 7 |
| | Requests for Claims File Claims Coll | r Claim Billing | 2 2 3 \$45.27 |
| Ticket Refund Claims | Filed Collected - Collected - | | ЦЦ 32 \$637•56 |

PURCHASING & STORES SECTION TRAFFIC UNIT October 1951

STATISTICS (CONTINUED)

| dork | Volume | Report | (Continued) |
|------|--------|--------|-------------|
|------|--------|--------|-------------|

| Mork Volume Report (Continued) | | |
|--|---|---|
| Freight Claims | Filed Collected - Number Collected - Amount Over & Shorts Processed Damaged Reports Processed | 9 8 ⇒425.86 21 11 |
| Freight Bill Audit Savings | | ₩ 5 17•99 |
| Freight Shipments Traced | • | 194 |
| Quotations | Freight Rates Routes | 201 199 |
| Bills Approved | Air Freight Air Express Boat Carloading Express Rail Truck | 6 29 2 211 139 1,287 山山 |
| Return Orders Processed | | 53 |
| Carload Shipments | Inbound - GE - AEC All Others Outbound - GE - AEC All Others | 1,496 78 32 1 |
| Report of Carloads Received | | |
| | CMSTP&P N.P. U.P. | TOTAL |
| General Electric Company Aluminum Ingots Aluminum Sulphate | 2 | 1 2 |

| | CMSTP&P | N.P. | <u>U.P.</u> | TOTAL |
|--------------------------|---------|------|-------------|-------|
| General Electric Company | | | | _ |
| Aluminum Ingots | | 1 | | 1 |
| Aluminum Sulphate | 2 | | | 2 |
| Aluminum Tubing | • | | 1 | 1 |
| Anthracite | | 2 | 3 | 5 |
| Bath Tubs | | 1 | | 1 |
| Castings, iron | 1 | 4 | , | 5 |
| Caustic Soda | - 4 | 6 | 8 | 18 |
| Chlorine, Liquid | 1 | 1 | 2 | 1 |
| Coal | 148 | | 957 | 1,105 |
| Desks | 2 | | | 2 |
| Electrical Equipment | | 1 | | 1 |
| Ferric Sulphate | 1 | 1 | | 2 |
| Filter | 1 | | | 1 |
| Heel Ject Assemblies | | 1 | | 1 |
| Lime, Hydrated | . 1 | | _ | Ţ |
| Limerock | 1 | | 1 . | 2 |
| Machinery | | • 5 | 2 | 7 |
| 17. 1194023 | | • | | |

PURCHASING & STORES SECTION TRAFFIC UNIT Detaber 1951

STATISTICS (CONTINUED)

Report of Carloads Received (Continued)

| | • | CMSTP&F | N.P. | U.P. | TOTAL |
|--------------------------|-------------|---------------|------------|----------------|-------------------|
| General Electric Company | (Continued) | · · · | • | _ | 22 |
| Mitric Acid. | | • | 13 | 7 | 20 |
| Oxalic | 7 | •• | 1 | | 1 |
| Phosphoric Acid | | . 1 | | 1 | 2 |
| Pipe | | | 41 | 25 | . 66 |
| Reils | | 1 | | 4 | 1 |
| Rubber | | | 1 | | 1 |
| Salt | | | 1 | | 1 |
| Sand | | . 1 | 2 | 1 | 4 |
| Shingles & Asphalt Ro | fing | • | 1 | | 1 |
| Soda Ash | | l | 1 | l | 3 |
| Steel | | | | 1 | 1 |
| Steel Tubing | | 1 | | 1 | · 7 |
| Steel Structural | | • | 7 | | . 7 |
| Steel Sheets | | 1 | | | 1 |
| teel Plates | | | | 22 | . 22 |
| Steel Punchings | | ı | | | 1 |
| Sulphuric Acid | | _ | 1 | 1 | 2 |
| Tanks | | | | 8 | 1 2 8 12 |
| Mdse. Cars | | 5 | 3 | 4 | |
| Express Cars | | 5 2 | - | 1 - 3 | 2 |
| Express Cars | TOTAL | <u> 176</u> | 95 | 1,046 | 1,317 |
| • | IUIRL | 2,0 | • | • | ** • • |
| A.E.C. | | | | | |
| Anti-freeze | | | 3 | | 3 |
| Chemicals | | 3 | | | 3 |
| Fire Trucks | | | 1 | | . 1 |
| Lumber | | 6 | 3 | 2 _ | 11 |
| | | J | í | | 1 |
| Pipe | | • | ī | 1 | 2 |
| Flywood | • • • | 5 | · - | _ | 2 5 - 2 |
| Ties | | , | 1. | 1 | 2 |
| express Cars | TOTAL | 11. | 10 | $\overline{1}$ | 28 |
| | TOTAL | | | • | |
| Atkinson & Jones Const. | Co. | | 1 | | 1 |
| Asbestos: | ٠. | . 2 | 1 | | . 3 |
| Asphelt | • • | . 29 | 46 | 11 | |
| Cement | 2 | 1 | 40 | | 1 |
| Coal | 8 | 2 | • | | 2 |
| Fittings, Pipe | **** | 2 | a <u>L</u> | | 4 |
| Gravel | 1. * | 2 | 4 | | 2 |
| Insulation Material | - | . 2 | | 5 | 7 |
| Pipe | | 1 | | | i |
| Roofing | | i | | | 1 |
| Roofing Cement | | _ | 12 | 7 | 19 |
| Sand | • | 1 | | • | ĺ |
| Shut Piling | | <u>1</u> 1 | • | | ī |
| Steel | | 1 | | | _ |
| 13. | 024 | | | | |

PURCHASING & STORES SECTION 1...FIC UNIT October 1951

STATISTICS (CONTINUED)

Report of Carloads Received (Continued)

| MCDOLO OL OCLACIO | | | | | |
|---|---------------|------------------|-----------------------------|--------------|-----------------------------------|
| | | CMLTP&P | 4.1. | U.P. | TOTAL |
| Atkinson & Jones Const. Steel Angles & Plates Steel Bars Steel Plates Steel Reinforcing Stoves Mdse. Cars | Co. (Conti | nued) 1 1 3 7 54 | 7 1 72 | 1 1 25 | 1 8 1 3 1 8 151 |
| Gonneville Power Admn. | TOTAL | 1 | · | | 1 |
| Chicago Bridge & Iron Midse. | TOTAL | | 1 | | 1 |
| Fred J. Early Company Asphalt | TOTAL | 1 | | | <u>1</u> |
| McPhail ingineering Comp Blower Mdse. | oan; TOTAL | | 1 1 | 1 | 1 1 2 |
| Richland Fuel Company Coal | TOTAL | | 7 | 12 12 | 19 19 |
| Seldens, Inc. Asphalt Tile Flooring | TOTAL | | | 1 | 1 |
| Taylor Bros. Tile | TOTAL | | | <u>-1</u> | 1 |
| U. o. Army Ambulances Autos, Freight Canned Goods Gun Mounts Guns Household Goods Pontoons Sand | | • * | 1 27 2 1 1 1 | 1 | 1 27 2 1 1 1 |

10.

1194025

CHALING & TOR

THAFFIC UNIT

STATIUTICS (CONTINUED)

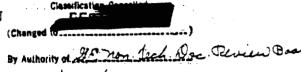
Report of Carloads Received (Continued)

| | | <u>CMSTP&P</u> | <u> </u> | U.P. | TOTAL |
|-------------------------------|-------------------|--------------------|---------------|---------------|--------------------|
| Tanks Tires Tractors Vehicles | (Continued) TOTAL | | 1 1 140 | 1 10 12 | 1 1 11 52 |
| TOTAL - | - SUBCONTRACTORS | 2 | 49 | 27 | . 78 |
| TOTAL . | - MITTRE PROJECT | 246 | 226 | 1,102 | 1,574 |



HW-22610

TRANSPORTATION SECTION
MONTHLY REPORT
OCTOBER 1951



GENERAL

Pete /2-/9-5-/ reased from 504 to 513

Transportation Section personnel forces were increased from 504 to 513 employees during the month by 10 new hires, 8 transfers in, 1 reactivation - personal illness, 1 transfer out and 9 terminations.

RAILROAD ACTIVITIES

Commercial cars handled during October increased 29.7% over September with the continuation of heavy receipts of coal and construction materials.

Process movements during October returned to normal with an increase of 23% over September.

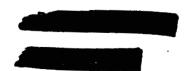
Cars handled during October including process movements totaled 3,651 compared to 2,800 in September; 2,321 in August; 1,275 in July; 2,226 in June; 2,443 in May; 2,078 in April: 1,984 in March; 1,793 in February and 2,625 in January.

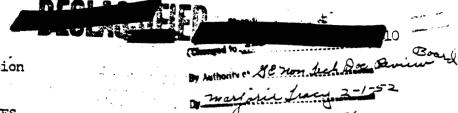
The following recapitulation indicates the number of commercial cars handled:

| Carload Movements - | Loads In | Empties In Loads Ou | t Empties Out |
|---|------------------------------------|---------------------|---|
| General Electric Company | 128.9 | 28 25 | 1344 |
| Subcontractors and Others: | • | | |
| Atkinson & Jones Co. The Bay Company F. J. Early E. P. Erwen Co. McFhail Engineering Co. Richland Fuel Co. Rust Engineering Co. R. C. Larsen Co. Seldens Inc. Special Car Taylor Bros. U. S. Army | 147 1 2 19 2 1 1 | | 145 - 1 2 19 2 1 1 - 1 50 |
| Total | 1512 | 32 28 | 1566 |

Completed rebuilding of flat car 10A 3625 which was begun in September.

Railroad track maintenance and rehabilitation work continued on a routine basis. Lining, surfacing, and dressing of track required 5,897 man-hours. Relay of rail and ties required 136 man-hours. Distribution of track materials required 207 man-hours.





Transportation Section

AUTOMOTIVE ACTIVITIES

The Plant Eus System transported 10.4% more passengers in October than in September. The October passenger volume of 161,232 surpassed the previous record high of 154,858 in August 1951. The following tabulation indicates the October passenger volume by shifts and the total revenue received:

| No. 1 outbound and No. 3 inbound | 29,868 |
|----------------------------------|-------------|
| No. 2 outbound and No. 1 inbound | 67,027 |
| No. 3 outbound and No. 2 inbound | 64,337 |
| Total | 161,232 |
| Revenue | \$ 8,061.60 |

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

| Passenger busses - 100-B | 12 |
|-----------------------------------|------|
| Passenger busses - 100-D | 12 |
| Passenger busses - 100-F | -10 |
| Passenger busses - 100-H | 10 |
| Passenger busses - Hanford | 4 |
| Passenger busses - 200-West | 28 |
| Passenger busses - 200-East | 10 |
| Passenger busses - 300 Area | . 9 |
| Passenger busses - Riverland | 3 |
| Passenger busses - Pistol Range | 1 |
| Passenger busses - White Bluffs | 4 |
| Passenger busses - North Richland | 3 |
| 700-300 Area Shuttle Service | . 21 |
| Inter-Area Passenger Service | 3 |
| Inter-Area Express Service | 1 |
| Inter-Area Mail Service | 1 |
| | |

Effective October 10, bus service from 8:00 a.m. to 4:45 p.m. Monday through Saturday was established for Engineering Department personnel living in Richland and working in North Richland.

The Richland Local Bus System transported 3.2% more passengers in October than in September. Volume of service rendered is indicated in the following statistics:

| Total passengers | including transfers | 33,676 |
|------------------|---------------------|-------------|
| Total bus trips | • | 3,770 |
| Total bus miles | | 21,112 |
| Total revenue | | \$ 2,528.95 |

Off Plant automobile trips (Company business and/or official visitors) totaled 177.



Transportation Section

By marione Lacy

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The following tabulation indicates the volume of Drivers Test service rendered, including the new permits issued in compliance with AEC Bulletin GM-181 and H.W. Instructions Letter No. 15.

| | Applicants: | Male Female | 130 38 | | rejected tests given | | 0 16 8 |
|---|--------------|------------------------|-----------|-----------|-------------------------|------------|------------------|
| : | Permits Issu | ed: Limited Unlimit | | ving with | n glasses | - · | . 54 114 |

Permits Reissued: Routine New AEC

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

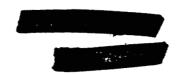
| | Gasoline | Diesel Fuel | 50 Cetane | Kerosene | White Gas |
|---|------------------------------|----------------------------|--------------|-------------------------|-----------|
| Stock at start of month Received during month Total | 37,052 116,962 154,014 | 12,426 11,731 24,157 | 30,800 | 1,374 3,572 4,946 | 53 |
| Disbursed during month Stock at end of month | 114,533 39,481 | 13,638 10,519 | | - 2,402 | |

The following tabulation indicates the volume of inspection and maintenance service rendered to Hanford Works automotive and heavy equipment by Equipment Maintenance personnel: 26 motor overhauls; 102 Class A. Inspections and Repairs; 1,200 Class B Inspections and Lubrications; 2,357 other routine maintenance repairs and service calls; 551 tire repairs and 657 wash jobs.

and the contract of the particular to the contract of the cont The following tabulation indicates the Flantwide usage of automotive equipment:

| Code | | Type | o. of Units | Total Mileage |
|---|-----|---|--|--|
| 1A 1B 1C 1D 1E 1G 68 Series | .") | Sedans Busses Pickup Trucks Fanel, Carryall, Sta. Wagon Armored Cars Jeeps Trucks | 332 157 468 113 12 2 289 | 519,170 229,997 251,937 122,578 1,861 506 75,210 |
| | | | 1,373 | 1,201,259 |

Winterizing of Hanford Works automotive and heavy equipment is approximately 95% complete.



Transportation Section



Excessing of equipment was accelerated as a result of Plant reorganization and the establishment of an equipment rental rate system.

Initiated action to transfer 12 units of farm machinery to the Richland School District for use in the school farm program.

LABCR ACTIVITIES

The following tabulation indicates in gallons the volume of road asphalt material handled by Transportation Services personnel:

| | MC 1 | MC 3 | MC 4 | MC 5 |
|-------------------------|------|-------|------|-------|
| Stock at start of month | 0 | 3.645 | 0 | 2,803 |
| Received during month | 0 | 9,467 | 0 | 0 |
| Dispensed during month | 0 | 5,552 | - 0 | 0 |
| Stock at end of month | C | 7,549 | O | 2,803 |

Crushed and stockpiled 2,204 cubic yards of 5/8" crushed rock and 1,072 cubic yards of 1/4" crushed rock requiring 577 man-hours. Manufactured 300 tons of 3/4" pre-mix material requiring 254 cubic yards of 3/4" crushed rock, 4,572 gallons of MC 3 oil and 124 man-hours. Maintenance of primary roads required 707 man-hours.

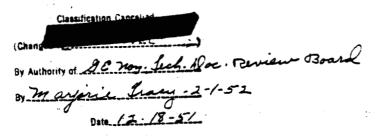
Handling of miscellaneous materials for the Stores Unit at White Bluffs required 1,938 man-hours.

Handling of materials for the Stores Unit in the 700 and 1100 Areas required 918 man-hours.

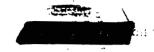
Handling of Area deliveries required 1,532 man-hours; Stores deliveries 198 man-hours; and office furniture 2,034 man-hours.

Handling of 11 carloads of equipment, 1 carload of sand, 1 carload of scrap metal, 49 truckloads of equipment, and 159 truckloads of miscellaneous materials required 2,702 man-hours.

Labor and transportation equipment were furnished for Projects: P-422, P-432, P-439, and P-472.







ELECTRICAL DISTRIBUTION AND TELEPHONE SECTION

OCTOBER, 1951

CENERAL:

The work backlog for the Section increased 2.2 percent to a total of 5,262 mandays as of October 31. This is distributed as follows:

| $(X_{i}, X_{i}, Y_{i}, | Days per Craf | tsman | Total Mand | ays |
|--|---------------------------------------|-------|-----------------------|-----|
| Line Maintenance Substation Maintenance Telephone Unit | 62.3 44.6 59.1 | • | 1,931 849 2,482 | |
| Section Total | · · · · · · · · · · · · · · · · · · · | | 5,262 | |

Training of recently employed operators has progressed sufficiently to permit returning the Substation Operators to a five day per week schedule on October 14. A further effort to reduce overtime was made on October 20 by scheduling line maintenance crews for sixth day work on alternate Saturdays instead of every week.

Electric power peak demands for October were:

| nga ng Makabatan Maratagan | ٠. | Date | | October KW Demand | Comparative Sept. Demand |
|-------------------------------|----|------|--------------------------------------|----------------------|-----------------------------|
| Process Load Village Load | ٠. | | (3:30-4:00 p.m.) (5:30-6:00 p.m.) | | 70,400 19,150 |

Normal seasonal trends are indicated.

Mr. F. J. Mollerus, Section Manager, together with representatives of the Atomic Energy Commission, visited the Bonneville Power Administration at Portland to discuss the power disturbance of October 10. The discussion also included the prospective general "brownout" related to water supply, the connection of "Big Eddy" and Coulee No. 3 line at Midway, and Midway bus protection. These discussions are covered by separate reports.

Mr. E. S. Staples, Area Engineer, Telephone Unit, visited Kenton, Ohio to confer with the North Electric Company on details relative to additional trunking facilities and miscellaneous equipment for the Richland Exchange.

A general problem is an overall review of the normal operating functions of the Section to correlate with Civil Defense requirements.

ELECTRICAL DISTRIBUTION UNIT:

Maintenance and Operation

A low voltage condition developed on the Hanford Works 230 KV system on October 10,





resulting from an abnormal loading condition of the Bonneville Power system. A Critical Power Condition, Grade "Y", lasting 19 minutes, was established at 5:50 p.m.

The Bonneville Power Administration, following discussion at Portland, has issued orders to block the Grand Coulee load at 2100 MVA. This, together with other items covered by separate report, should preclude a recurrence of the above condition.

An agreement has been reached with representatives of the Reactor Section relative to low voltage and frequency limitations for establishment of Critical Power Grade "Y" conditions.

Meetings were held with representatives of the area Plant Engineering Units for the purpose of establishing a line of demarcation for electrical distribution systems responsibility in plant areas. Following agreements reached in these meetings, a "Division of Responsibility", effective November 1, 1951, was issued which outlines the responsibilities for maintenance, operation and system expansion of area transmission and distribution networks.

A visual inspection of grounding mats at Buildings 151-B, 181-B and 251 showed them to be in excellent condition.

The low voltage condition which had previously existed at the Duke Well Field, located between Saint Road and Snyder Road, was corrected when power was supplied from the new circuit on George Washington Way instead of from North Richland.

System Expansion and Planning

Aerial buses were installed near Village Substations BB1-S1 and BB1-S2 to provide flexibility in maintaining service. Service can now be restored on all circuits supplied by these stations in minimum time in event of equipment or cable failure at a station.

Swinging panels were installed, and wiring changes were completed as required for the installation by the Bonneville Power Administration of totalizing demand and reactive meters at the 115 KV Village substations.

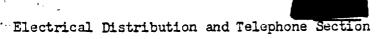
An original design routed the new railroad spur to Building 105-C under the 230 KV transmission line. This created serious and costly problems involving continuity of service to operating areas. The Contact Engineer of the Electrical Distribution Unit proposed an available alternate route. This route was finally utilized with a saving of construction costs conservatively estimated at \$30,000 without necessity of curtailment of operations.

Project C-404 (Primary Power Lines for Hanford Works Laboratory Area) - The Directive has been received permitting urgent work on the primary lines to the Hanford Works Laboratory Area.

Project C-362 (First Uranium Recovery Plant) - The new 13.8 KV line serving the 241 UR Tank Farm was inspected and accepted.

Project C-380 (Electric Metering - Village of Richland) - A total of 4,279 meters have been installed by contractors as of October 31, including those installed on prefabricated houses. One thousand four hundred and sixty-eight (1,468) meters remain to be installed.





TELEPHONE UNIT:

Maintenance and Operation

In agreement was reached with the Flant Engineering Units that Substation Maintenance Electricians will perform electrical maintenance work in the "BY" Switching Station and satelite exchanges outside of area perimeter fences.

A summary of telephone subscriber service is as follows:

| Al al de la lace de la La lace de la lace de | Lines in Service | Stations in Service | Extensions in Service | Vacant Lines |
|---|------------------|---------------------|-----------------------|-----------------|
| Richland and North Richland | 4,287 | 6,690 | 1,336 | 314 |
| Process Areas | 1,201 | 1,287 | 683 | <u>549</u> |
| Project Total | 5,488 | 7,977 | 2,019 | 853 |

System Expansion and Planning

Telephone cable installed by the Fourth Housing Addition Contractor has been tested and spliced into the Richland telephone distribution cable system, except an incomplete 76 pair cable serving the new apartments north of Swift Boulevard.

Two cable terminals were installed and ten circuits were established for use by the U. S. Army.

A teletype circuit was also established from the North Richland Exchange to the Richland-Kennewick exchange boundary for their use.

Declassifi



POWER STATISTICS ELECTRICAL DISTRIBUTION AND TELEPHONE SECTION FOR MONTH ENDING OCTOBER 31

| | | | ÷ | | | |
|-----------------------|-----------------|-----------------|---------------------|--------------------|-----------|--------|
| | ENERGY - | MW HRS. | MAX. DEMA | | LOAD FACT | |
| ITEM | Sept. | Oct. | Sept. | Oct. | Sept. | Oct. |
| 230 KV SYSTEM | | | i | | | |
| A-2 Out (100-B) | 8,040 | 7,380 | 12,100 | 12,100 | 92•3 | 82.0 |
| A-4 Out (100-D) | 13,140 | 14,640 | 00بار 21 | 600, 22 | 85•3 | 87.1 |
| A-5 Out (100-H) | 8,172 | 8,928 | 13,300 | 13 , 350 | 85•3 | . 89•9 |
| A-6 Out (100-F) | 7,600 | 7,120 | 13,000 | 800, 12 | 81.2 | 74.8 |
| A-8 Out (200 Area | | 4,824 | 8,280 | 8,640 | 71.9 | 75.0 |
| TOTAL OUT | 41,236 | 42,892 | 68,080** | 4×90 و 69 . | 84.1 | 83.0 |
| MIDWAY IN | 41,903 | 43,594 | 65,600* | 66,000 * | 88.7 | 88.88 |
| Transm. Loss | 667 | 702 | | • | | |
| Percent Loss | 1,6 | 1.6 | ,) | | • | |
| 115 KV SYSTEM | | . · · — • · | | | • | |
| . Bl-Su Out (M.Rich.) |) 1,800 | 2,020 | 3,398 | 4,147 | 73.6 | 65.5 |
| BB1-S1 Out (Richland | | 5,822 | 10,530** | 13,860** | 51.2 | 56.5 |
| BB1-S2 Out | 3,034 | 4,654 | 9,000 ** | 13,950** | | 44.8 |
| BB1-S3 Out (300 Area | | 768 | 1,840 | 1,920 | 55.6 | 53.8 |
| TOTAL OUT | 9,450 | 13,264 | 24,768** | 33,877** | 53.0 | 52.6 |
| Benton In | 2,060 | 1,030 | 42,400* | 51,600* | 67.5 | 26.8 |
| S. Richland In | 8,180 | 12,430 | 22,800* | 28,800" | 49.8 | 58.0 |
| TOTAL IN | 10,240 | 13,460 | 65,200** | 80,400** | 21.8 | 22.5 |
| Transm. Loss | 790 | 196 | 0),200 | 00 1400 | 22.00 | 2247 |
| Percent Loss | 7.7 | 1,0 | | | | |
| 66 KV SYSTEM | 1 • 1 | | , | | | |
| B9-S11 Out (100-C) | 119 | 220 | 600 | 500 | 27.5 | 59•2 |
| | | | | 1,373 | 53.7 | 49.9 |
| B7-S10 Out (W.Bluff | | 510 | 1,327 600 | 600 | 68.0 | 74.7 |
| Hanford Out | 294 | 333 | | | 50.9 | 57.8 |
| TOTAL OUT | 926 | 1,063 | 2,527** | 2,473** | | 61.3 |
| HANFORD IN | 839 | 981 | *150و 2 | 2,150 * | 54.2 | 01. |
| Transm. Loss | * 87 | * 82 | | | | |
| Percent Loss | +10,4 | 3-8 •1 | 1 | | | |
| PROJECT TOTAL | | | | | | |
| 230 KV Out | 41,236 | 42,892 | **080 ، 68 | 490* * | 84.1 | 83.0 |
| 115 KV Out | 9,450 | 13,264 | 24,768** | ***877 ، 33 | 53.0 | 52.6 |
| 66 KV Out | 926 | 1,063 | **527 ، 2 | ***473 <u>*</u> | 50•9 | 57.8 |
| TOTAL OUT | 51,612 | 57,219 | 95,375** | 105,840** | 75•2 | 72.7 |
| 230 KV In | 41,903 | 43,594 | 65,600* | *000و 66 | 88.7 | 88.8 |
| 115 KV In | 10,240 | 13,460 | 65,200** | **×00لو 80 | 21.8 | 22.5 |
| 66 KV In | | 981 | 2,150** | 2,150** | 54.2 | 61.3 |
| TOTAL IN | 839 | <i></i> | | | | |
| 7411 TV | | | -,->- | - , | | |
| Transm. Loss | 52,982 1,370 | 58,035 816 | -,> | -, | | |

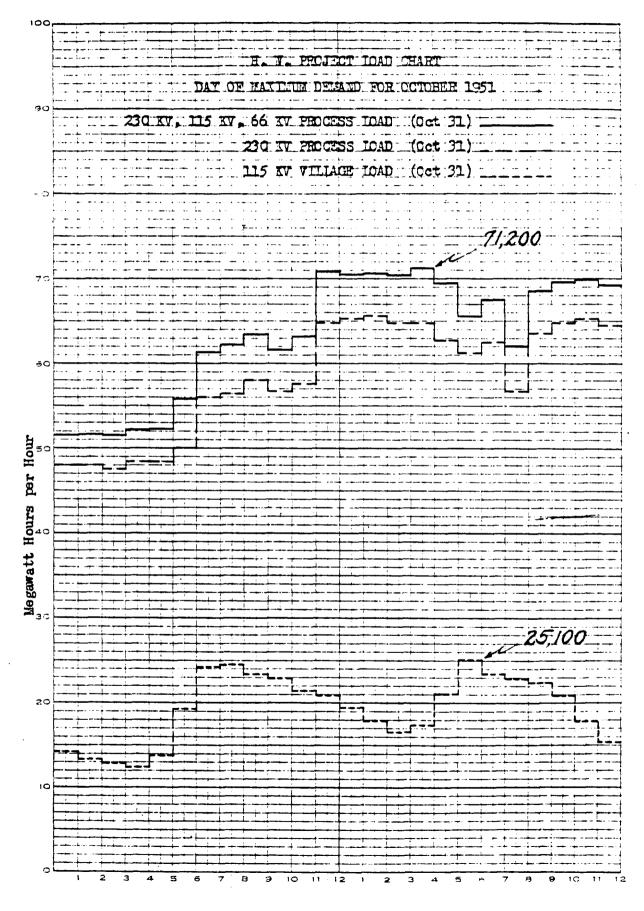
^{*} Coincidental Demand





^{**} Non-Coincidental Demand

Average Power Factor - 230 KV System-93,8 Average Power Factor - 115 KV System-94.6 Average Power Factor - 66 KV System-84.3



EMPLOYEE AND PUBLIC RELATIONS DEPARTMENT

SUMMARY -- OCTOBER, 1951

The number of applicants interviewed in October was 1,721 as compared to 1,406 interviewed in September. Of these applicants, 504 were individuals who applied . for employment with General Electric for the first time. In addition, 224 new applications were submitted through the mail. Open, nonexempt, nontechnical requisitions decreased from 358 at the beginning of the month to 254 at month end. Total plant roll increased from 8,896 to 8,993. Turnover rate decreased from 2.46% in September to 2.17% in October. During October, 55 new requests for transfer to other type of work were received in the Employment Office, and 51 transfers were effected. Advertisements were placed in Portland, Oregon, newspapers on October 3,4 and 5, for stemographers, nurses, anesthetists, and physical therapists, in conjunction with field recruitment there on October 4 and 5, and as a result of this recruitment 5 nurses and 4 stenographers were hired. Again on October 21, 22, 23 and 24, advertisements were placed in Portland, Oregon, newspapers and 20 spot radio announcement were broadcast over 5 Portland stations for plumber steamfitter journeymen, millwright journeymen, patrolman and production operators, in conjunction with field recruitment held in Portland on October 22, 23, and 24, with offers being unde to 11 patrolmen, 10 plumber steamfitter journeymen, 10 metalworkers, 7 millwright journeymen, 2 checkers, 1 fireman and 1 inspector "B". In addition, 15 other applicants are still being given favorable consideration. Attendance recognition award pins and wallet cards were distributed and presented to 81 employees who qualified for one-year awards during September.

One employee died during the month, and six employees retired, three of which were on an optional basis. Two hundred twelve visits were made to employees confined at Kadlec Hospital and 49 checks were delivered to employees either confined at home or at the hospital. At nonth end, participation in the Pension Plan was 94.3%, in the Insurance Plan 98.0%, and in the Employee Savings and Stock Bonus Plan 42.4%. In an effort to stimulate interest in the Pension Plan, letters together with enrollment cards were sent to the home addresses of all nonparticipating employees, however, to date no response has been received to these letters. On the other hand, participation in the Employee Savings and Stock Bonus Plan increased from 36.0% in September to 42.4% in October, which is attributed directly to Hanford Works participation in the Company-wide Defense Bond Drive. As of the end of October, there were 1,045 employees registered under Selective Service, and 744 military reservists on the rolls. Since August 1, 1950, 167 employees have terminated to enter military service, of which 9 have returned, leaving 158 still in military leave status.

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The Labor Law Program was continued from September to October, with a total of 605 supervisors attending in October. Together with the 596 supervisors that attended in September, this makes a total of 1,201 attending and participating in the Labor Law sessions at Hanford Works. The Supervisors 40-Hour Training Pro ram was held during the week of October 22-26 with a total of 32 members participating.

on of the company of At the request of the Separations Section, the Nonexempt 8-Hour Training Program was conducted on October 12. A total of 21 operators of the section participated, and anonymous questionnaires completed by the group indicated that this program is building morale and improving attitude.

At the request of the Chemical Development Unit, a special presentation of "Supervisors' Cooperation Program" was held on October 4, and "Philosophy of Operating Under a Union Contract" and "Spirit and Intent of GE-HAMTC Agreement Program" were presented on Cctober 11.

At the request of the Records and Control Section, a Uniform Filing Procedure Program was presented throughout all Hanford Works areas during the week of October 29. A total of 521 secretories and steno-typists attended the 17 meetings to introduce this uniform filing system.

Carlotte (March

"Principles and Methods of Supervision" groups 17, 18 19 and 20, with a total of 80 members participating, completed Meeting 7 in their series of conferences during October.

The Community Chest drive was held during the week of Outober 1. The Employe and Public Relations Department made over 100% of their quota during this period. 1.0

A special presentation of the appreciation version of HOBSO was given before the Lions Club of Walla Walla at a special luncheon meeting on October 19, with 73 members in attendance. At the request of the Richland Jaycees, a member of the Training Section attended a special dinner meeting to answer questions and assist this local chapter of Jaycees in a kick-off dinner to sponsor a statewide program to present HOBSO throughout all of Washington.

A total of 267 people were given orientation during the report period, with 96.6% electing to participate in our Group Insurance Plan. Copies of agreements between Hanford Guards Union, Community Foremen and HAMTC, and General Electric Company are now distributed through orient tion. kaikulu dan dan salah salah jabah salah

Many excellent comments were received regarding Mr. Merrihue's presentation of what his division will do to supplement and assist the functions of our department, at the special dinner meeting held October 18.

J. A. Wood presented a special program at the request of the Washington State Training Directors Society on what we do to assist supervisors to become better leaders, and how we evaluate our training programs, at a special dinner meeting held October 12.

Employee and Public Relations Summary

"What General Electric Is Doing at Hanford Works to Train New Supervisors" was the subject of a talk presented by J. A. Wood at the Pacific National Training Directors Conference held in San Francisco October 19 and 20.

Several members of AEC management attended the Labor Law Training Program at Hanford Works, as well as the Uniform Filing System Program which was recently presented.

A community relations program was outlined for the Nucleonies Division. The program includes an analysis of various factors that affect a community relations program in this area; reviews past community relations accomplishments, and sets future community relations objectives.

A paper conservation employee information program for Hanford Works was developed at the request of the Paper Conservation Committee. This initial 6-week program involves the use of posters, news releases, photographs, radio spot announcements and cartoons.

The Community Chest Drive was featured with pictures and stories in local newspapers. Final total of receipts showed 96.5% of the §33,250 quota achieved.

A letter to all employees to accompany a Washington State Workmen's Compensation Act leaflet was developed for the signature of the Supervisor, Insurance and Compensation.

A letter and questionnaire to all residents concerning fire inspection of homes was produced and distributed.

Personnel recruitment advertisements for a variety of job classifications, as well as radio announcements were written and placed in Portland Oregon, newspapers and on Portland radio stations during the month.

Four women's pages were prepared and published in the Hanford Works News during the month of October.

An offer was made to the HAMTC, the BSEIU and the Guards Union, relative to the proposed wage increase which was negotiated at our plants in the East.

Medification of the Taft-Hertley Act prompted the National Labor Relations Board to close the proceedings in the case covering the recent UA election.

Notification was received from the HAMTC, and the HAMTC Firemen, as well as the Hanford Guards Union requesting negotiations on a union security agreement.

An agreement was reached with the Technical Engineers which grants each member in that union a minimum of \$5.00 per week increase.

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A deadlock was declared by the FMCS in negotiations with the Sheet Metal and Machinist Unions. The disputes were submitted to the Davis Panel and will be heard on November 2, 1951.

A continuation of the Hanford Works Addendum was agreed upon by the Plumbers and Steamfitters' Union and USW. A joint petition was submitted to the WSB for approval of a 50-cent per day increase in isolation pay.

Over 1,000 Carpenters were off the jeb on October 24 in protest over AJ's refusal to discharge an Assistant General Superintendent.

The Wage Stabilization Board approved the 6% general increase for Richland and North Richland Firemen.

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HARAN BANG TERMINAN MANAGEMBER BANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMIN PERSONAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN MENGANG TERMINAN

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EMPLOYEE AND PUBLIC RELATIONS DEPARTMENT

OCTOBER, 1951

ORGANIZATION AND PERSONNEL

Employment and Employee Services

Effective October 8, 1951, a General Clerk "D" was transferred to Investigation from the Photo House to replace a General Clerk "D" who terminated effective October 19, 1951.

Effective October 10, 1951, a Messenger was engaged and assigned to Investigation and Files to replace the Messenger who was upgraded to a Motor Messenger in order to fill an existing vacancy caused by the transfer of the Motor Messenger to Office Machine Repair on October 22, 1951.

Training and Program Development

There were no organizational changes.

Public Relations

Effective October 1, 1951, one General Clerk "C" assigned to the News Bureau Unit was upgraded within Public Relations to a Secretary "B".

Effective October I, 1951, one General Clerk "D" transferred from the Public Relations Section to the Employment and Employee Services Section.

Effective October 26, 1951, one General Clerk "B" assigned to Special Programs Unit terminated voluntarily.

Union Relations

Effective October 5, 1951, one Secretary "B" terminated voluntarily.

Effective October 8, 1951, one Steno-Typist "B" transferred from Union Relations to Training and Program Development.

Effective October 10, 1951, one General Clerk "C" was added to the Suggestions and Insurance Unit.

Effective October 31, 1951, one General Clark "C" was added to Wage Rates.

Net decrease in the later of the second of t

| Number on rell | <u>October, 1951</u> |
|--------------------|----------------------|
| Beginning of month | 115 |
| End of month | 113 |
| Net decrease | 2 |

5

Employee and Public Relations 11. 388 dome. 5 This office is

ACTIVITIES

Employment and Employee Services

| Sep | tember, | 1951 | Octo | ber, | 1951 |
|-----|---------|------|------|------|------|
| • | | | | .4 | |

Applicants interviewed

1,406

504 of the above applicants interviewed during October were individuals who applied for employment with the Company for the first time. In addition, 224 new applications were received through the mail.

Open requisitions

Exempt
Nonexempt

1
1
Nonexempt
358

September, 1951
0ctober, 1951
1
1
254

Of the 358 open, nonexempt, nontechnical requisitions at the beginning of the month, 256 were covered by interim commitments. Of the 254 open, nonexempt, nontechnical requisitions at month end, 180 were covered by interim commitments. During October, 132 new requisitions were received requesting the employment of 243 nonexempt employees.

| | September, 1951 | October, 1951 |
|---|-----------------|---------------|
| Employees added to the rolls Employees removed from the rolls | 206 219 | 291 194 |
| NET GAIN OR LOSS | - 13 | • 97 |

Of the 194 employees removed from the rolls, 9 were removed due to lack of work, all of which were in the bargaining unit.

| Turnover: | September, 1951 | October, 1951 |
|--|-------------------------|-------------------------|
| Including employees who were laid off for lack of work | Male Female 1.88% 4.59% | Male Female 1.85% 3.36% |
| Excluding employees who were laid off for lack of work | 1.88 4.59 | 1.72 3.36 |
| Over-all Turnover: | September, 1951 | October, 1951 |
| Including employees who were laid off for lack of work | 2.46% | 2.17% |
| Excluding employees who were laid off for lack of work | 2.46 | 2.07 |

During October, 53 employees terminated voluntarily to accept other employment, 13 terminated to enter into business for self, and 11 terminated to leave this vicinity.

Transfer Data

| Accumulative total of requests for transfer received since 1-1-51 | 554 |
|---|-------------|
| No. of requests for transfer received during October | 55 |
| No. interviewed in October, including promotional transfers | 24 |
| Trans. effected in October, including promotional transfers | 51 |
| Trans. effected to date since 1-1-51, including promotional transfers | 39 6 |
| Trans. effected in October, for employees given lay off notices | 12 |
| Trans. effected since 1-1-51, for employees given lay off notices | 12 |
| No. of stenos. transferred out of steno. pool in October | 8 |
| Transfer requests active at month end | 70 |

During October, 15 people whose continuity of service was broken while in an inactive status were so informed by letter.

Community Real Estate and Services found it necessary to reduce forces by 22 carpenter journeymen. All of the people in this particular seniority group affected by this lay off were interviewed by a representative of the Employment Office with the exception of one who declined an opportunity for an interview. Each of the 21 interviewed were offered other jobs, and transfers were effected for a total of 12.

On October 4 and 5, a representative of the Employment Office conducted field recruitment for stenographers, nurses, anesthetists, and physical therapists in Portland, Oregon. In conjunction with this recruitment, advertisements ran in the Portland papers on October 3, 4, and 5. Results of this recruitment effort were as follows: 38 interviews, of which 15 were nurses, 7 stenographers, and 1 physical therapist; offers were made to 5 nurses and 4 stenographers; and in addition 12 replies were received through the mail.

On October 21, 22, 23 and 24 advertisements were again placed in Portland, Oregon, newspapers and 20 spot radio announcements were made on 5 Portland stations, both large and small, for plumber steamfitter journeymen, millwright journeymen, patrolmen and production operators in conjunction with field recruitment held there by a representative of the Employment Office on October 22, 23 and 24. Results were as follows: between 275 and 300 interviews held, with tentative offers made to 42 of which ll were patrolmen, 10 plumber steamfitter journeymen, 10 metalworkers, 7 millwright journeymen, 2 checkers, 1 fireman and 1 inspector "B", and with 15 others under active consideration; and in addition, 142 written inquiries were received through the mail.

One-year emblems and wallet cards in recognition of perfect attendance were presented to 81 employees in October, who became eligible during September.

| Empl | Loyment Statistics | <u>9-30-51</u> | 10-31-51 |
|------|----------------------------|-------------------------|-------------------------|
| Numi | per of employees on rolls | | |
| • | Exempt - Male Female | 1,917 | 1,920 55 - 1,975 |
| | Nonexempt - Male Female | 5,094 1,830 6,924 | 5,090 1,873 6,963 |
| | Community Firemen | 56 | 55 |
| | TOTAL | 8,896 | 8,993 |

ADDITIONS TO THE ROLLS

| | | Community | Evennt | Nonexempt | Total |
|--|--|----------------------|--|--|------------|
| | The Control of the South of the South of the South | Firemen | Evenbe | Mina | 2000 |
| • | ر المنظم الم المنظم المنظم المنظ | rireden | | | |
| · | | 0 | 15 | 247 | 262 |
| | New Hires | . 0 | . 10 | _ 0 | 0 |
| | Re-engaged | 0 | . 1 | 28 | 29 |
| | Reactivations | 0 | 1 . | | 3 |
| | Transfers (from other plants) | 0 | | | |
| | | A 100 A 100 | • | | |
| • | Actual additions | • 0 | 16 | 275 | 291 |
| | Payroll exchanges | ***** **** ** | λ ₁ 15 a | 30 | <u> 18</u> |
| | • | | | | |
| | GROSS ADDITIONS | 0 | 31 | 278 | 309 |
| | · · · · · · · · · · · · · · · · · · · | | | | |
| | TERMINATIONS I | TROM THE ROI | LIS . | • | e |
| • | | | | | |
| • | Actual Terminations | 1 | 19 | 122 | 142 |
| : | Removals from the Rolls (deactivations | s) 0 | | 46 | 47 |
| | | 0 | 3c | 15d | 18 |
| * | Payroll exchanges | O. | Ž | - 6 | |
| | Transfers (to other plants) | · | | | |
| | 1 | _ | -0 | - 0- | 212 |
| | GROSS TERMINATIONS | 1 | 28 | 183 | 212 |
| | | | ***** * * * * * * * * * * * * * * * * | | |
| -4.4. | GEN. | ERAL | | • | |
| • | | | · · · · · · · · · · · · · · · · · · · | - 1 | |
| | | from the same | | 9-1951 | 10-1951 |
| | Applicants interviewed | A | | 1,406 | 1,721 |
| | Photographs taken | •• | | 355 | 421 |
| | Fingerprint impressions (taken in dup. | licate) | | 488 | 454 |
| | - | • . • . • | • | * . | |
| • | ABSENTEETSM | STATISTICS | - t'. | | |
| | (Weekly Sa | | f | | |
| | (110022) | | | | |
| | Male | • | • | 2.18% | 2.11% |
| the state of the s | | | | 3.84 | 4.14 |
| *** | Fenale | | | 2.72 | |
| | Total Plant Average | | 11 | 5.15 | 2.53 |
| | | | <u>, </u> | • | |
| | INVESTIGATIO | N STATISTIC | <u>s</u> | | *. |
| | ************************************** | • | • | oh O | 090 |
| | Cases received during the month | | | 248 | 289 |
| | Cases closed | | | 363 | 462 |
| | Cases found satisfactory for employme | nt | | 251 | 219 |
| ************************************** | Cases found unsatisfactory for employ | | , . | 7 | 9 |
| | Cases closed before investigations co | | | . 28 | 37 |
| • • | Special investigations conducted | | | 7 | 21 |
| | oheren miseecharen sames sag | _ | | ************************************** | |
| And the second | PERFECT ATTENDANCE | ∴ И∩ТФТИЉОЪЯЯ | AWARDS | | |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | FERFECT ALLEMBRICE | | | | |
| | | * | | : | 1 61.3 |

| Total one-year awards to date | •••••••••••••••••••••••••••••••••••••• | - | 1,643 |
|--|--|---------------|--------------|
| Total one-year awards to date One-year awards made during O | ctober for those | qualifying in | September 81 |
| | | ¯ , | |

at a security

· . .

A 18 19 19 18

a Transferred from Weekly Payroll

b Transferred from Monthly Payroll

c Transferred to Weekly Payroll

c Transferred to Weekly Payroll
d Transferred to Monthly Payroll
e Statistics furnished by Weekly Payroll

PRIVACY ACT MATERIAL REMOVED

Employee and Public Relations

Employee Services

The following visits were made with employees during the month by a representative of Employee Services:

| Employee visits at Kadlec Hospital | 212 |
|---|------|
| Salary checks delivered to employees at Kadlec Hospital | . 42 |
| Salary checks delivered to employees confined at home | 7 |

As of the end of October, participation in Company Benefit Plans was as follows:

| Pension Plan | 94.3% |
|---------------------------------------|-------|
| Insurance Plan | 98.0 |
| Employee Savings and Stock Bonus Plan | 42.4 |

Participation in the Employee Savings and Stock Bonus Plan increased from 36.0% as of the end of September to 42.4% as of the end of October, and this increase may be attributed to the Company-wide sponsored Defense Bond Drive, which was participated in by Hanford Works people.

Letters were uniled to all eligible nonparticipants in the Pension Plan to their home addresses, the purpose of this letter being to stimulate interest on the part of these employees in taking advantage of the benefits to be derived from participation in the Plan, and enrollment cards were also included for completion and return to Employee Services. As of month end no signed cards had been received.

A review of experience under Insurance Plans in effect since 9-1-1946 disclosed that \$ 368,000 had been paid out in life insurance to the beneficiaries of 69 deceased employees, which results in an average payment for claim of \$ 5,333.

At the request of supervision, a meeting was held in the 100-D area for 17 employees assigned to work in the Power activity, at which time Employee Benefit Plans were explained and an opportunity afforded those in attendance of asking questions concerning the various plans.

One employee died during October, namely:

Office Services Unit.

Two letters were written to deceased employees' families during the month, concerning payment of monies due them from the Company, as well as answering other pertinent questions for them.

Six employees retired during the month, namely:

John B. Arnold, W-3508-SJ, Plant Security & Services Section; Edward H. Lange, W-7663-SJ, Plant Security & Services Section; Bert L. Orrell, W-8044-MP, Manufacturing Department; Winfred C. MacBrayne, Sr., W-9121-HD, Radiological Sciences, (Optional); Ernest W. Seckendorff, W-12174-D, Engineering Department, (Optional); and William H. Crume, W-8036-SO, Plant Security & Services Section, (Optional).

During the month, 12 letters were written to retired employees providing them with information of a general nature in which they would be interested. In addition, 3 retired employees living in this vicinity were contacted giving them similar information. Photographs were taken and a news story prepared on one retired pensioner for publication in the Works News.

continued attended from the continued

Military Reserve and Selective Service of the servi

we will be the set of the first of the set o A review has been completed which was made for the purpose of determining how many employees were in the force who were vulnerable to draft under the revised Universal Military Training and Service Act of 1951, which made nonveteran, married men without children subject to the draft. It was found that there were 59 who were subject to the draft who were in deferrable classifications from a payroll classification standpoint and deferments have been requested on all of these 59 employees.

The statistics with respect to employees registered under Selective Service are as follows:

| Emp | oloyees : | registered | | | | • • • | | 1.0 | 045 |
|-----|-----------|------------|---------|------------|-----------|-------------------|--------|-----|-----|
| Eng | ployees : | registered | who are | veterans | • | • • | | | 516 |
| Emp | loyees : | registered | who are | nonveter | nns | | | | 529 |
| Emp | loyees s | subject to | the dra | Pt . | | - | | | 382 |
| Def | erments | requested | to date | (includia | ng renewo | l reques | ts) | | 328 |
| | | granted | | | | | | | 201 |
| Def | erments | denied and | appeal | ed at stat | te levels | 1.15 | | | 8 |
| Def | erments | denied and | appeale | ed at nat: | ional lev | rel . | | | 14 |
| | | Denied at | | | | | office |) - | ·ı |
| | | requested, | | | | | | | 43 |
| | | requested, | | | | •• | • . | | 11 |
| Def | erments | pending | | | | • | | | 66 |
| | • | | | • | | the second second | | 4.5 | |

Statistics with respect to employees who are members of the military reserve

| Number of reservi | | date | | | | fife w | 744 87 |
|--|---------------|-----------|----|------|-----|--------|------------|
| Number who return | med to active | | | •::: | . • | ** | 2 |
| Deferments reques Deferments grants | | | ** | | | | . 92 83 |
| Deferments pendir | ıg | | | | | | 2 |
| Deferments denied Deferment request | | • • • | | | | | 4 |

Military terminations since 8-1-1950 are as follows:

| Selective Service 78 Feunle employees enlisted 2 | Reservists recalled | | 87 |
|--|---------------------|-------|----|
| and the control of th | Selective Service | at of | 78 |
| | | | .— |

In the state of t

Employees returned from military service:

| Reservists Selective Service | **** | 8 |
|---|-----------|-----|
| | TOTAL | 9 |
| Number of employees still in military leave | ve status | 158 |

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CONTROL CONTROLS OF CONTROL OF A SECURITION OF

Employee and Public Relations

TRAINING AND PROGRAM DEVELOPMENT

The Labor Law Program was continued from September through October 12. Two groups were held daily at these 8-hour meetings with a total of 605 supervisors attending in October. Together with the 596 supervisors that attended in September this makes a grand total of 1201 attending the Labor Law sessions at Hanford Works. Because of the difficulty of having supervisors attend 3 different sessions at Hanford Works, the Labor Law Program was presented in a full 8-hour day meeting. This permitted time for the 3 conference programs and a study period to assure the use of John Simon's book "You and Labor Law". A member of our Union Relations Section gave a 30 minute digest of current labor relations activity at Hanford Works and answered any specific questions raised by members of these groups.

The Supervisors' 40-Hour Training Program was held during the week of October 22-26. A total of 32 members of supervisory management were enrolled by the major departments and an informal luncheon was held on Friday of the program week, at which time members of the group, together with 6 members of senior management of Hanford Works, met and discussed luncheon topics. A survey questionnaire completed by participating members of the group indicated that this program had again been accepted and had fulfilled objectives set forth.

At the request of the Separations Section the non-exempt 8-hour training program was conducted on October 12. A total of 21 operators of the section participated in this program. Anonymous questionnaires were completed by participating members to learn that this type of information meeting is highly desirable and does assist in building morale and improving attitude of our non-exempt employees.

On October 4 a special presentation of "Supervisors' Cooperation Program" was presented to 6 supervisors—in—training of the hot semi—works of the Chemical Development Unit and 9 members of Metal Preparation Section in 300 Area. This program was presented at the request of the leader of the Chemical Development Unit. This same group also participated in a special program presenting "Philosophy of Operating Under a Union Contract", and "Spirit and Intent of GE-HAMTC Agreement Program". These later programs were held on October 11 at the request of Chemical Development Unit. Additional programs are being requested and will be presented at the request of this unit for new supervisors—in—training in the 300 Area.

At the request of the Records and Control Section a Uniform Filing Procedure Program was presented throughout all Hanford Works areas during the week of October 29. A total of 469 letters were individually addressed to the supervisors of holders of the secretarial manual "This Way, Please". A total of 521 persons attended the 17 meetings given on the uniform filing system.

TRAINING AND PROGRAM DEVELOPMENT

Several members indicated that they did not have copies of "This Way,
Please", while others indicated that they did not have Section II, the
Uniform Filing System, and arrangements have been made to have copies of
this manual or section of the manual sent to them by the Procedures Analysis
Unit. This program was well received, however, it remains to be seen as to
the effectiveness, whether all offices convert to this uniform filing system.

PMS Groups 17, 18; 19 and 20, having approximately 20 persons enrolled in each group or a total of 80 members participating, completed Meeting 7 in their series of conferences during October. It is contemplated that additional groups will be started in November.

The Community Chest drive was held at Hanford Works during the week of October 1. The Employee and Public Relations Department made over 100% of their quota during this period. Members of the Training staff coordinated the solicitation throughout the department.

A special request for a presentation of HOBSO was made of the Public Relations Section and K. O. Barker of the Training Section made the HOBSO presentation before the Lions Club of Walla Walla at a special luncheon meeting on October 19 with 73 in attendance. At the request of the Richland Jaycees, W. W. Chamberlain of the Training Section attended a special dinner meeting to answer questions and assist this local chapter of Jaycees in a kick-off dinner to sponsor a state wide program to present HOBSO throughout all of Washington.

At the request of J. G. Carriere, Manager, Design and Construction Services Unit, a special conference was held on October 29 to discuss the possibility of an information program for 338 non-exempt employees throughout the Design Services Unit and Construction Services Unit. It was decided that the 8-hour non-exempt program would be presented every Tuesday until all members of these units were afforded an opportunity to participate. Certain editing has been necessary to present this program to these employees, however, it is basically the same as that which was presented during the past two years to Separations Section employees. Meetings will start on November 6 and continue each Tuesday for approximately 14 weeks.

During October no Supervisors' Handbooks were issued, however, a total of 16 are held in stock for issuance in the future. Section 3, consisting of 21 pages of the Handbook, have been completely revised and are now at the printers.

A total of 267 people were given orientation during the report period, and of this number 96.6% elected to participate in our Group Insurance Plan.

TRAINING AND PROGRAM DEVELOPMENT

Copies of the agreement between Hanford Guards Union and the General Electric Company were delivered to the Training Section and will be given to new employees in this bargaining unit at time of orientation. Mimeograph copies of the agreement between HAMTC-Community Firemen-and General Electric were delivered to the Training Section and will also be distributed to members of the bargaining unit at orientation. These two agreements will be distributed in addition to the regular HAMTC and GE agreement given to members in that bargaining unit at time of orientation. However, copies of the Building Services Union covering employees in the Medical Department will be distributed by supervision of that department to new employees and will not be distributed by Training at time of orientation. A new system of dlivering security clearance passes was inaugurated during October whereby a member of the Security Unit will deliver and distribute these photo passes to employees at orientation rather than having a member of the orientation group report to security in another building after orientation. This will save new employees the embarrassment of becoming lost between Dorm W-10 and Building 770. Another plan was inaugurated during October whereby insurance cards will be delivered direct from Training to the insurance unit. Recently several cards have been misplaced and it has proved embarrassing to request employees to re-sign insurance cards which they had fairly recently completed at crientation. The member conducting orientation will also be responsible for indicating on the sign-up !face sheet whether new employee elects to participate in insurance or not, as a special check should even the insurance unit misplace the application card.

Members of the Training Section together with other members of the Employee and Public Relations Department attended a special dinner meeting on October 18, at which time Mr. W. V. Merrihue presented an interesting and enlightening discussion of what his division would do to supplement and assist the functions of the department here at Hanford Works. Many excellent comments were received regarding Mr. Merrihue's presentation.

At the request of the Program Committee of the Washington State Training Directors Scciety, J. A. Wood was the principal speaker at their dinner meeting October 12, and together with D. G. Dayton and T. A. Purton presented a panel meeting of what we are doing to assist supervisors to become better leaders, and how we evaluate our training programs. The presentation was well received by approximately 26 members present at the meeting. J. A. Wood also accepted an invitation to present What General Electric is Doing at Hanford Works to Train New Supervisors at the Pacific National Training Directors Conference held in San Francisco October 19 and 20. This presentation was also well received, in fact the San Francisco Conference was a well planned and conducted discussion attended by over 250 Training Directors of west coast organizations.

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TRAINING AND PROGRAM DEVELOPMENT

During the Labor Law Program we had a request from a member of the Atomic Energy Commission requesting permission to enroll approximately 10 employees of AEC-management in this program. This was granted and these members did attend and participate in the Labor Law meeting. During the Uniform Filing System Program, a member of AEC, and a member of Vitro group requested permission to enroll a few of their secretarial personnel in this program. Permission was granted and these people did participate along with General Electric employees.

A member of AEC requested 6 copies of J. F. Simon's bock, "You and Labor Law", and several members of the General Electric Company requested a copy of the HOBSO leaflet to be distributed to new employees during the report period. Many requests have been received and filled by Training staff for copies of booklets, etc., of material distributed through Training Programs and no accounting in the past has been made to report to whom these books are going or source of request, however, in the future this will become a mention in our monthly report.

PUBLIC RELATIONS

PUBLIC INFORMATION

A total of 62 releases were distributed during the month. Of these 42 were sent to the "local list" and 15 were sent to the "daily list". Five were answers to requests.

Seventeen recreation stories were written for the "local list".

Eight stories were distributed concerning invitations to bid on construction

work, bid openings, and contract awards.

An agreement was reached with the AEC concerning responsibility for publicizing construction work carried on at Hanford .. The present three mailing lists used by the News Bureau were revised into ten specialized mailing lists, which will be used beginning in November.

Don Halladay and Sherm Blake, from the Spokane Chronicle, visited Richland. Interviews included: employment, George Barr; glass blowing, Ed Gates; Columbia High football team, Francis Rish; instrumentation, Joe Kaveckis, and the Hanford construction program and problems involved in operating Richland, G. R. Prout.

Don Carlson, Walla Walla Union-Bulletin reporter, visited Richland and gathered material for a story through an interview with H. A. Root, Community Real Estate and Services Department.

Glen C. Krang, KHQ Spokane, visited Richland and requested news releases from the News Bureau and made arrangements to do some tape recordings here in the future.

A guided tour was arranged and pertinent printed matter was distributed, as a community service, to 60 Executive Representatives of the National Council of Churches who visited Richland on their tour of the Northwest.

INDUSTRIAL HAZARDS magazine, requested through the News Bureau in Schenectady, a feature story concerning Industrial Safety Fractices at Hanford.

A magazine article based on experiments at Hanford Works, with the effects of radioactivity on salmon and trout was requested by and sent to the Chemical Engineering News magazine.

A feature story was written for Western Industry magazine on G-E's purchasing section inspection unit. It was illustrated with photographs of business forms used by the unit.

A community relations program was outlined for the Nucleonics Division. The program includes an analysis of various factors that affect a community relations program in this area; reviews past community relations accomplishments; and sets future community relations objectives.

The different groups sponsoring United Nations Day were given assistance by this section. A public address system was supplied and operated for their "Village Green" ceremonies, Sunday, October 21.

A paper conservation employee information program for Hanford Works was developed at the request of the Paper Conservation Committee. This initial 6-week program involves the use of posters, Hanford Works News materials and news photos for release to local newspapers. To date, activities have included one full-page Works News feature explaining "flat mailing," arranging radio spot announcements over local stations and cartoons. One publicity photo appeared on the front page of the Tri-City Herald, and a request for copies of the picture was received from the Acme Photo News Service in Seattle.

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The Community Chest Drive was featured with pictures and stories in the Works News, and local papers.

Three kick-off spot announcements and three "reminder" spot announcements were written and scheduled for release with the three local stations for the Community Chest Campaign. Final total of receipts showed 96.5 percent of the \$33,250 quota achieved.

Five minute interviews with several of the Community Chest executives and a Korean war veteran were written, tape recorded and released through the local stations.

Civil Defense news stories and pictures released for publication in local news-papers were concerned with the following subjects: receipt and storage of CD medical supplies; information offered in CD Bulletin #4; testing of the emergency communications network; newly-appointed member of the Governor's CD Council; and army officers' tour of the CD Control Center.

Civil Defense Bulletin #4 was mailed to residents; #5 was readied for mailing; and #6 was put into production.

A fifteen-minute Civil Defense interview was revised and recorded with the Civil Defense director, fire chief and a member of this unit, then scheduled for release over all local stations.

A CD talk was given before approximately 25 members of the Lutheran Men's Club, Richland, by the local CD director.

A tour of the CD Control Center was made by 20 cub scouts.

Fire Prevention Week was publicized through photographs, stories, and articles which appeared in each issue of the month on the "Life Line" page of the Works News. Eleven news stories were distributed to the local list.

One-hundred thirty four prints were produced and 70 negatives exposed for Fire and Safety during Fire Prevention Week.

Six spot announcements and station-breaks were written and released to the local radio stations for the Fire Prevention Campaign. A 15-minute Fire Prevention radio drama was transcribed and scheduled for broadcast.

The Red Cross Blood Program was promoted in the Works News through articles and pictures and a listing of Hanford Works donors.

Two Suggestion Award stories with pistures of high award winners, appeared in the Works News during the month.

As a result of a suggestion submitted by three News Bureau employees, a requisition was placed for a subscription to Allen's Press Clipping Bureau. This service permits the News Bureau to keep better account of how widely our releases are published, saves a substantial amount of money, and improves the appearance of the News Bureau office, where, on occasion, newspapers piled up waiting to be clipped.

Six papers were submitted for re-clearence following condensation and revision of texts.

Speakers from Honford Works during the month who figured in news stories were J. A. Wood, Training and Program Development Section; W. E. Johnson, Assistant General Manager; H. M. Parker, Radiological Sciences Department, and five other representatives of the Radiological Sciences Department. Stories were distributed on each of two speeches given by G. R. Prout.

Two classified recruitment advertisements were placed in Portland newspapers. The first, for stenographers, nurses, anesthetists and physical therapists received only limited response. The second recruitment advertisement for mill-wrights, plumber-steamfitters, patrolmen and production operators was backed up by paid spot radio amountements arranged through this Section. Response was excellent; two-hundred seventy five applied; others not qualified were screened by the Portland office of the U.S. Employment Service. In addition, 144 persons wrote for applications, and 30 others phoned the representative in Portland for applications.

A total of 29 spot announcements and station breaks were written and scheduled for release over five prominent northwest radio stations advertising the General Electric employee recruitment program.

PHOTOGRAPHIC SERVICES

A total of 11,544 prints of photos were produced during the north. Of the total prints produced 7,542 were for employee identification and area admittance badges. This is an increase of over 2,000 produced for any one month of operation.

A statistical report of Photo House work during October is attached.

PROGRAM DEVELOPMENT

The Community House "Open House" was publicized by spot announcements over local radio stations.

Eight 5-minute interviews were written and scheduled for tape recording to cover the Community House "Open House" program on November 4, 1951.

The new Uniform Filing System section of "This Way, Please--"was received from the printer. The Training and Program Development course for explaining this new filing system to Hamford Works women concerned with filing was publicated in two issues of Hamford Works News. The women's page editor devoted nearly the entire women's page of one issue to this new system. In addition, news stories, a photo with caption and a schedule of sessions also were published.

A total of 254 "Adventures Ahead" magazine blanks were received through the Works News promotional campaign.

4-4-4-4-4-4

Five hundred reprints of "General Electric's Records Management Program at Hanford Works", which were reproduced from existing photo offset plates, were printed and mailed to National Records Management Council. These will be given wide distribution throughout industry, the Council indicated.

"Atomic Test", a recruiting brochure developed for the Technical Personnel Office completed on extremely short notice, but in time to meet fall recruiting schedules. The 8-page brochure was an enlargement and revision of last year's "Atomic Test," a 4-page brochure.

November Health Bulletin "Blood-Nature's Own Medicine," was written and produced in the plant print shop. The monthly health bulletin topics are selected by the Health Activities Committee.

Municipal' report, covering fiscal year 1950, was developed and placed in the hands of the printer in time to receive two-color proofs for a meeting of the Richland Community Advisory Council on October 15, in spite of a very tight production schedule. Following corrections and revisions, revised proofs were received and approved.

Hanford Works Attendance Recognition plan reports, which cover the development and operation of the plan, were completed. The regular monthly news story for the Works News, covering attendance recognition award winners, included names of 77 Hanford Works people.

A letter to all employees to accompany a Washington State Workmen's Compensation Act leaflet was developed for the signature of the Supervisor, Insurance and Compensation, and distribution of both ideas was arranged.

A letter and questionnaire to all residents concerning fire inspection of homes was produced and distributed.

Artwork services furnished included: four editorial cartoons, four paper conservation cartoons, four Medical slide-film titles; complete layouts for two grievance booklets, four pages of photo layouts for "Atomic Test", cover, artwork and one illustration for the monthly health bulletin, two paper conservation posters, one civilian defense illustration and three sketches for a community house folder.

Hanford Works Posting Service activities during October included placing five Sheldon-Claire employee relations posters in 35-key locations throughout the plant. G-E Photo News Service materials were posted on a weekly basis and suggestion box posters on a bi-weekly basis. Also posted were the winter Parks and Recreation Sports scheduled.

Four Women's pages were prepared and published during the month of October. The pages promoted the adult education program; introduced the new uniform filing system and good groom notes for Fall and good breakfast ideas.

Four hundred copies of "New Hunches on Box Lunches" were ordered from the Consumer's Institute for a representative of the National Dairy Council.

News Bureau Space Report -- See last page of report.

1194054

The Oregonian

NEWSPAPER SPACE REPORT September, 1951

| 2-2-2-2-2-2 | | Sent. 7 | 7 |
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| Medical | Tri-City herald Columbia Basin News Spokane Chronicle | Sept. 7 Sept. 20 | 다. 2 |
| Technical | Tri-City Herald | Sept. 14 | 72 |
| Safety | Spokesman Review Tri-City Herald | Sept. 13 Sept. 21 | 1 3 3 |
| Organization Changes | Tri-City Herald Columbia Basin News Walla Walla Union Bulletin | Sept. 2-7 Sept. 7-8 Sept. 6 | 10 10 8 |
| Electrical | Walla Walla Union Bulletin Columbia Basin News Tri-City Herald Spokane Chronicle | Sept. 11 Sept. 12 Sept. 12 Sept. 12 | € 40 00 -40-40 |
| House Of Magic | Walla Walla Union Bulletin Columbia Basin News Tri-City Herald Prosser Record Bulletin | <pre>Sept. 6 3ept. 6-15 Sept. 13-16 Sept. 13-16</pre> | 4월 25 22 3월 |
| GE-AEC Contract Renewal | Yakima Republic Bremerton Sun Tri-City Hexald Columbia Basin News | Sept. 5 Sept. 5 Sept. 5-6 Sept. 5 Sept. 5 | 166331 7 6 6 |
| | Wapato Independent Capitol Journal, Salem Eugene Register Guard Aberdeen World | Sept. 5 Sept. 5 Sept. 5 Sept. 5 Sept. 5 | 0 0 0 0 T |
| | Bend Bulletin Walla Walla Union Bulletin Spokane Chronicle Dalles Chronicle Bellingham Herald | Sept. 5 Sept. 5 Sept. 5 Sept. 5 Sept. 5 | engen≠ ₹ |
| | Mt. Vernon Herald Waitsburg Times | Sept. 7 | п |

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Civil Defense

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| COMMUNITY REAL ESTATE & SERVICES Commercial Services Fire Police Public Library Municipal | | | 99 | 24. 81. 1981 | 40 8 3 | | | | | ŧ. | • • |
| EMPLOYEE & PUBLIC RELATIONS Employment News Bureau Special Programs Radio & Special Events , Training Works News | 1410 | | 96 28 15 11 | 4 62 83 83 84 88 88 88 88 88 88 88 88 88 88 88 88 | 427 578 67 114 | | | 9 | | | |
| ENGINEERING Engineers Technical Rotational Training Pile Technology | | 89 | 36 | 215 215 25 | 34 75 | 316 | 15 | | 12 | 21 | |
| MEDICAL MANUFACTURING Separations Section | | | | 98 | 34 | 16 | | | | | |
| RADIOLOGICAL SCIENCES Operational Instrument Radox | | | | 74 336 | 16 10 | | 12 | | | | |
| UTILITIES & GENERAL SERVICES Purchasing & Stores Security | 6232 | 1378 | | 6 711 | 12 | | | | | 9 | 0 |

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Union Relations

UNION RELATIONS - OPERATIONS PERSONNEL

The Company verbally offered the HAMTC, the BSEIU and the Guards Union, the proposed wage increase that had been negotiated at our Eastern plants. This offer was confirmed in writing to the respective unions on October 19, 1951. No official response has been received on the Company's offer but it is understood that the unions will seek other benefits in conjunction with the wage adjustment; viz., increased isolation pay and some consideration for severance pay. A meeting to discuss this matter has been arranged for November 5.

Information has been received from the Company's Attorney, Gerald DeGarmo, to the effect that proceedings have been closed on the NLRB case covering the recent union authorization election wherein the Company's conduct during such election was questioned. Modification of the Taft-Hartley Act, which eliminates the need for formal UA elections, prompted this action.

On October 26, the Company received notification from the HAMTC and the HAMTC (Firemen) requesting negotiations within thirty days on a union security agreement. Notification was also received in this regard from the Hanford Guards Union, Local 21, on October 30.

The Guards Union has issued vague threats of arbitration if some substantial change is not made in the lunch period arrangement for Guards. In view of the impending lawsuit on this matter, this office is considering this issue with extreme caution.

A representative of this Section has spent the last two weeks in New York City and Washington, D. C., in general discussion of current union relations matters.

Grievance Statistics:

Thirty-two grievances were received during the month, bringing the total received this year to 155.

Grievances were sent in this month from the following departments:

| Community Real Estate & Services Department Community Services Section Community Real Estate Section | 1 | |
|--|-------------|---|
| Manufacturing Department Reactor Section Separations Section Metal Preparation Section | 8 5 2 | |
| Radiological Sciences Department | | en er |

Carry Consultation to the consultation

| Util: | ities & General | Services Do | epartment | |
|-------|----------------------------------|-------------|-----------|-------|
| | Plant Security Transportation | | Section | 8 |
| | | • | Total | 32 |

Employee grievance reports were received regarding the following subjects:

| celth-Safety-San | itction | | | 3. |
|------------------|---------|---|------|-----|
| ours of Work | | - | • | 8 |
| vortime Rates | | • | | 4 |
| olidays | | | | 1. |
| age Rates | • | | | 3 |
| Iscellaneous | | | | . 1 |

The status of grievances received in 1951 as compared to those received during the same period in 1950 is as follows:

| | 1951 | 1950 |
|--|-----------------|-------------|
| Received in October | . 32 | 10 |
| Received through October | 155 | 183 |
| Settled satisfactorily, Step I, thru Oct. 31 | 69 | 115 |
| Pending at Step I thru October 31 | 7 | |
| Settled Step II thru October 31 | 23 ' | 50 • |
| Pending at Step II thru October 31 | 62* | - 18 |
| At arbitration | 4 ** | |
| | | |

^{*}Including nine grievances received in 1950.

Seven per cent of the total grievances received this year have been submitted by employees outside the bargaining unit.

Three meetings were held during the month for the purpose of processing grievances at the Step II level. Two meetings were held with the HAMTC and one meeting with the Hanford Guards Union.

CONSTRUCTION LIAISON

The isolation pay issue has been submitted to the Wage Stabilization Board Disputes Panel for a "definitive decision." The matter will be heard in Washington, D. C., on November 6.

Office Workers' negotiations are still in progress. The Union has agreed to accept whatever amount is available under the 12.2 per cent formula of the WSB.

003

6 1194061

^{**}Including one grievance received in 1950.

Negotiations with the Boilermakers resulted in AJ rejecting the Union's demand for adoption of their Seven Western States Agreement.

An agreement was reached with the Technical Engineers on October 18, which grants each individual in the Association a minimum of \$5.00 per week increase.

A deadlock was declared by the Federal Mediation and Conciliation Service in negotiations with the Sheet Metal and Machinist Unions. The disputes were submitted to the Davis Panel and will be heard on November 2, 1951.

The Tecmsters' Union has admitted failure in their attempt to organize approximately 100 warehouse workers.

A continuation of the Hanford Works Addendum was agreed upon by the Plumbers and Steamfitters' Union and USW. A joint petition was submitted to the WSB for approval of a 50-cent per day increase in isolation pay.

Work stoppages involving Tochnical Engineers, Sheet Metal Workers and Machinists occurred on October 15, due to failure to reach agreement during wage negotiations. All men were back on the job by October 18.

A walkout occurred on October 2, involving 64 Operating Engineers after AJ refused to comply with an ultimatum given the Company on October 1, demanding the discharge of an Assistant Superintendent. The mon were back on the job on October 4, at which time their complaint was investigated.

Over 1,000 Carpenters were off the job on October 24 in protest over AJ's refusal to discharge an Assistant General Superintendent. The Employer refused to take any action on the matter until the men were back on the job, at which time they agreed that the matter would be considered under the grievance procedure set forth in the Union Agreement. On October 31, after the Union had amounced that a return to work was an individual matter and gave assurances that any one who elected to do so would not be penalized, three men reported and were put to work. It is anticipated that most of the men will be back on the job in the next few days.

WAGE RATES

A survey was instigated to determine the prevailing rates of pay for publicity writers. Questionnaires containing job descriptions were sent to concerns believed to employ individuals in such classifications. This survey is not limited to the Northwest area; firms throughout the country are being contacted.

On October 31, 1951, W. P. Parsons, Wage Stabilization Coordinator for the General Electric Company, wired that the Wage Stabilization Board has approved the Hanford Works' petition for a 6% general increase for Richland and North Richland Firemen. Steps were taken to apply this increase to the Firemen rates effective March 15, 1951. The written authorization, giving details concerning the Wage Stabilization Board approval, is expected soon.

A series of weekly meetings were held with the Employment Unit Interviewers to discuss current problems involving the Wage Rates Unit and the Employment Unit.

Four Wage Rates Unit employees were regularly assigned during the month, and other worked each Saturday, performing functions pertaining to the Wage Rates Unit activities in assisting the Law and Financial Departments in an attempt to meet the December 1, 1951, deadline set for the program involving Davis-Bacon retroactive payments.

SUGGESTIONS AND INSURANCE

Suggestion System:

| | September, '51 | October, '51 | Total Since |
|--|----------------------|-------------------------|-------------|
| Suggestions Received | 130 | 202 | 7505 |
| Investigation Reports Completed | 67 | 103 , | , |
| Awards granted by Suggestion Committee | e 27 | 23 | |
| Cash Awards Estimated Savings | \$ 285 \$1,847.10 | \$ 1,035 \$10,978.90 | |

A \$460 award was made to an employee in the Engineering Department for the suggestion of a disposable-type sampling device used in the process areas. Considerable savings in labor and material was realized through adoption of this suggestion.

The second highest award was made to an employee of the Separations Section for suggesting the use of tension spring adjusters on furnace stopper-rods, facilitating the adjustment of the stopper-rod and improving the operation by removing a variable. This employee received \$130 for his proposal. Labor savings was realized from this suggestion.

An employee of the Reactor Section received a \$75 award for his suggestion to replace the Christmas tree purge screens by using a soft soldering method instead of the silver solder previously used. Savings were labor and material.

Workmen's Compensation:

One case under litigation was closed during the month.

Life Insurance:

Code information which is known only to Home Office Life Underwriters Association has been furnished 66 insurance companies and investigation agencies during the month of October, 1951. This is in accordance with an arrangement with the Underwriters whereby employees on this project might be insured on the same basis as those working elsewhere.

| Thermones | Statistics: |
|-----------|-------------|
| Insurance | STATISTICS: |

| | September, '51 | October, '51 | Total Since Sept., 1946 |
|---|----------------|--------------|----------------------------|
| Claims reported to the Department of Labor and Industries | 112 | 135 | 5192 |
| Claims reported to Travelers Insurance Company | 13 | 5* | 556 |

^{*}All claims reported to Travelers Insurance Company were property damage claims.

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COMMUNITY REAL ESTATE AND SERVICES DEPARTMENT SUMMARY - OCTOBER, 1951

ORGANIZATION AND PERSONNEL

| Number of employees on roll: | Beg. of Month | End of Month |
|--|---|------------------------------|
| Administration | 22 | 22 |
| Community Services Section (Total - 223) Public Works Parks & Recreation Police (Richland) Fire (Richland) Public Safety Engineering | 100 36 43 51 2 12 | 82 36 43 51 0 |
| Community Real Estate Section (Total - Housing and Maintenance Commercial Property | 204) 215 13 | 192 12 |
| 700-1100-3000 Area Services Section (Tot 700-1100 Maintenance Patrol (North Richland) Fire (North Richland) | al - 111) 59 22 <u>32</u> 607 | 59 21 <u>31</u> 560 |

There was a decrease of forty-seven employees in the Department during the month of October, 1951.

GENERAL

Richland Wallpaper and Paint Store, located in the Uptown Theater Building, began business operation during the month of Cotober.

Wileys' Casual Wear, located in the Richland Investment Building, began business operation during the month of October.

The following individuals were awarded ground sites to construct privatelyowned business buildings:

- 1. Chalmer D. Joseph Block 6, Uptown Business District, Investment Building - 110 foot frontage.
- 2. Virgil O. McVicker Lee Boulevard and Goethals Drive, Investment Building 2 stories retail shops on first floor with apartments on second floor.
- Virgil O. McVicker Block 2, Uptown Business District Investment Building 130 foot frontage - three levels.

The Northwest United Protestant Church was given a lease covering the construction, operation and maintenance of a shurch building located north of the intersection of Williams Boulevard and Sacramento Street.

Total housing applications pending - 669.

CONTRACT SECTION

| Contract Number | Contractor | Title and Status | Project Number |
|--------------------|----------------------------|--|-------------------------|
| G-334 | Erwen Construction Company | Additions to Sewage Lift Station. Contractor awaiting arrival of electrical equipment which was ordered in February and has not as yet been received from the factory. | C-357 |
| G-343 | Baldwin & Dunham | Rehabilitation of 13ul Prefabricated Houses. All work completed September 28. Request to adjust final quantities submitted Oct. 1, 1951; awaiting final processing of this modification. Contract to be closed and final payment made early in November. | С-148 С-380 L-483 |
| G-350 | Roof Service Inc. | Rehabilitation of 700 Area Buildings. Modification No. 3 which provided for wiring changes | C-7100 |
| | | in 723 Bldg. and adjusted contract prince, approved by AEC October 15. Contract closed and final payment made October 19. | . |
| G-373 | R. A. Neuman & Son | Interior Painting 676 Prefabs. Verification of final quantities submitted by project engineer. Attaiting action of subcontractor in response to our request of October 12. Work completed June 30. | S-379 |
| G-377 | C. T. Melcolm Company | Soft Water Line to Hospital and Guthrie-Williams Water Line. Contract closed and final payment made October 9, 1951. | s-415 s-307 |
| | Associated Engineers Inc. | Shelterbelt Planting - Work was completed October 19. Fire Protection Facilities Chief Joseph Junior High School - were completed October 17. Contract to be modified to adjust final quantities. | C-408 S-479 C-426 |

| Contract Number | Contractor | Title & Status | Project Number |
|--------------------|----------------------------|---|-------------------------|
| G-387 | Erwen Construction Company | Alterations to 712-A. Modification #5 which provided for work under Project-S-469, Water Line to 704 Bldg., approved by AEC October 24. Work completed October 3, Contract closed out October 30, 1951. | c-hho |
| G -3 90 | | 1951 Street Improvements. Modification #1 approved by AEC October 31. This modification provides for additional work under Project L-575 Surfacing Two Park Areas; and Project L-589 Increase Turning Radii at Existing Streets; and extends time 30 days for this work. Contract to be completed November 29. | C-L26 L-575 L-589 |
| G-397 | Baldwin & Dunham | Access Panels for Precut Houses. Contract work completed October 5. Contract closed October 10. | s -4 77 |
| G-405 | Weston Plumbing Company | Steam Pit Rearrangement at Dormitories. Contract work started October 4. Contract to be completed November 8, 1951. | S=321 |
| G-410 | | Fencing Riverside Park and Columbia Playfield. Field construction started October 5, 1951. Request made Oct. 19 for contract modification to add work under Project C-357 for installation of fence around sewage lift station, & unde Project S-450 for additional fenciat Riverside Park; also, extending contract time 30 days. Original contract work under Project C-425 & S-450 completed October 17. | r ng |

Invitation to Bid No. B-148 has been issued and bids are invited for November 20 to complete the requirements of Project C-425, L-262, K-562 and the additional planting approved for Project C-408.

During the month of October, 11 contracts were active four of which were completed. Five are being modified and one is awaiting adjustment of final quantities. Two modifications were approved. Payments to contractors during the month totaled \$11,9,315,92.

COMMUNITY SERVICES SECTION

SUMMARY

OCTOBER, 1951

ORGANIZATION AND PERSONNEL:

| | DECIMNI | ng of month | ein of | MONTI |
|--------------------|---------|-------------|--------|------------|
| • | Exempt | Non-Exempt | Exempt | Non-Exempt |
| ENGINEERING | . 7 | 5 | 7 | 74 |
| FIRE | 51 | 0 | 51 | 0 . |
| PARKS & RECREATION | 14 | 22 | 13 | 23 |
| POLICE | 16 | 27 | 16 | 27 |
| PUBLIC WORKS | 16 | 83 | 15 | 67 |
| PUBLIC SAFETY | 1 | 1 | 0 | 0 |
| | 105 | 138 | 102 | 121 |

COMMUNITY REAL ESTATE AND SERVICES DEPARTMENT

Public Works Unit

October 31, 1951

ORGANIZATION AND PERSONNEL

| | Exempt | Non-Exempt |
|--------------------------------|---|------------|
| Employees - Beginning of Month | 16 | 83 |
| Transfers In | - | 3 |
| Transfers Out | 1 | 18 |
| New Employees | - · · · · · · · · · · · · · · · · · · · | 2 |
| Terminations | | _3_ |
| Total - End of Month | 15 | 67 |

SANITATION

The seasonal rescheduling of residential waste collection from a twiceweekly basis to one collection per week frequency was effected on October 1, 1951, without incident.

Waste material collected and disposed of during October amounted to 1,475 tons as compared to 1,550 tons in September.

ROADS AND STREETS

Construction work on Project C-426, "Fiscal Year 1951 Street and Sidewalk Improvements", continues to show satisfactory progress. Installation of new facilities is generally complete with the exception of some new sections of residential service walks and steps as required to tie the existing service walks and steps to new streets and sidewalks; and the relocating of concrete traffic-divider curbs and buttons on the south end of George Washington Way. Some sloping of adjoining lots and general clean-up work also remains to be completed this year. The top-soiling and reseeding of disturbed residential lawns has been postponed until spring of 1952 when weather is more favorable for this type of work, and the affected residents were notified of this decision by letter of October 10, 1951.

Community Real Estate and Services
Public Works Unit

ROADS AND STREETS (CONTINUED)

The abandoned railroad grade crossing on the By-Pass Highway, known as the "Hudson Spur", had deteriorated to the point that it created a traffic safety hazard, and arrangements were made to have this crossing removed and the road-way replaced by the Transportation Section.

Routine maintenance of streets and sidewalks, and street drainage systems was continued according to schedule.

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and the second second

DOMESTIC WATER

Project S-479, "Fire Protection, Chief Joseph School", was completed and acceptance inspection was held on October 17, 1951. Some minor exceptions listed at that time have since been cleared.

Project S-552, "Additional Fire Protection, Hotel and Theatre", was approved by the Plant A & B Committee on October 29, 1951, and has been forwarded to the AEC for their approval.

The roof on the south reservoir at the 1182 pump station, which had deteriorated so far that it had to be removed, was sold "in place" by the Salvage group, and the purchaser is removing this roof at no cost to the operating group. At the end of October the removal was 75% complete.

The average water consumption during October was 5.91 million gallons per day, as compared to an average of 13.02 million gallons per day in September.

Domestic Water System

| | Well Production Million Gellons | Avg. Daily: Production | Total Consumption Million Gillons | Avg. Daily Consumption |
|--|---------------------------------|---------------------------|-----------------------------------|------------------------|
| Richland North Richland Columbia Field | 89.7150 62.0590 33.0984 | | 122.0509 35.4592 | 3.9371 1.1438 |
| 300 Area | | | 25.6848 | 0.8285 |
| Total | 184.8724 | | 183.1949 | 5.9094 |

2.

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Community Real Estate and Services
Public Works Unit

SEWERAGE SYSTEM

Project C-357 has been inactive this month with the exception of installation of a right angle drive as replacement for an incorrect drive that was originally installed. Work remaining includes setting of a chain link fence around the lift station, and minor electrical and mechanical details.

Design is in progress for installation of facilities to dispose of odors emanating from the lift station and it is contemplated that costs of this design and installation of the equipment will be charged to C-357.

Normal operation and maintenance of the treatment plants, lift station, and collection system were continued during the month.

Sewage flow records for October are as shown below:

Sewerage

| | Total Sewage Flow Million Gallons | Average Daily Flow Million G. P. D. | Average Rate Flow Gals. per Min. |
|----------------------------|---|-------------------------------------|--|
| Plant No. 1 Plant No. 2 | 27.320 70.223 | 0.881 2.265 | 612 _1 <u>.573</u> |
| Total | 97.543 | 3.146 | 2,185 |

IRRIGATION SYSTEM

Pumping of irrigation water was discontinued on October 1, 1951, and on this same date water to the canal system into R chland was cut off at the Penstock. The entire canal system was shut down on October 26, 1951.

Winterizing of the irrigation system pressure lines is in process, and No. 2 and No. 3 station grids were completed at the end of October.

General cleaning of the entire gravity flow canal system has been started. The cutting and burning of weeds along canal banks, and in the canals, is also in process, and the area will then be treated with a sterilizing agent to inhibit regrowth.

PARKS AND RECREATION UNIT MONTHLY REPORT October, 1951

ORGANIZATION AND PERSONNEL

| Older Filew Ellis Labour | Exempt | Non-exempt |
|--------------------------|--------|------------|
| Beginning of Month | 14* | 22 |
| New Hires | 0 | 1 |
| Terminations | 1 | 1 |
| Transfers - IN | 1 | 6 |
| OUT | _1 | 5 |
| | 13 | 23 |

*Temporary Order-Catalog Librarian

SCHOCLS

The following is a tabulation of full-time paid School District #400 personnel as of October 31, 1951:

| Administration | . 6 |
|----------------------------------|-----|
| Principals & Supervisors | 14 |
| Clerical | 23 |
| Teachers | 277 |
| Health Audiometer | 1 |
| Cooks | ÌЩ |
| Nursery Sch. & Extended Day Care | 12 |
| Bus Drivers | 1 |
| Maintenance | 9 |
| Operations | 48 |
| | 435 |

CLUBS AND ORGANIZATIONS

As of October 31, 1951, the employees of the listed organizations, exclusive of those included in the Real Estate Commercial and Other Properties Unit report, include:

| Youth Council - Chest | 1 |
|-----------------------|----|
| Boy Scouts | 1 |
| Camp Fire Girls | 1 |
| Hi-Spot Club | 2 |
| Girl Scouts | 2 |
| Justice of the Peace | 1 |
| Y.W.C.A. | 2 |
| Chamber of Commerce | 1 |
| | 11 |

On October 17, 1951, a Merit Badge Show was presented by the Boy Scouts of America on the Greenway with members of the local Boy Scout organizations participating.

Parks and Recreation Unit

United Nation Day was observed in Richland on Sunday, October 21, 1951, with a program sponsored by the Richland United Nation Day Committee and held on the Plaza. Five hundred portable bleacher seats were made available by the Parks and Recreation Unit for the program.

On Sunday, October 21, the second paper drive of the year was made under the joint sponsorship of the Richland Kivanis Club and the local Y.W.C.A. /ll profits made from the drive went toward youth activities.

The number and types of organizations presently served by the Parks and Recreation Unit include:

| Business & Professional Clubs Church and Church Organizations Civic Organizations Schools | 21 26 17 |
|---|----------------|
| | |
| Fraternal Societies | 2년 : |
| Political Organizations | 5 |
| Recreation & Social Clubs - Alumni | . 3 |
| Art, Must and Theatre | ar 9 . |
| Bridge | 2 |
| Dance | 4 |
| Garden | 2 |
| Hobby | 9 |
| Social | 9 |
| Sports | žė |
| Veteran & Military Organizations | 7.4 |
| Welfare Groups | 7 |
| Youth - Boy Scouts | 20 |
| Girl Scouts | 49 |
| Camp Fire Girls | 36 |
| Miscellaneous | 10 |
| | 268 |
| | |

RECREATION

The Olympic Contests held in connection with the football clinic sponsored by the Parks and Recreation Unit was concluded at Mamarial Softball Field on October 3, 1951. Thirteen award certificates were issued to the 1st, 2nd and 3rd place winners in each of the five events in the two divisions, Midgets and Juniors. A total of 1,070 boys participated in the two week long clinic.

The fall family group and adult athletic and sports program at Spalding Grade School gymnasium was initiated on Monday, October 1, 1951, and is to continue through March 31, 1952, with a three night a week program.

A member of the Recreation Sub-Unit of the Parks and Recreation Unit had charge of the games program at the October meeting of the Sacajewea P.T.A.

-2-

Parks and Recreation

On October 26, 1951, the Playground Supervisor gave a pep talk to the students at Columbia High School during the student body home-coming pep rally.

At the reducest of the General Electric Company Community Services Section, a study was made of the Richland Parks and Recreation Unit's facilities, programs, administration, and policies under the direction of the Washington State Parks and Recreation Commission, Recreation Division. The study was made in Richland on October 23 - 24, 1951, by a panel of four members representing, Renton, Tacoma, Bremerton and the Washington State Parks Commission and included a macting with three members of the Richland Parks and Recreation Board and conferences with the staff of the Parks and Recreation Unit and Community Services Section Manager, tour of facilities, observation of programs, and summary discussions.

Several members of the Parks and Recreation Unit attended the washington Education Conference held on Octob r 17, 1971, at Chief Joseph Junior High School.

Attendance figures for October, 1951, of participants in the Fall and Winter adult and family group program sponsored by the Recreation staff of the Parks and Recreation Unit and held in the gymnasium at Spalding Grade School.

| | Children | Adults | Total |
|--|-------------------|--------|-------|
| General Attendance | | 807 | 807 |
| Special Events - Participants Spectators | 1,070 | 46 | |
| /ssisted /ctivities | ····. | | |
| Totals for Month | 1,070 | 853 | 1,923 |

Community House

Painting has been completed on the kitchen, according to previously made arrangements.

Slim-line florescent lighting has been installed in the Games Room.

The Y.W.C.A. Wives have completed the re-upholstering of the 20 chairs that are in the lobby. Materials were provided by the Parks and Recreation Unit.

Plans are being made for an extensive Halloween party for the elementary group on Friday evening. November 2.

The Hi-Spot Club held a dance on Halloween with approximately 500 members in attendance.

The Altrusa Club has inaugerated a program for elderly people to be held in the Community House. In the future this program will become a part of the work of the Parks and Recreation Unit.

Parks and Recreation Unit

Plans are under way for an Open House to be held November 4. Plans have already been started with the groups which use the Community House in order that they may participate in the Open House, as well as in presenting our own display to the public. Extensive displays are planned for this project.

the counting of participants.

Pool tables in the Games Room were recovered and repaired.

| Attendance - Community House | | Children | Adults | Total |
|--|-------|-----------------|-----------------|------------------|
| General attendance Special events - participants | 111 | 6,321 | 3,2h1 | 9,562 36 |
| spectators Assisted / ctivities | - 1.0 | 19 43 | 306 713 | 325 756 |
| Totals for Month At end of previous month | • | 6,387 15,855 | 4,292 13,146 | 16,679 29,001 |
| Totals to date | | 22,242 | 17.438 | 39,680 |

Indoor attendance July 1, 1951, to date 39,680 Outdoor attendance July 1, 1951, to date 72,433

On October 4, 1951, the regular monthly meeting of the Parks and Recreation Board was held in the reception room of Building W-20 at which time the following motions were carried:

- T. "That the "Policies, Procedures and Regulations for Bomber Bowl" as issued September 13, 1951, be approved.
- 2. That the proposed plan for the disposition for stock nursery (issued September 5, 1951, by the Parks and Recreation Unit) be adopted.

The next regular meeting of the Parks and Recreation Board is scheduled for November 1, 1951.

MAINTENANCE

Watering of parks and playground areas was discontinued on October 15, 1951, for the 1951 season. All irrigation equipment such as sprinklers and hoses have been removed from the areas and irrigation lines are being winterized.

Effective October 1, 1951, the Erosian Control and Shelter Belt work become the responsibility of the Parks and Recreation Unit. This included one foreman, three light truck drivers, and three servicemen who were transferred into the Unit on that date.

Effective, also October 1, 1951, two carpenters and one mechanic of the Parks and Recreation Unit were transferred to the Public works Unit.

Parks and Recreation Unit

During the month patch seeding at Riverside Park was completed.

At the request of the Columbia High School officials an additional flood light was installed on each of the two east side ticket booths at Columbia Playfield to provide more light at the exit gates.

Park Development

Progress Report

| Pro | posed Work | Percentage Complete |
|-----|--|----------------------|
| 1. | Playground Equipment Installation (a) Project C-425 (equipment on hand) | none |
| 2. | Fence Installations: (a) Columbia Playfield - Project S-425 (b) Columbia Playfield - Project S-425 (c) Riverside Park - Project S-450 | 100% 100% 100% |
| 3. | Columbia Playfield Recreation Facilities: (a) Shuffleboard Courts - Project C-356-R | 100% |
| 4. | Columbia Playfield: (a) Parking Area """ - Project C-425 (preliminary survey Work only) | - · |
| 5. | Shelter Belts: (a) Grading and Planting of Shelter Belts - Project C-40 (b) Irrigation lines and site work C-408 | 98R - 100% |

PUBLIC LIBRARY

Total circulation for the month was 15,794. This increase is due to having additional books processed and on the shelves and to the normal increase in circulation expected because of the winter season. The break-down of the circulation is as follows:

| Books | | Pamphlets | Mags. | Records | Inter-Library Loans | |
|--------|----------|-----------|-------|---------|---------------------|----|
| 1 dult | Juvenile | Total | | | | |
| 9,437 | 5,032 | 14,469 | 28 | 321 | 910 | 66 |

Grand Total - 15,794

Total registration was 606 (492 adult, 114 juvenile)

Adult books added to the collection totaled 401. The number of juvenile books added this month will be included in next month's report.

Parks and Recreation Unit

The Indian Exhibit in the North Hall was a huge success and was attended by more than 2,000 people.

In addition to the window display on United Nations Work which was arranged by the Library staff artist, included one put in by the Campfire Girls and one by the Rod and Gun Club. We felt that all the displays were unusually attractive.

The story hours this month were attended by 401 children. The attendence at the combined Halloween party and story hour was 110.

The current book stock is 16,478.

During the first six months of operation the Richland Public Library had a circulation everage of 15,000 per month. On this basis the annual per capita circulation will be 6.6. This compares very favorabily with Spokane (4.38) and Seattle (5.19.)

MAJOR ACTIVITIES DURING THE MONTH

| October | 6 | Prosser Jr. High School vs. Carmichael Jr. High Bremert n.vs. rmy Walla Walla vs. Richland | Bomber Bowl Bomber Bowl Bomber Bowl |
|---------|-----------|--|---|
| , | 13 ·18 | Ft. Lawton vs. frmy High School Homecoming Bonfire Rally Kennewick vs. Richland | Bomber Bowl- Columbia Playfield Bomber Bowl |
| | 20 | United Nationa Program Kiwanis, Y.W.C.A. Paper Drive | Plaza Community |

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COMMUNITY SERVICES

RICHLAND POLICE DEPARTMENT

OCTOBER 1951

ORGANIZATION AND PERSONNEL

| | Exempt | Non-exempt |
|--------------------------------|--------|------------|
| Employees - Beginning of Month | 16 | 27 |
| Transfers In | 0 | 3 |
| Transfers Out | . 0 | ī |
| New Hires | 0 | 0 |
| Terminations | 0 | 2 |
| Total - End of Month | 16 | 27 |

GENERAL

On October 18, 1951, a meeting was held in the Community House to present and discuss the annual inventory report of traffic safety activities for 1950. This information is compiled from statistics sent to the National Safety Council. Lt. Robert Denslow of the Washington State Patrol presented an analysis of the report as it applied to Richland. Representatives of various civic organizations in the community were present. Recommendations and suggestions made in the report will be carefully studied in an effort to improve Richland's safety record.

Several members of the Richland Police Department attended a meeting of the Yakima River Peace Officers Association held in Wapato, Washington, on October 18.

On October 24, 1951, Capt. J. S. Johnson of the Crime Prevention and Investigation office attended a meeting of the local ministerial group. Juvenile problems were discussed and the group agreed to render any possible assistance with juvenile guidance and problems.

On October 27, 1951, the Richland Police Department provided an escort for the National Council of Churches Tour which visited Richland.

Chief H. W. Strock attended the 58th Annual Conference of the International Association of Chiefs of Police in Miami, Florida, from October 28 to November 1.

New police badges were received during the month. These badges were designed for police use in Richland and are of different design than those worn by the security guards.

Two new portable radio units were received during the month for use during emergency situations.

During the month forty-six Brownie Scouts and leaders were escorted on tours through Police Headquarters.

Sixteen safety films were available for the use of rersonnel groups and civic organizations during the month of October. These films included child safety, fire safety and traffic safety. Approximately 3,844 school children and adults viewed these safety films during the month of October.

During the month, a total of 159 letters were received, compared to 180 last month. These consisted of 151 inquiries on arrests and 8 requests for assistance.

Richland Police Department - Continued

The County of Carry try to During the month, 61 prisoners were processed through the Richland Jail. Thirtythree of these were from North Richland.

During the month, 26 gun registrations were recorded.

During the month, 72 bicycle registrations were recorded.

During the month, 468 traffic violation reports were received. These consisted mainly of speeding and illegal parking. A total of 114 other reports were received. These consisted mainly of larceny and public intoxication cases.

TRAFFIC

There were 29 reportable accidents in Richland during the month of October. This was an increase of 12 accidents over the preceeding month, and more than you double the 13 accidents reported for the month of October in 1950. There has been a total of 198 accidents this year to date as compared to 153 for the same period last year. During the month of October, the property damage decreased from the preceeding month from \$354.39 to \$273.72 per accident.

There were four injury accidents this month resulting in minor injuries to four persons as compared to no personal injuries during the month of October, 1950. There were no major injuries or fatalities during this month as a result of motor accidents in Richland. This brings the total injuries for this year to 52 as compared to 23 for the same period last year. The first of the second property of the second property.

Twenty-one of the above accidents were investigated by members of the Richland Police Department and criminal complaints were signed against 15 drivers involved in accidents. There were four government vehicles involved in accidents in Richland. There was one driver arrested at the scene of the accident.

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Driving violations which contributed to the 29 accidents this month were:

| Improper turning | 1 | Negligent driving |
|------------------|-----|--|
| Reckless driving | 3 ' | Failure to yield right-of-way |
| Inattention | | Unsafe speed |
| Improper backing | 2 | Disregarding stop sign |
| Drunken driving | 3. | Asleep at the wheel 1 |
| | | Asleep at the wheel 1 Following too close 2 |
| | | Library Control of the Control of th |

Periodic checks have been made each day on patrol operations at the schools, and which includes checking of uniforms, attendance at posts, etc.

Street construction is nearly completed on all streets in town and work orders: have been written to center-line these streets. This work will be completed as soon as weather permits, and will include cross walks, center-lining, and some yellow curbings where needed.

Sign work schedule has been almost caught up and signs have been installed onmost new construction and will be completed in the very near future. a de Pallicentaragos de la productión de la completa de la constante de la con

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ప్రకారణు కూడా కార్యం కొర్కుండి. కార్యం కార్యం కొర్కు కొర్కి కొర్కి కొర్కి కొర్కి మండు కారణి ఉంది. మైద్రి ప్రామ కొర్కువాడు కారం కొర్కుడు కొర్కుండి కొర్కి మండు కొర్కి మైద్రికి కారణికి కొర్కి కొర్కి కొర్కి కొర్కి అయిని మారిక 1194079

Compared the second section

Richland Police Department - Continued

TRAINING

The subject for classroom training for the month was Accident Records.

Training at the small arms range for the period in field instruction was as follows:

Pistol 2 hour Machine Gun $l\frac{1}{2}$ hour

Qualifications on the Army-L Course were as follows:

| Score | No. Men | Per Cent |
|--------------|---------|-----------------|
| Expert | 13 | 77% |
| Sherpshooter | ĺ | 64 6 |
| Marksman | 1 | <i>6</i> % |
| Unqualified | 2 | 11% |

A total of 17 men reported for police training.

ACTIVITIES AND SERVICES

| | August | September | October |
|---|--------------|------------|-------------|
| Doors and windows found open | 45 | 38 | 27 |
| Children lost or found | 20 | . 23 | 42 |
| Dogs, cats reported lost or found | · 32 | 2 Õ | 60 |
| Dog, cat, loose stock complaints | 29 | 17 | 25 |
| Persons injured by dogs | . 3 | 3 | 1 |
| Bank escorts and details | Ö | . 0 | 0 |
| Fires investigated | · 2 0 | 15 | 17 |
| Miscellaneous escorts | :11 | 10 | 7 |
| Complaints investigated (No enforcement action) | 5+ | 63 | 63 |
| Deaths reported | 1 | Ö | 1 |
| Property lost or found | 7431 | 2 8 | 2 2 |
| Records inquiries | 162 | 174 | 150 |
| Law enforcement agencies assisted | : 16 | 13 | 16 |
| Private individuals assisted | . 23 | 9 | _3 |
| Plant divisions assisted | 54 | 61 | 64 |
| Emergency messages delivered | 48 | <u>46</u> | <u>31</u> |
| Totals | 56 9. | 528 | 52 9 |

| ***** | Injuries Oct. | Other Causes Sept. Oct. |
|---|-------------------------------------|--|
| TATISTICS | Injuries Minor Sept. 0ct. 6 | Reckless & Drunken lriving Sept. Oct. |
| DIVISION - TRAFFIC CONTROL STATISTICS OCTOBER, 1951 | Fatalities Major Sept. Oct. Oct. Oo | Feilure to Tield Right of Way Sept. Oct. |
| POLICE DIV | Total Number Sent. Oct. 17 29 | Negligent Driving Sept. Oct. |
| ingeren 1300 en en en 1300 en en en 1300 en en en en | MOTOR VEHICLE ACCIDENTS: | ACCIDENT CAUSES: |

| PARKING | ABER, 1951 FOR ILLEGAL PARKING: ONE LESUED IN CALODEN, 1971, 191 |
|---------------------------------------|--|
| | 1951 FOR ILLEGGE PARKING: |
| PLANT WARNING TRAFFIC TICKETS ISSUED: | Richland: ONE WARNING TICKET ISSUED FOR SEPTEMBER, 19 |

| - | Totals |
|--|----------------------------|
| | arking V. Other V. |
| | The same of the Parking V. |
| TRAFFIC CHARGES AND COURT CITATION TRAFFIC TICKETS ISSUED: | 41-174 |
| TRAFFIC CHARGES AND COURT CIT | |

TRAFFIC VOLUME: Average 24-Hour Traffic Volume Count for week ending October 27, 1951, Thayer north of Williams-4,692 cars.

NOTE: Traffic Control Statistics Show ORIGINAL CHARGES ONLY.

RICHLAND POLICE DEPARTMENT RICHLAND JUSTICE COURT CASES OCTOBER 1951

| FINES | SUSP. | 100.00 | 30.00 | 100.00 | 12.50 | 25.00 | 100,00 | 132,50 | 0 | 12.50 | 4 | - | 15.00 | 30.00 | | | | ·· • | | 37.50 | | | \$680.00 | | |
|---|---------------|--------------------|----------------|----------|-------------|--------------|-------------|--------------|-----------|---------------|--------------|--------------|-----------------|------------------|-----------|------------------|--------------------------|-------------------------|--------------------------|--------------------------|---------------------|---|-----------------|-----------------------|---------------------|
| · · · · · · · · · · · · · · · · · · · | Ì | 20°05 310,00 | 55.00 | 100,00 | 12.50 | 25,00 | 25.00 | 199.00 | 요. 연. | 16.00 | 302-306 | | 521,00 | 78.40 | 1 | 12,50. | | | | 100,001 | 62.50 | | 00 00004 | 2/-12024 | |
| BAIL | ٠.١ | هه 90 م 10 م | 7 50 | <u>.</u> | | 00.01 | 37.50 | 1,56.50 | | ر ا ا | 241.50 | | 71,3,00 | 110.50 | | | | | , | 62.50 | 52.50 | 00 | 20.00 | \$1911•5 ₀ | 200 |
| CASES INCL. | VIOL. | 9 | ٥ | 9 | - | | <u>ر</u> | | | 4 | | ~ | • | , , | | | | | - | | | | | 35 | and the fact of the |
| CASES ORIG. | NOI | ~ | 8 | | | | | , | • | | - | | 1 7 | ۰ ۳ | ` | | | | | _ | | <u>, , , , , , , , , , , , , , , , , , , </u> | | 56 | • |
| 1.10 | REV | , | 2 | | | | | | | | | | | | | | | | | | • | · - | _ | | |
| S. P. | SUSP. REV | | | | | | | | | | | | | | _ | • | | | | - | | | | | |
| £1.00 | JAIL | | | • | - | - | | 7 | | | | | | | _ | 1 | | | , | , r | _ | | | 2 | - |
| - | WAKK. ISS. | | | ~ | | | | | 35 | | 4 | | 7 | ۔ ب | - | | | | | | | | | 14 | |
| | CASES V | | | 9 | | | 7 | , | m | _ | 4 ~ | 2 | 5 | Α, | - | ; | | | | | | ,- 1 | | 23 | |
| . • | CASES | 2 | ۱ ۲۰۰ | 2 | | c | i 0 | l | 2 | _ | - ، | ب | ~ | † | | | | 7 | | | | | | 21 | |
| | NO OF | ronr | - ، ، | | | (| ~ ~ | • | 130 | c | y 0 | ` | | 62 | 16 | | | | | | ω. | m . | . را | 245 | |
| | NO OF | CON. | ט נ | ۰۵ | ٠, ٢-1 | ٦ | ~ ~ | ٦ , | 32 | | 2 6 | 7 | | 50 | 16 | <u>ر</u> ہے | <u> </u> | | | | 80 | <u>.</u> | | 183 | |
| | | CASES | 77 | 28 | - 1 | <u>'</u> | 90 | 7 [| 226 | ٦, | ج ه | ₹ ′ | ኅư | 120 | 34 | ٦ | <u>۔</u> | | - - | <u></u> | 13 | 9 (| | 519 | \ - |
| | | | nt | | TO A. | | | • | | a. | plates | ħ0 | tion | lving | | check | Fermitted unlicensed per | son to o erate vehicle. | Permitted minor to oper- | ate vehicle W/o license. | ny xication | sance | 4 | se assaure. | |
| प न् | | VIOLATION | Def. equipment | _ | Dr. license | F. T.O. P.O. | F.T.5. & I. | F.T. Y.R.U." | Hit & run | III. "U" turn | | Neg. driving | No registration | Reckless driving | Ston sign | Larceny by check | Fermitted u | son to o er | Permitted m | ate vehicle | Public intoxication | Public nuisance | Rape | Third degree assaure | TOTOT |

NOTE: 1 Reckless driving amended to negligent driving. 2 Drunken driving amended to negligent driving.

1194082

MONTHLY REPORT RICHLAND POLICE DEPARTMENT OCTOBER. 1951

| | | CTUBER, 19 | 51 | <u> </u> | <u> </u> |
|------------|--|-----------------------------------|----------------------|-------------------|------------------|
| | offenses . | KNOVAV | UNFOUNDED | CLEARED ARREST | CLARED OTHER# |
| PART | 1 | | | | |
| | Murder | 0 | , 0 | 0, 1 | 0 |
| 2. | ^R ape | C | 0 | 0 | 0 |
| 3. | | • ე | 0 | 0 | . 0 |
| 4. | | Ō | 0 | 0 | 0 |
| 5. | | 3 | 1 | ı 1 | 0 |
| 6. | | 6 | ī | 1 | 2 |
| • | Largeny-under 550.00 | 22 | . 5 | 3 | 12 |
| | Bike theft | 14 | · . | Ŏ., | 14 |
| 7. | Auto theft | O | Ō | 0 | 0 |
| | | Ξ. | -, | : | |
| | TOTAL PART I CASES | 45 | | 5 | 28 |
| ART | II | | | | |
| 8. | Other assaults | . 3 | 0 | 0 | 2 |
| 9. | | ī | U | l | 0 |
| | Embezzlement & fraud | 7 | 2 | 2 | 2 |
| 1. | | ن ت | ō | 0 | ō |
| | Weapons.carry.poss. | | | 0 | . 0 |
| 3. | | Ö | 0 | 0 | 0 |
| ↓• | | · i | 1 | o . | Ò |
| 5. | | 0 | 10 | 0 | · · · · |
| 5. | | ù | | 0 : | Ō |
| 7 . | | . c | O O | Ŏ | o o |
| ģ. | | . 8 | | . 9 . | 0 (:1-) |
| ₹. | | . 0 | 0 | ó | o |
| | | | 0 | 0 | o o |
| J. | Vagrancy | 0 | - | 0 . | 0 |
| 1. | 3 | , 0 | 0 | | 0 |
| 2. | | 7- | 0 | I_{i} | U , : |
| 3. | | -0 | | | |
| | Speeding | 98 | 0 | 98 | 0 |
| | Stop sign | 30 | 0 | 3 0. | 0 |
| | Reckless driving | 7 | . 0 | 7 | 0 |
| | Right-of-way | 3 | 0 | 3 | 0 |
| | Negligent driving | 3 0 | Ü | 30 | 0 |
| | Defective equipment | 10 | 0 | 4 | 6 |
| 4. | | 270 | - 0 | 240 | 0 |
| 5. | | 6 | 0 | 6 | . 0 |
| 6. | | | ^ | 1 | |
| | Fublic nuisance | 4 | 0 | . 4 | O |
| • | Dest. of govt. prop. | 1 | 1 | 0 .: | 0 |
| | Dest. of govt. prop. Malicious mischief Vandalism Dog nuisance | 4 | 0.77 | Q | 2 |
| | Vandalism | 10 | . 0 | 1. | 6 |
| | Dog nuisance | · - · · · · · 1. · · · | • • • <u>1</u> • • • | . <u>.0</u> | 0 |
| | Car prowl, or | | . 1 | | 0 |
| | Protilere | 7 | 1 | 0 | . "0" |
| | Illegal use of firearms | 2 | 0 | 0 | 1 |
| | Investigation | 4. | 0: | | ·- · · <u>1</u> |
| | Investigation Pickup for outside agency Disturbance | 1 | . Q | 0 : | 1 |
| | Disturbance | 2 | . 0 | 0 | 2 |
| | Dog poisoning | 2 | 2 | 0 | 0 |
| 27. | | . ō | <u> </u> | 0 | 0 |
| • | | • | | | |
| | TOTAL PART II CASES | 485 | i i | 143 | 26 |
| _ | TOTALL THE ORDER | ر ب | | | _ |

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| PART III 28. Miss: Lost Lost Lost 29. Found Found Found Found TOTA PART IV 30. Fata 31. Pers 32. Prop 33. Other 34. Publ 35. Home 36. Occur 37. Fire 38. Dog 39. Suic 40. Suic | ing persons persons animals property depersons denimals deproperty depersons | 6 22 13 41 0 23 10 23 | UNFOUNDE | D CLEAREI ARREST | |
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| 28. Missi Lost Lost Lost Lost Lost Lost 29. Found Found Found Found TOTAL 29. Prop. 30. Fata. 31. Pers. 32. Prop. 33. Other. 34. Publ. 35. Home 36. Occup. 37. Fire. 38. Dog. 39. Suic. 40. Suic. | persons animals property d persons d animals d property d bicycles L PART III CASES | 22 13 41 0 23 10 23 | | | 22 3 24 0 23 5 6 |
| Lost Lost Lost Lost Found Govern | persons animals property d persons d animals d property d bicycles L PART III CASES | 22 13 41 0 23 10 23 | | | 22 3 24 0 23 5 6 |
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| Lost Lost Lost 29. Found Found Found Found Found Found TOTA PART IV 30. Fata 31. Pers 32. Prop 33. Other 34. Publication 35. Home 36. Occup 37. Fire 38. Dog 1 39. Suication 40. Suication | animals property d persons d animals d property d bicycles L PART III CASES | 41 0 23 10 23 138 | | | 3 24 0 23 5 6 |
| PART IV 30. Fata 31. Pers 32. Prop 33. Other 34. Publ 35. Home 36. Occup 37. Fire 38. Dog 39. Suic 40. Suic | d persons d animals d property d bicycles L PART III CASES | 41 0 23 10 23 138 | : | | 23 5 6 |
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| Found Found Found TOTAL PART IV 30. Fatal 31. Pers 32. Prop 33. Other 34. Public 35. Home 36. Occup 37. Fire 38. Dog 39. Suic 40. Suic | d property d bicycles L PART III CASES | 10 23 138 | : : : : | | 5 |
| Found TOTAL PART IV 30. Fatal 31. Pers 32. Prop 33. Other 34. Publi 35. Home 36. Occup 37. Fire 38. Dog 39. Suic 40. Suic | d bicycles | 23 138 | : | | • |
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| 30. Fata 31. Pers 32. Prop 33. Othe 34. Publ 35. Home 36. Occup 37. Fire 38. Dog 39. Suic 40. Suic | l motor veh. traffic | | : | | |
| 33. Other 34. Publi 35. Home 36. Occup 37. Fire 38. Dog 1 39. Suic 40. Suic | inj. motor veh. tra | f.acc. 4 | | | |
| 34. Publ. 35. Home 36. Occup 37. Fire 38. Dog 1 39. Suic 40. Suic | r traffic accidents | 25 0 | | | |
| 35. Home 36. Occup 37. Fire 38. Dog 1 39. Suic 40. Suic | ic accidents | ١ | Ī | | |
| 36. Occur 37. Fire 38. Dog 1 39. Suic 40. Suic | accidents | No scour | ate statist | ics kent | |
| 37. Fire 38. Dog 39. Suic 40. Suic | pational accidents | 3 | , | Los mopo | |
| 38. Dog 1 39. Suic: 40. Suic | earms accidents | í o | | | |
| 39. Suic: 40. Suic: | | ĺ | | | 1 |
| 40. Suic | | ō | | | |
| | ide attempts | Ċ | | | |
| | len death & bodies fou | | | | |
| | cared for | C | | | |
| 43. Ment | al cases | 0 | ; | | |
| TOTA | or cases | | | | |
| COMP | L PART IV CASES | 30 | | | 11 |

*Cases listed under "Cleared Other" are those cleared by various means other than arrest, such as: orders from prosecutor, juvenile probation officer or other situations in which a mutual agreement is obtained. They are definitely "Cleared" cases and differ from the arrest column in that there were no arrests.

Property reported stolen during month \$1,740.38 14 bikes
Property recovered during month 532.98 14 bikes

SEE PAGE THREE FOR JUVENILES INVOLVED

| | | | | | | | | | , | | | | | | G | ٺ |
|---|--------------------------|--------------|-------------------|----------------------|-----------|--------------------|--------------|---------------------------------------|-------------|---------------------|--------------------|-------------|--|--|--|----------|
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| TNVOLVED | TOTAL | | κ | Τ | 2 | N | - | n | 2 | 22 | | | | | | |
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| LITA | 17 | | 8 | | | | | | | 8 | | | | | | |
| HIVENTIES | 16 | | - | | | - \$1. | · • | Hij | -d: | , a. (-) | | | ; 4: | | | |
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| 9 | TEFORT FOR OCTOBER, 1771 | | - | ٦, | | | | . ' | | rd Î | | | | | 4 N W | |
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| | THREE | OF LEAST | ARCENY | ESTI | DALI | MALICIOUS MISCHIEF | PRO | LIEGAL USE OF FIREARMS 1 | PORGERT | | . 1 . M | - 44 | William William | ()() | er en | |
| | PAGE 7 | - | LARC | INVESTIGATION | VANDALISM | MAL | GAR PROWL | 1 | POF | | | | # # 1 L | | | |
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Number of offenses known to police per 25,000 inhabitants in cities of 25,000 persons:

| Wash. Ore. & Calif. Six months (July-Dec.1950) | | | | Richland September October 1951 1751 | |
|--|-------|------|-----|--|-----|
| Murder | •76 | •13 | 0 | 0 | o |
| Robbery | 19.8 | 3.3 | o · | ŏ | č |
| Agg. Assault | 14.9 | 2.4 | 0 | C | 0 |
| Burglary | 128.1 | 21.3 | 12 | 4 | 3 |
| Larceny | 392. | 65.3 | 155 | 21 | 28 |
| Auto theft | 57• | 9.5 | 12 | 0 | . 0 |
| Bike theft | | | 134 | 15 | 14 |

Number of offenses known to police per 25,000 inhabitants regardless of whether offenses occurred in cities or rural districts:

| State of | Washington | One month Richland | | Richland | | |
|---------------|----------------|--------------------|------------------------|---------------------------|----|--|
| Six months (J | uly-Dec. 1950) | average | July-Dec. 1959 1951 | September October 1951 | | |
| Murder | •74 | .12 | 0 | 0 | 0 | |
| Robbery | 16.7 | 2.8 | o | 0 | Э | |
| Agg. Assault | 5.0 | .8 | c | 0 | 0 | |
| Burglary | 120.4 | 20.0 | 12 | 4 | 3 | |
| Larceny | 377.6 | 62.9 | 155 | 21 | 28 | |
| Auto theft | 54.5 | 9.0 | 12 | 0 | Q | |
| Bike theft | | • | 134 | 15 | 14 | |

The portion of offenses committed by persons under the age of 25 years is shown:

| National Aver | age | Wash. Ore. Cal. | Richland | Richland | |
|--------------------------------|------|------------------------------|---------------|-------------------|-----------------|
| Percentage of (July-Dec. 19 | | Actual cases (July-Dec.1950) | July-Dec.1950 | September 1951 | October 1951 |
| Robbery | 54.1 | •23 | 0 | 0 | 0 |
| Burglary | 61.6 | 6.0 | ĺ | 2 | 0 |
| Larceny | 45.4 | 4.5 | 24 | 0 | 4 |
| Auto theft | 67.3 | 17.3 | 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 Investigations, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower group because of the practice of some jurisdictions not to fingerprint youthful offenders."

COMMUNITY SERVICES

RICHLAND FIRE DEPARTMENT

OCTOBER 1951

| Organization and Personnel: | Exempt | Non-Exempt |
|--|------------|------------|
| Employees - Beginning of the North | 51 | 0 |
| fransfers In | 0 | 0 |
| Iransfers Out | . 0 | 0 |
| New Hires | 0 , | : 0 |
| Terminations | · • • | 0 |
| fotal - End of Month | 51 | 0 |
| Fire Protection: | | |
| Fire Loss (Estimated): | Government | \$92.00 |
| | Personal | 5.00 |
| | Total | \$97.00 |
| Response To Fire Alarms | | 16 |
| Investigation of linor Fires and Inciden | ts | 10 |
| Ambulance Responses | | 3 8 |
| Airport Standby | | 1 |
| Inside Drills and Schools | | 23 |
| Outside Drills | | . 27 |
| Safety Meetings | | - 8 |
| Security Meetings | | 4 |
| Fire Alarm Boxes Tested | | 184 |

A program of residential inspections by radio-equipped fire companies was carried out between October 8th and 19th in local observance of the national campaign to save 4,000 of the annual deaths by fire in the United States. Firemen called at 5,623 homes, inspecting 3,712 (66%) and receiving no answer at the door of 1,911 homes (34%). On this detail, drivers of the inspecting companies, while listening for alarms on their radios, checked the operation of 550 fire hydrants. Tenants were quite cooperative and it is felt numerous fire hazards were eliminated as a result of the program.

During Fire Prevention Week, 249 students, 12 Girl Scouts and 30 Cub Scouts were taken on conducted tours of both fire stations. Iwo fire appearatus demonstrations were given on school grounds. Four Boy Scouts were examined for Firemanship merit badges.

During October firemen pressure tested 5,350 feet of $2\frac{1}{3}$ —inch and 1,050 feet of $1\frac{1}{2}$ —inch fire hose.

The Fire Department's six pumpers (including those in reserve) were given pumping tests. All performed satisfactorily.

Eight supervisory personnel attended the Labor Law School.

13.5 1

Fire Prevention:

A total of 112 fire inspections performed during the month resulted in 6 written hazard reports. Fifty eight fire extinguishers were inspected or serviced.

Fire Prevention Week Activities included:

- 1. Use of over 4,000 pieces of promotional posters, pamphlets, etc.;
- 2. Considerable newspaper publicity relative to the campaign;
- 3. Three 15-minute scripts and approximately thirty spot announcements aired by local radio stations and over public address system at football game;
- 4. A successful window display contest by Richland merchants;
- 5. Numerous school, club and youth group activities;
- 6. Fen fire prevention talks by members of the Speakers' Bureau;
- 7. A Junior Chamber of Commerce sponsored parade of fire trucks, display equipment and a 1900 model horse-drawn steam fire engine:
- 8. Inauguration of the residential inspection program and other Fire Department activities previously covered in this report.

Evacuation drills were conducted October 6th at Kadlec Hospital and October 25th in 703 and 760 Buildings.

Assistance was given an Explorer Scout on a fire prevention demonstration for the Junior Riding Academy.

A total of 118 employees of the Purchasing Section attended three safety meetings to hear talks on Home Fire Safety.

A review with the chief warden of the 703 Building evacuation procedure was necessitated by new construction in progress.

Following an invitation by the Chamber of Commerce for Fire larshal inspection of privately-owned commercial facilities, managers or owners were individually contacted. All expressed a desire for this service and gave their assurance of cooperation.

Rock gardens built around two residential area fire hydrants were reported to the proper authorities.

Attempts were made to have the sprinkler system in the new wing at Kadlec Hospital placed in service. Since the system has not been accepted, Company personnel are not authorized to perform the work.

Fire Marshal assisted the Chief Joseph School sub-contractor prepare a satisfactory legend for the school fire alarm system annunciator.

With the assistance of the Police Department, an investigation was made of an incident involving children attempting to set after a can of paint thinner at rear of hutment near largus Whitman School. Both telephone and written reports of the incident were made to the Real Estate Section.

COMMUNITY REAL ESTATE AND SERVICES DEPARTMENT

ENGINEERING UNIT

AUGUST, 1951

| Personnel | Exempt | Non-exempt | Total |
|--------------------------------|------------|------------|-------|
| Employees - Beginning of Month | 7 | 5 | 12 |
| Transfers In | .= | - | - |
| Transfers Out | - | 1 | 1 |
| New Hires | • | - | ,- |
| Terminations | : · | • | - |
| Total - End of Month | 7 | <u></u> | 134, |

The Status of Active Projects is as follows:

- K-562 Automatic Irrigation Levee 2-C Dids called for November 20, 1951
- L-017 Tract House NN-1040 Work completed and accepted. Physical completion Notice prepared.
- L-262 Water and Sewer Assembly of God Church Included in Invitation to Bid B-148
- L-575 Parking Lots Facilities Approval of modification on Contract G-390 and Notice to Proceed is expected today.
- L-589 Increased Radii at Swift and Goethals Approval of modification on Contract G-390 and Notice to Proceed is expected momentarily.
- S-299 Radio Communication System Work closed out. Physical Completion Notice prepared.
- S-342 Repair of Roof over lobby and new wing 703 Building Work 100% complete
- S-350 Improved Lighting 705 Building Work complete and accepted. Physical Completion Notice being prepared.
- S-405B Street Tree Planting Additional Erosion Control Planting to be resumed early in November.
- S-450 Feacing Riverside Park Subcontract being modified to add 240' fence.
- S-479 Fire Protection Chief Joseph School Work completed October 17, 1951, with exception at painting fire hydrants. Anticipated exception to be completed 10-31-51
- S-469 Site Preparation at 703 Building Work completed and accepted 8-17-51 Modification being requested for additional funds.

Engineering Unit

- C-356-R Recreation Facilities Equipment for Schools and Public Grounds Work completed September 15, 1951. Physical Completion Notice submitted.
- C-357 Alterations to Sewage Lift Station Subcontractor's work completed and accepted by formal acceptance with exception of 2 pieces of Electrical equipment. Modification of Directive being requested awaiting arrival of equipment. Cyclone fence to be installed by modification of Seattle Chain Link Fence Company's existing Subcontract No. G-410.
- C-425 1951 Park Development Program All work included in Invitation to Bid B-146 except park benches, tables, etc., and surfacing is finished.
- C-4256 1951 Park Development Program Fencing at Columbia Playfield Work 100% complete.
- C-408 Additional Erosion Control Remaining work included in Invitation to Bid B-148. Site grading and irrigation system.
- C-426 Street Improvement Program 1951 All major phases of the work has been completed. Cleanup and back slope work is now nearing completion. Mcd-ification of Directive changing the completion date to June 15, 1952, has been requested. This modification is necessary to complete top soil and seeding of lawns next spring.

Status of Active ESR's

- 176-CA Northwest United Protestant Church ESR closed out 11-1-51.
- 235-PW Town Planning Board Work Def. for other work.
- 369-CA Site Map CAP Field Def. for other work
- 496-RC Richland L theran Church Front Addition ESR Closed out 11-1-51
- 510-M Roads and Streets Drawings 1950 Construction Def. for other work.
- 547-MD Fixed Irrigation System Design is progressing
- 552-MF Fire Protection Desert Inn and Richland Theater Project estimated completed and sent to Public Works for approval and handling
- 561-SD Chief Joseph Grounds Plans and specifications delivered to School Board Bid opening November 19.
- 565-RC Site South or Tract House 0-1224 Def. for other work.
- 566-RC Site Standard Oil Company of California #2 100% complete
- 572-M First Baptist Church Work progressing 30% complete ...
- 573-M Westside United Protestant Church Work temporarily delayed.
- 578-PR Inspection of Underpinning . Social Hall Community House ESR 100% comp.
- 579-MS Goethals Drive to Williams Study of Intersection Def. for other work.

Engineering Unit

- ESR 581-RC "As Built" plans for LDS Church Plans returned to building committee for correction.
- 583-RC Commercial Development (East of Railroad, West of 1125 Warehouse, and South of Lee Blvd.) Study being made. 100% complete.
- 585-M Anderson Motors Addition Construction Work progressing 80% complete
- 586-M Standard Oil Station Construction progressing 20% complete
- 587-M Central Stores Warehouse Letter to AEC 10-8-51, 100% complete
- 590-PR Rehabilitation of Bomber Bowl Fence Design 60% complete Park Section requested deferment of project as sufficient money not available for work
- 591-M Preparation of advice pamphlet for contractors Rough completed.
- 592-RC Site Dairy Queen Ice Cream 100% complete
- 593-M Fence Around Sewage Lift Station Design 100% complete In process of letting as addition to Seattle Chain Link Fence Subcontract G-410.
- 594-M Fence Around Well #15 Design 20% complete. Request by Public Works Division to hold up design until fencing program is more fully scoped.
- 595-M Shell Oil Company Work progressing 50% complete
- 596-M Store Building #3 C.D. Joseph Work progressing 50% complete
- 597-RC Addition to Mart Preliminary sketches rejected as not complying with Uniform Building Code.
- 598-RC Legal Descriptions of Churches and Clubs Sites 50% complete
- 599-MM 1952 Street Improvement Study 50% complete
- 600-RC McVicker Building #5 Legal Description 90% complete
- 601-RC Legal Description C. D. Joseph Building #4 90% complete
- 602-RC Legal Description McVicker Building #4 90% complete
- 603-RC Legal Description McVicker Building #3 50% complete
- 604-RC Joseph Investment Building #3 Legal Description 90% complete
- 605-PR Erosion Control Study being made for preparation of Project Proposal
- 606-RC Legal Description 89 Lee 50% complete
- 607-M Maintenance Roads and Streets 75% complete
- 608-MU Elimination of Odors Emanating from Sewage Lift Station Study is 2% complete
- 609-M Plan Checking Store Bldg. #4 for C. D. Joseph Plans not yet received.

REAL ESTATE SECTION

SUMMARY

OCTOBER

ORGANIZATION AND PERSONNEL:

| | BEGI | NNING OF MONTH | END OF | HTMCM |
|---|----------|----------------|----------|--------------|
| Commercial Property Unit | Exempt 7 | Non-Exempt 6 | Exempt 6 | Non-Exempt 6 |
| Housing & Real Estate Maintenance Unit | 22 | 196 | 22 | 170 |
| | 29 | 202 | 28 | 176 |

Net decrease of employees for month of October 26

GENERAL

Richland Wallpaper and Paint Store, located in the Uptwon Theater Building, commenced business operation during the month of October.

"Wileys's Casual Wear" located in the Richland Investment Building, commenced buiness operation during the month of October.

COMMERCIAL PROPERTY - REAL ESTATE SECTION

OCTOBER, 1951

PERSONNEL - COMMERCIAL PROPERTY:

| | October |
|--------------------|---------|
| Beginning of month | 13 |
| End of month | 12 |
| Net difference | 1 |

PERSONNEL - CONTENCIAL AND MONCOMMERCIAL FACILITIES:

| • | Commercial | Noncommercial | Total |
|----------------|------------|---------------|-------|
| September | 1,232 | 107 | 1,389 |
| October | 1,303 | 111 | 1,414 |
| Net difference | 21 | 4 | 25 |

SUMMARY OF ROUTLE ITEMS PROCESSED:

| | Commercial | Moncommercial | Total |
|----------------|------------|---------------|-------|
| Work Orders | 19 | 2 | 21 |
| Back Charges | 1 | 0 | 1 |
| Service Orders | 17 | 0 | 17 |
| Total | 37 | 2 | 39 |

CONTRACTS AND NEGOTIATIONS:

A. Commercial:

1. Assignment of Lease:

Automatic Laundry Company - Automatic Laundry Company, assignor, to Cannon Service Company, assignee, for the continued operation of coin-operated washing machines in each of the dormitories in Richland, Washington.

2. Letter of Award:

The following individuals were awarded ground sites to construct privately—owned business buildings as follows:

- (a) Chalmer D. Joseph Block 6, Uptown Business District, Investment Building - 1101 frontage
- (b) Virgil O. McVicker Lee Boulevard and Goethals Drive, Investment Building 2 stories - retail shops on 1st floor with apartments on second floor.
- (c) Virgil O. McVicker Dlock 2, Uptown Business District, Investment Building 130/ frontage - 3 levels.

B. Noncommercial:

1. Leases:

- (a) Redeemer Evangelical Lutheran Church, providing for the operation and maintenance of a Government-owned building, No. 137-X, located on Goethals Drive.
- (b) Northwest United Protestant Church, covering the construction, operation and maintenance of a church building, located north of the intersection of Williams Boulevard and Sacramento Street, Richland, Washington.

2. Contracts of Sale;

- (a) Richland Riders Club Covering the sale of Government-owned equipment.
- (b) Richland Assembly of God Church Covering the sale of Government-owned equipment.

SURTIARY OF OCCUPATION AND EXPANSION STATUS:

| A. | Com | nercial: | September | Cctober |
|-----------|------|---|-----------|---------|
| | 1. | Number of Government-owned buildings | 37 | . 37 |
| | | (a) Number of businesses operated by prime lessees | | 41 |
| • • • • • | , F. | (b). Number of businesses operated by sublessees | : 16 | 16 |
| | | (c) Total businesses operating in Government-owned building | ngs 57 | 57 |
| | 2. | Number of privately-owned buildings | 41 | 41 |
| | | (a) Number of businesses operated by prime lessee | | 38 |
| •. * | | (b) Number of businesses operated by sublossees | 32 | 3/+ |
| | | (c) Total businesses operating in Primately-owned buildi | ngs 70 | 70 |
| .: - | 3. | Total number of businesses in operati | on 12; | 129 |

| COLLERCIAL | PROP | erty - real estate section | October, 1951 | | |
|------------|------|--|---------------|---------|--|
| | 4• | Doctors and dentists in private practices, leasing space in Government-owned buildings | 21 | 21 | |
| | 5• | Privately-owned buildings under construction. | | 3 | |
| ₿. | Hon | commercial: | September | October | |
| | ı. | Government-owned buildings | | | |
| | | (a) Churches | 4 | 4 | |
| • | | (b) Clubs and organizations | 9 | 9 | |
| | | (c) Government agencies | 3 | 3 | |
| | | Total | 16 | 16 | |
| | 2. | Privately-owned buildings | | | |
| • | | (a) Completed and in use | 6 | 6 | |
| • | | (b) Under construction | 6 | 6 | |
| | | (c) Sites tentatively allocated or in process of negotiations | leases 6 | 6 . | |
| | | Total | 18 | 18 | |
| | 3. | Pasture Land Assignments | 35 | 35 | |

GEHERAL:

A. Commercial:

- 1. C. D. Joseph construction work was started on Building 3 to be located at Block 6, Uptown Business District.
- 2. C. D. Joseph construction work was started on Building #4 to be located at Dlock 5, Uptown Business District.
- 3. Uptown Theatre Richland Wallpaper and Paint store, located in the Uptown Theater Building, commenced business operations on October 4.
- 4. Paul Eichorn's Wiley's Casual Wears, located in the Richland Investment Building, opened for business.

COLUMNICIAL PROSPECTS:

A number of applicants expressed an interest during the month in establishing and operating businesses in Richland. Inquiries were received con-

COLHERCIAL PROPERTY - REAL ESTATE SECTION- October, 1951

cerning the following type of commercial enterprises:

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หากหรือเหมาะสาร เกิด (การ) ก็การกับ รายเดือน การกับกระบัญหนายกรุงการ เป็นอัน (เมาะเปรียบหาพาพันธ์) พ.ศ. 1917 (การกับการการ) เดือนการการกรุงการการกับได้เหมาะเพลาะเกิดเกิด (การกับการการกับการการกับการการกับการก

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Sporting Goods Store Automobile Agency Notel Automotive Garage Motel Drive-in Theater

Funeral Home

Commence of the formation of

and the second of the second o

HOUSING AND REAL ESTATE MAINTENANCE UNIT

October, 1951

ORGANIZATION AND PERSONNEL

October 2.0.:

at front of the company Specific

Number of employees on payroll:

Beginning of month

22 Exempt Employees

196 Non-Exempt Employees

218

218

End of Month

22 Exempt Employees
170 Non-Exempt Employees

192

192

NOTE: The Reduction of Force was primarily in the Carpenter craft.

315

....

IN SILE

Richland Housing
Housing Utilization as of Month Ending October 31, 1951

| Houses occupied by Family Groups | Conven tional | | T | Pre cut | Ranch | Pre fab | Apt | 4th Add | Tract | Total |
|--|--------------------|---------------|----|-------------|----------------|------------------------|-------------|---------------|--------------|-------------------------|
| G.E.Employees Commercial Facilities Community Activities | 2217 87 9 | 256 11 | 9 | 380 30 | 827 74 7 | 1150 61 4 1 | 057 8 | 16 0 6 | 39 5 1 | 5095 283 21 24 |
| Medical Facilities Post Office A.E.C. and other Government Schools | 5 6 88 48 | 15 30 1 | | 17 5 | 3 38 12 | 12 16 56 | 1 | 2 1 8 | 3 4 | 25 202 123 |
| Vitro Corporation Atkinson Jones Newberry-Neon | 6 8 3 | 3 13 1 | | 4 3 1 | 11 | 4 | 1 2 1 | 1 | | 29 41 7 |
| Vernita Orchards J.G.Turnbull Robert's Filter Co. | 1 | | | | - | 1 | | | 4 | 4 1 1 2 2 |
| V.S.Jenkins Hanley Co. Urban-Smythe-Warren Charles T. Main | | ; <u>,</u> | | 1 | 1 1 3 | 8 | 1 | 1 | | 2 2 12 |
| Total Houses Occupied | 2478 | 330 | 10 | 441 | 989 | 1317 | 72 | 180 | 56 | 5873 |
| Houses assigned-Leases writt Houses assgnLeases not wri Houses available for assignm | tten3 | 3 | | 2 5 2 | 1 3 7 | . 6 2 <u>1</u> 7 | | 12 11 1 | | 31 27 38 |
| | 2500 | 333 | 10 | 450 | 1000 | 1342 | 74 | 20/ | , 56 | 5969 |

| | Begin Month | Moved In | Moved Out | Month End | Difference |
|-------------------------|----------------|---------------|--------------|--------------|------------|
| Conventional Type | 2479 | <i>5</i> 7 | 58 | 2478 | Minus 1 |
| Block Type | 329 | 6 | 6 | 329 | • |
| птп Туре | 10 | 2 | 2 | 10 | |
| Precut | 443 | 21 | 21 | 443 | |
| Ranch Type | 996 | 20 | 28 | 988 | Minus 8 |
| Prefab type | 1319 | 79 | 81 | 1317 | Minus 2 |
| Apartments | 73 | .4 | 5 | 7 2 | Minus 1 |
| Fourth Housing Addition | 97 | 85 | 2 | 180 | Plus 83 |
| Tract | 56 | 1 | 1 | 56 | |
| Total | 5749 | 275 | 204 | 5873 | Plus 71 |

DORMITORY STATISTICS

Dormitories:

| | | Occupants | Vacancies | Total Beds |
|------------------|----|-----------|-----------|------------|
| Men Occupied | 15 | 616 | | 616 |
| Men Unoccupied | | | | |
| Women Occupied | 12 | *481 | | 481* |
| Women Unoccupied | | | | |

Women's Dormitories Occupied by:

| G. E. Office | 2 |
|--------------|---|
| Education | 1 |
| Apartments | 1 |

*This includes space of 2 beds in W-9 used for supply rooms and dormitory offices.

There are 250 men waiting for rooms in Richland. There are 23 women waiting for rooms in Richland.

GENERAL ALLOCATION SECTION STATISTICS

| Houses Allocated to new tenants | 132 | Voluntary Terminations | 36 |
|---------------------------------|-----|--------------------------------|-----|
| Exchanged Houses | | R.O.F. | 1 |
| Moves (Within the Village) | 125 | Discharge | 0, |
| Turnovers | 9 | Transfers | 8 |
| Total Leases Signed | 275 | Retirement-Divorce-Death-Misc. | 2 |
| Terminations | 56 | Houses Assigned "As Is" | 130 |
| Total Cancellations | 204 | Move Off Project | 8 |
| Applications Pending | 669 | Houses sent to Renovation | 78 |

DORMITORY REPORT FOR OCTOBER, 1951

256 MINOR REPAIRS TO FUSES, PLUMBING, ETC.

21 WORK ORDERS STEAM, GLASS, EQUIPMENT, ETC.

143 PIECES OF FURUITURE REPAIRED.

41 HOUSEKEEPING CONTACTS.

334 LIGHT GLOBES REPLACED.

59 ROOMS VACATED.

LINE'S LAUTTERED

8,689 SHELTS
4,438 PILLOW CASES
272 BED SPREADS
43 BED PADS
242 SHOWER CURTAINS
0 PAIRS DRAPES

REMARKS

| MISCELLANECUS | STCRES | WAREHOUSE | INVENTORY | SUMMARY |
|---------------|---------|-------------|-----------|---------|
| MOTOR PUT | ים הודר | TORER 33. ' | 1951 | |

| EXPENDIBLE (F. RITUME (ADLIN CONT) ACCOUNT TOTAL ITEMS (ADLIN CONT) ACCOUNT (ADDEX CONT) ALLO (ADDEX CONT) ADDEX CONT (ADDEX CONT) ADDEX CONT (ADDEX CONT) ADDEX (ADDEX (ADDEX CONT) ADDEX (ADDEX CONT) ADDEX (ADDEX (ADDEX (ADDEX (ADDEX (ADX | 50 E 1920 TO 17 17 | MONTH ENDING | CCTOBER 31. | <u> 1621</u> | | A SAME. |
|--|----------------------------|-------------------------|---------------------------|---|--|--|
| Section Sect | | | TITURE FULL LEDGER) (| RETTURE ANDEX CONT) | ACCOLPT | TOTAL |
| Grass from A.E.C. On Purchase Orders 522.50 On Store Orders 189.83 From Excess From Housing 166.63 From Dormitories 33.69 208.00 100.50 From Other (Hisc) 26.48 3,506.83 (1) 3,506.83 (1) TOTAL RECEIPTS 939.13 3,506.83 4,573.34 8,562.56 TOTAL AVAIL BLE DISBURSE ENTS: 336,047.35 \$10,966.06 \$11,365.25 \$043,095.63 Cash Sales (Brok- To Excess cherges) To Salvege To 4th Housing 2,446.82 49.57 2,875.72 To Dormitories 507.65 143.41 167.83 To Dorm - Linens 75 Dorm-Shades & Reflectors3.63 To Werehouse Supplies 40.29 To Other (Misc.) 249.96 I4,245.19 (1) TOTAL DISBURSEMENTS 317.601.75 192.98 \$5.356.23 ENDING BLANCE (i) (2) (4) \$13,446.10 10.960.06 11.672.27 42.739.40 \$72.151.56 NET CHANGE (1) (2) (4) \$13,446.10 10.960.06 11.672.27 42.739.40 \$72.151.56 | BECINNING BALANCE \$35,1 | 08.72 \$ 7,4 | 59.23 🧸 🧯 7 | 291.91 | 39,533.07 | \$82,101.02 |
| On Furchase Orders 522.50 On Store Orders 189.33 From Excess From Housing 166.63 From Dormitories 33.69 From Other (lijsc) 26.48 TOTAL RECEIPTS 939.13 3,506.33 4,573.34 3,562.56 TOTAL AVAIL BLE DISBURSEMENTS: 936,047.35 \$10,966.06 \$11,365.25 \$043,095.63 Cash Sales (Brck- TO Salvege To 4th Housing 2,446.32 49.57 2,875.72 To Dormitories 507.65 143.41 167.83 To Dorm Linens .75 Dorm Linens .75 Dorm Shades & Reflectores.63 To Werehouse Supplies 40.29 To Other (Misc.) 249.96 I4,245.19 (1) TOTAL DISBURSEMENTS \$17,601.75 192.98 5.356.23 ENDING E.LANCE (i) (2) (4) \$13,446.10 10.960.06 11.672.27 142.739.40 \$72.151.56 NET CHANGE \$15.652.62 3,506.33 4,300.36 3,206.33 | | | | interes de la companya del companya della companya della companya de la companya de la companya della companya | 5,320.00 | |
| On Store Orders 189.83 From Excess From Housing 166.63 From Dormitories 33.69 From Other (litsc) 26.48 TOTAL RECEIPTS 939.13 3,506.83 (1) TOTAL AVAIL BLE DISBURSEMENTS: 336,047.35 010,966.06 011,365.25 043,095.63 Cash Seles (Back- To Excess Charges) To Salvage To 4th Housing 2,446.32 49.57 2,875.72 To Dormitories 507.65 143.41 167.83 To Dorm Linens Dorm Linens To Werchouse Supplies: 40.29 To Other (Misc.) 249.96 I4,245.19 (1) TOTAL DISBURSEMENTS \$17,601.75 192.98 55.356.23 ENDING BLENCE (i) (2) (4) 113,446.10 10.966.06 11.672.27 42.739.40 572.151.56 NET CHANGE 125.652.62 3,506.33 4,300.36 3,206.33 | On Purchase Orders 5 | | | | | |
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| 3,506.83 (1) 3,506.83 (1) TOTAL RECEIPTS | | | | 358.51 208.00 | | • • • |
| 3,506.83 (1) 3,506.83 (1) TOTAL RECEIPTS 939.13 3,506.83 4,573.34 8,562.56 TOTAL AVAIL BLE DISBURSEMENTS: 936,047.35 \$10,966.06 \$11,865.25 \$043,095.63 Cash Sales (Back-To Excess charges) To Salvage To 4th Housing 2,446.82 49.57 2,875.72 To Dormitories 507.65 143.41 167.83 To Dorm Linens 75 Dorm Linens 75 Dorm Shades & Reflectors3.63 To Warehouse Supplies 40.29 To Other (Misc.) 249.96 14,245.19 (1) TOTAL DISBURSEMENTS \$17.601.75 192.98 5.356.23 ENDING BLANCE (i) (2) (4) \$13,446.10 \$10.960.06 11.672.27 442.739.40 \$72.151.56 NET CHANGE \$13,552.62 3,506.33 4,330.36 3,206.33 | | 26.78 | | | Taken Taken and Taken and T | |
| TOTAL AVAILABLE DISBURSEMENTS: 336,047.35 \$10,966.06 \$11,365.25 \$043,095.63 \$\$ Cash Sales (Back_ 102.46 | | 3,5 | 06.83 (1) 3 | ,506.83 (1) | | |
| DISBURSEMENTS: 336,047.35 \$10,966.06 \$11,365.25 \$043,095.63 Cash Sales (Back- 102.46 To Excess Charges) To Salvage To 4th Housing. 2,446.32 49.57 2,875.72 To Dormitories 507.65 143.41 167.83 To Dorm Linens .75 DormShades & Reflectors3.63 To Warehouse Supplies 40.29 To Other (Misc.) 249.96 I4,245.19 (1) TOTAL DISBURSEMENTS \$17.601.75 2 192.98 \$5.356.23 ENDING ELLINCE (1) (2) (4) \$13,446.10 \$10,960.06 \$11,672.27 \$42,739.40 \$72.151.56 NET CHANGE \$15,002.62 3,506.33 4,300.36 3.206.33 | TOTAL RECEIPTS \$ 9 | 39.13 👶 3,5 | 06.83 & 4 | ,573.34 | 8,562.56 | |
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| I4,245.19 (1) TOTAL DISBURSEMENTS \$17.601.75 192.98 5.356.23 ENDING BALANCE (1) (2) (4) \$18,446.10 \$10.960.06 \$11.672.27 \$42.739.40 \$72.151.56 MET CHANGE (1) (2) (3) (4) (4) (4) (4) (5) (6) (3) (4) (4) (4) (5) (6) (3) (4) (4) (5) (6) (3) (4) (3) (4) (4) (5) (6) (3) (4) (4) (4) (4) (5) (6) (3) (4) (4) (5) (6) (3) (4) (4) (4) (5) (6) (3) (4) (4) (6) (7) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) </td <td>To Warehouse Supplies:</td> <td>40.29</td> <td>•</td> <td>£</td> <td></td> <td>. Commi</td> | To Warehouse Supplies: | 40.29 | • | £ | | . Commi |
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| EXC: migED: | | <u>CO: +:</u> | grand the first of the second |
|---------------------------|---|---------------|--|
| Dorm. Furniture Ranges | 04 430 (304) 40 2 , 49 (47) 3 0 | (1) | Adjustment to agree with physical |
| Refrigerators | S -1, € 1, € 1, € 1, € 1, € 1, € 1, € 1, € | ** · · | inventory taken 6/30/51. 44 1989 |
| Prefab Heaters | 16 | • | and the second of the second o |
| 42) | and the second second | | and the second of the second o |
| | | • | The second second |
| 2 | Report To the Control of | | State of the state of |

To be agreed to accounting and most

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TENANT RELATIONS WORK ORDER AND PROGRESS REPORT - MONTH OF OCTOBER, 1951

| Processing of Service | Orders Incomplete as of September 30 | Orders Issued | Total Orders Incomplete as of |
|---|---------------------------------------|--------------------|-----------------------------------|
| Service Orders Work Orders Service Charges | 490 2011 70 | 2769 587 404 | 304 1851 52 |
| Principal Work Order Lo | ads Incomplete as September 30. | · · | complete as of tober 31, 1951 |
| Laundry tub replacement Bathroom Renovations (t Tileboard Only (Bathroo Kitchen Cabinet Linoleu Kitchen Floor Linoleum Shower Stalls | ub, lino., tile)136 m) 0 | • | 109 125 0 34 7 111 |

Alteration Permits Issued During the Month of October totaled 106 compared to 79 issued in September.

| Floor sanded | 2 | Install driveway | 1 |
|---------------------------|-------|--------------------------------|---|
| Install storage shed | 1 | Install water softener | 5 |
| Install air conditioner | 2 | Reverse range and refrigerator | l |
| Install auto. dishwasher | · 1 | Install coal stoker | 6 |
| Install fence | 11 | Install deep freeze | 1 |
| Install auto. washer | 25 | Remove shelves | 2 |
| Install auto. dryer | 20 | Install basement partitions | 2 |
| Basement excevations | 5 | Install shadow box | 1 |
| Install oil burner | ·· 14 | Raise threshold | 1 |
| Install radio antenna | 1. | Install gas heat system | 1 |
| Install electrical wiring | 1 | Change range and refrigerator | 1 |
| Install clothes poles | 1 | | |
| | • | | |

1786 Inspections were made during the month of October compared to 1517 made during September.

| Alteration permits | 16 | Kitchen Inspections | o |
|--------------------|------|---------------------|-----|
| Bathtubs | 59 | Sinks | 10 |
| Cupboards | 5 | Tileboard | 31 |
| Floor boards | 11 | Toilet scats | 50 |
| Grass seed | 69 | Top soil | 14 |
| Screen doors | 32 | Cancellations | 174 |
| Jack & Shim | 12 | Renovations | 253 |
| Excavate basement | 0 | Shows (New Tenants) | 216 |
| Leaking basements | 19 | Walls | 25 |
| Linoleum | 131 | Windows | 46 |
| Lot lines | 40 | Miscellaneous | 310 |
| Paint | 209 | Drainage | 6 |
| Porch & Steps | . 12 | Driving on grass | 5 |
| Shades | 1 | Sidewalks - | 24 |
| Shower stalls | 26 | | |

REAL ESTATE ENGINEERING UNIT

Following is the status of projects being handled by this unit:

S-321, Re-arrangement of Steam Valve Pits at Dormitories (Subcontract No. G-405, Weston Plumbing Company)

The subcontractor started work October 3, 1951. Construction approximately 65 percent complete.

S-379, Interior Painting - Prefabs

Project completed June 30, 1951. Payment to subcontractor of final estimate withheld pending agreement on final quantities.

S-477, Service Access Panels in "U" and "V" Type Houses

Project completed October 5, 1951. "Project Physical Completion Notice" issued October 19, 1951.

144

11:

C-448, Rehabilitation of 1341 Prefab Houses

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Project completed September 28, 1951, "Project Physical Completion Notice" issued October 18, 1951.

37

• North 13 (1999) 1994 | 1995 | 1995 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996

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HOUSING AND REAL ESTATE MAINTENANCE

October, 1951

1. ORGANIZATION AND PERSONNEL

| | | Exempt | Non-exampt | Total |
|----|---|-----------|------------|-------|
| A. | Beginning of month: | 13 | 155 | 168 |
| B. | End of month: | 13 | 129 | 142 |
| | End of month: II. MAINTENANCE REALTY-BAC | K-LOG REP | ORT | |

| TYPE OF WORK | OLDEST ISSUE DATE | BACK-LOG | RATE OF REPLACEMENT |
|---|----------------------|----------|---|
| tile board (bath) floor lineleum (bath) | 12/50 | 125 | |
| Tile Board - A & J (other than tub installation) | | | None |
| Tile Board - Conventional (other than tub installation) | None | None | None |
| Painting (Misc.) | 9/51 | | as notified |
| Kitchen floor linoleum(Prefabs) | 10/51 | 2 | 1 per day |
| Kitchen floor linoleum(Conven.) | 10/51 | 5 | l per day |
| Bath floor linoleum (Prefabs) | 11/50 | Ţ. | None (holding for shower stall instln.) |
| Bath floor linoleum (Conven.) | 10/51 | 2 | None (holding for shower stall instln.) |
| Kitchen sink linoleum(Prefabs) | 10/51 | 17 | 12 per week |
| Kitchen sink linoleum(Conven.) | 10/51 | 17 | 13 per week |
| Shower Stall Installations | 12/50 | 111 | No progress lately; lack of material. |
| Prefab Cupboard doors | None | None | None |
| Laundry Trays | 2/51 | 109 | varies 8 to 10. |

Heavy Maintenance

| TRUCK TYPE | NUMBER I | V POSSESSIOM | CRAFT |
|--|--------------|---|---|
| l\frac{1}{2} ton Flatbed Cushman Scooter 1/2 ton Pickups 3\frac{1}{2} ton Dump trucks 1/2 ton Pickup 3/4 ton Power Wagon 1/2 ton Pickups Panels 3/4 ton Walkin Panels 1\frac{1}{2} ton Flatbed 1/2 ton Pickups 1/2 ton Pickups 3/4 ton Pickups 3/4 ton Pickups | Subtotal: | 8 1 9 2 1 1 2 2 2 1 2 2 2 4 3 | Carpenters Carpenters Carpenters Laber Labor Labor Sheetmetal Millwrights Millwrights Painters Painters Plumbers Plumbers |
| SERVICE ORDERS | | | • . |
| 3/4 ton Pickups 1/2 ton Pickups 1/2 ton Pickups 1/2 ton Pickups 1/2 ton Pickup 1/2 ton Pickup | Subtotal: | 2 2 4 2 1 1 12 | Plumbers Plumbers Electricians Carpenters Locksmith Glazier |
| RENOVATIONS | | | |
| Chevrolet Carryall | Subtotal: | 1 2 3 | Painters and Janitresses Carpenters |
| GENERAL | | | |
| Sed ans | Subtotal: | 2 : | Supervision |
| EXCESS | | ž - 19 | |
| $l_2^{\frac{1}{2}}$ ton Flatbed | Subtetal | 2 2 | Unassigned |
| in the second second | GRAND TOTAL: | 59 | en e |

IV. PROGRESS RL.CRT

A. CYCLE PAINTING:

A total of 89 houses had miscellaneous carpenter repairs, and were painted on the interior.

 Si_{X} (6) basement walls were sealed to stop leaks.

Ninety-five (95) miscellaneous paint jobs were completed throughout city.

B. LINOLEUM AND TILE:

- 78 houses had floor linoleum_replaced.
- 150 houses had sink and table top linoleum replaced.
- 48 houses had bathtubs replaced.
- 56 houses had tile board installed in shower recess.
- 760 houses had sinks, tile board and tubs chempointed.

This group consists of ll carpenter journeymen and 2 plumber journeymen. Carpenters are assigned to the following work: three carpenters on Chempointing, one carpenter on tub installation, one carpenter on tile board installation, one carpenter on bathroom floor linoleum, 2 carpenters on kitchen floor linoleum and three carpenters on sink linoleum.

C. CARPENTRY GENERAL:

2000

The following is the work completed by the Carpenter, General Group:

| | · · · · · · · · · · · · · · · · · · · | |
|---------------|---------------------------------------|--|
| . 4 | Floors repaired: | 7 |
| 82 | Sash balances installed: | 5 |
| Э. | Windows repaired: | 12. |
| 11 | Doors repaired: | 10 |
| . 2 | Houses repaired for Paint. | 4 |
| 8 | Weep holes drilled: | 1 |
| 10 | Step forms installed: | 3 |
| nim:12 | Replaced shakes: | . 3 |
| | 11 2 -8 10 | 82 Sash balances installed: Windows repaired: 11 Doors repaired: 2 Houses repaired for Paint. 8 Weep holes drilled: 10 Step forms installed: |

D. CARPENTER SHOP:

Routine work such as filing of saws, sharpening of tools, repair of ladders, repair of office furniture, upholstering of furniture and shop painting continued throughout month.

| 1100 Area new screen doors, installed: | 7 |
|--|---------------------|
| 1100 Area screen doors repaired: | 14 |
| 1100 Area window screens repaired: | 16 7 H v 36 dp C |
| K. V. Chairs reupholstered: | 7 |
| K. C. Chairs reupholstered: | 3 |
| Tarpolians made: | 12 |

E. GENERAL PLITPING:

1194106

The following is a summary of the work completed by the work order Plumbing group for the month of October.

Replaced 14 bathtubs.
Replaced 24 water heaters.
Replaced 37 shower valves in Prefabs.
Replaced 109 laundry tubs.
Cleaned 24 sewers clossed with roots and etc.
Completed 42 plumbins work orders such as repairing leaks, replacing broken water lines, broken fixtures, etc.
Completed 119 linoleum repairs such as removing and replacing kitchen sink

faucets, removing and replacing toilet bowls so bathroom linoleum can be laid.

Removed 10 grease traps from Commercial buildings and reconnected waste line direct to sewer.

Completed 42 steam work orders replacing valves, rusted out pipe and leaking condensate lines.

Steam check once a week on Dormitories and all commercial buildings. Winterized government owned air conditioners in commercial buildings and dormitories.

Completed 13 bathroom faucet repair work orders.

Repaired 16 water heaters in hangar.

Converted heating system in Municipal building from hot water to steam. Worked on Service orders 3.5 hours.

F. MILLWRIGHTS:

- Two men have been on furnace service orders and routine service calls.
- 2. One man has been on shop jobs, routine maintenance and lubrication in Commercial facilities.

G. SHEETMETAL:

- 1. This group has made and installed 37 shower stalls in past month.
- 2. About 100 smoke pipes have been made and installed in old conventional type houses.
- 3. Numerous small jobs have been done by this group, such as making door latch keepers, repairs to air coolers, patch work on furnaces, etc.

H. RENOVATION:

During the month 86 units of housing were processed through renovation group.

I. SERVICE ORDER GROUP:

The following is a status report of Service Orders:

| On hand at the beginning of month: | 490 |
|------------------------------------|------|
| Received during the month: | 2955 |
| Completed during the month: | 3141 |
| On hand at the end of the month: | 304 |

A. Plumbing:

Has a backlog of approximately 169 Service Orders and 10 Renovations Work Orders.

153 of these orders are for the replacement of rusted out kitchen sink strainers and traps. We are making slow progress on this item due to the lack of friction rings that are necessary in this type of work.

POOR QUALITY ORIGINAL

| B. Electrica. | | es la Emperado mo | lers and is steadily on | the |
|---|---|---|--|---------------|
| increas | e and on pure least | | ers and is steadily on | |
| C. Locksmith | | rija ir davidas . Janah Jana Jana ir | d continues on the incre | ase. |
| | • Control | | | |
| D. Carpentry | y: no backlos | | | |
| | | .• | | • |
| E. Glazing: | | أوالم المراجع | | |
| during | the Glazier s | , 444 | | |
| LABOR: | production of the second | • | ng katang at managan sa | veen |
| | | pairs to all parking of are in progress. | ompounds and driveways e | iii) |
| | | | ith•sacement side of a | |
| J. About s | ix orders have h | been completed for reverse been completed, su | moval of trees. ch as, disting up sewer | clean nd |
| 3: About s | ix orders have h | been completed for re | moval of trees. ch as, disting up sewer | clea: nd |
| 3: About s | ix orders have h | been completed for reverse been completed, su | moval of trees. ch as, disting up sewer | |
| 4. Numerou outs an | ix orders have has small jobs had oil tanks; rand foundations | been completed for reverse been completed, su | moval of trees. ch as, light up sewer ainage; backfilling aroustions of shubbery. | |
| About s 4. Numerou outs an outs steps a | ix orders have has small jobs had oil tanks; rand foundations | been completed for reve been completed, su ading parkways for in and clearing interseq | ch as, light up sewer ainage; backfilling arou tions of shubbery. | 7.43 <u>.</u> |
| About s 4. Numerou outs an outs steps a | ix orders have has small jobs had oil tanks; rand foundations | been completed for reve been completed, su ading parkways for in and clearing intersec | ch as, disting up sewer ainate; backfilling aroutions of shubbery. | |
| About s 1. Numerou Outs an Outs an | ix orders have has small jobs had oil tanks; rand foundations | been completed for reve been completed, su ading parkways for in and clearing intersec | ch as, diging up sewer ainage; backfilling arou tions of shubbery. | |
| 4. Numerou outs an | ix orders have has small jobs had oil tanks; trand foundations | been completed for reve been completed, su ading parkways for in and clearing intersec | ch as, diging up sewer ainage; backfilling arou tions of shubbery. | |
| About s 1. Numerou Outs an Outs an | ix orders have has small jobs hand oil tanks; trand foundations | been completed for reve been completed, su ading parkways for in and clearing intersec | ch as, diging up sewer ainage; backfilling arou tions of shubbery. | |
| About s 4. Numerou outs an outs an steps a | ix orders have has small jobs had oil tanks; ir and foundations | been completed for reve been completed, su ading parkways for in and clearing intersec | ch as, diging up sewer ainage; backfilling arou tions of shubbery. | |

7 L.

700-1100-3000 AREA SERVICES SECTION MONTHLY REPORT OCTOBER 1951

700-1100 MAINTENANCE & STEAM UNIT

General Maintenance:

The crating, banding, shoring and preparation of materials for excessing involved approximately 300 man-hours, the time of two carpenters for most of the month.

Rearrangement of personnel in the 700 Area office buildings necessitated the moving of some partitions, lighting, buzzers, shelving, cabinets, etc., plus erection of approximately 300 feet of Hauserman partitions, 140 feet of which was enclosed to ceiling height.

Leaking roofs were repaired on 1131 Buildings, 729-A, 702 and 712 Buildings.

Center striping of Area and Inter-area roads was performed as weather permitted.

Interior painting at the hospital is on a one-painter basis, painting being done as patients are moved about and rooms become vacant. Miscellaneous signs and name plates were made. Five hundred metal bottle boxes were numbered and lettered for the hospital.

Shop work was completed on three Civil Defense siren units and they were released for tower installation.

Desert coolers both inside and outside buildings have been winterized, irrigation shut off, lines drained and sprinkling equipment stored.

Two damaged concrete bath tubs at the hospital were replaced with steel tubs and the shower areas were protected with tile board.

Inspection and repair of radiator riser pipes, valves and traps in 703 Building is approximately 60% complete. Because of eroded condition it has been necessary to replace both condensate and steam risers to the radiators.

Considerable work was necessary on heating coils, lines and traps on the 1131 heating system.

Regular schedule of routine and minor maintenance work was centinued during the month.

Steam Operation:

Two boilers were in operation at the 784 heating plant during the month. Heating steam was turned on for all buildings served, with all connected during the last half of the month.

Night firing at the 1131 heating plant began on October 8 on a one-shift basis. On October 16 weather conditions necessitated around-the-clock firing on a seven-day week basis

Soft water consumption at Kadlec Hospital steadily decreased during the month to a present usage of approximately 72,000 gallons per day, or half the August usage. Soft water service was on a full time basis.

The Market Committee of the Committee of

Coal deliveries are being increased at 784 heating plant to permit stock piling of three to four cars per week.

| Steam Generated | | | Total Water Softened | 5,173,100 | Gals. |
|-------------------------------------|------------|--------|--|-----------|-------|
| Steam Leaving Plant Steam Delivered | | . lbs. | Soft Water Sent to Kadlec Hospital | 2,675,200 | Gals. |
| Coal Consumed | 1 1/80 5 N | | Soft Water Used at 784 Heating Plant———— | 2.497.900 | Gals. |

NORTH RICHLAND FIRE

| Alarm No. | Response to Alarms | Cause for Alarms | How Received |
|---|---|--|---|
| 121 122 123 124 125 126 127 128 129 | Trailer at 806 "F" Bks. 220-C on Stevens Drive Car near Heavy Equip. Yard Trailer at 320 "I" Bks. 185 at 2nd Car in Hospital Parking Lot Bremerton House at 503 "B" Army Whse. #1236 on "W" Bks. 200-C on Stevens Drive | Overheated Oven Accidental Alarm Weeds & Rags Ignited by Friction Overheated Oil Stove False Alarm Improper Operation Improper Operation of Oil Furnace Torch Ignited Cheese Cloth False Alarm | Box Phone Phone Box Phone Phone Phone Phone Box |
| 130 131 132 133 | Trailer at 708 "F" Bks. 136-C at 2nd & "Q" Bath House #14 on 4th & "C" Trailer at 1001 "E" | Smoke Scare Welding Radiator in Equipment Rm. Backfire from Oil Furnace Faulty Gas Range | Box Phone Verbal Verbal |

Date Investigations

- 10-2-51 Barracks 416 on 6th & "Q". Overheated steam radiator activated Protecto wire.
- 10-19-51 Bath House #8, 300 block on "C". Probable short in motor of heater fan.
- 10-19-51 Trailer at 825 "L". Overheated oil stove.
- 10-27-51 Phillips 66 Service Station. Solvent barrel leaking contents.

General:

On Alarm No. 131 there was a \$3.50 Hanford Works loss.

There were three safety and security meetings; 13 inside drills and schools; and 18 outside drills held during the month.

Seventy-four fire alarm boxes were tested; 58 extinguishers charged; and 135 fire hydrants tested.

Two firemen attended Advance First Aid Class in Richland.

Stand-by protection for controlled burning was furnished on George Washington Way and at south end of Lumber Yard.

Fire Prevention demonstrations were made during week of October 14.

The water system in Army warehouse district was inspected.

NORTH RICHLAND PATROL

General:

Two hundred two warning tickets, mainly for illegal parking, were issued by Patrol.

Twenty-six traffic citation tickets were issued as follows: 9 for Stop Sign Violations, 1 for Passing In No-Passing Zone, 12 for Illegal Parking, and 4 for No Operator's License.

Thirty-two persons were incarcerated in Richland jail for the following reasons: 19 for Public Intoxication 9 for Operating A Motor Vehicle While Under The Influence Or Affected By The Use Of Intoxicating Liquors, 1 for Operating a Vehicle While Driver's License Revoked, 1 for Public Nuisance, 1 for Third Degree Assault, and 1 for Breaking And Entering.

Thirty-eight inquiries regarding formerly employed General Electric and construction personnel were answered. These inquiries came from Civil Service Commission, U. S. Army, U. S. Navy and the duPont Company.

All fire, safety and traffic hazards observed by Patrol were reported to the proper authorities.

All facilities, buildings, warehouses and the John Ball School were checked daily on No. 1 and 3 shifts, and on all shifts on Sundays and Holidays.

Sixty-four Courtesy Cards which request the cooperation of the driver in helping the Patrol uphold the traffic laws of the State of Washington were placed on automobiles, when violations did not warrant a warning ticket.

Twenty-four weekly hours and 8 monthly hours were spent on escort service from Pasco,

Five firearms were registered with the Arsenal Officer. These firearms belong to people living in the Trailer Camp and Bremerton Houses. Sixty-six firearms were checked out of the Contraband Room during the month.

During the month six prisoners were transported to Prosser, Washington where they were placed in jail to await trial.

There were five automobile accidents in the North Richland Area, with no serious injuries involved.

On Thursdays an Appearance Officer was assigned to Judge E. W. Brown's court in Richland to appear against persons cited to court by North Richland Patrol.

A Staff Meeting was held on 10-23-51 at North Richland Patrol Headquarters.

There are 10 posts in the North Richland Area at the present time; 5 fixed posts and 5 reposts.

Population in North Richland is as follows:

| Trailer Camp | 4.016 | Barracks (Women's)———————————————————————————————————— | 1.411 |
|------------------|-------|--|-------|
| TOTAL POPULATION | 6,256 | 47 | |

Unusual Incident Reports:

| Public Intoxication | Obscene Language |
|--------------------------------------|--|
| Drunken Driving 9 | Auto Accident (Car Theft) |
| Negligent Driving3 | Auto Accident (1 Private Car) 1 |
| Public Nuisance 1 | |
| Assault 1 | Auto Accident (2 Gov.t. Cars) |
| Third Degree Assault | |
| Disorderly Conduct by Juveniles | Investigation (Revoked Driver's License) |
| | Mcense/ |
| | Vandalism 1 Abandoned Urecked Car 1 |
| | Abandoned Wrecked Car |
| Pickup on Grand Larceny Charge 1 | Operating Vehicle While License |
| Attempted Suicide (Overdose of | Revoked |
| Sleeping Pills) | No Operator's License |
| Attempted Breaking & Entering 1 | improper State venicle Operator's |
| Breaking & Entering | License |
| Juveniles in Possession of Beer 1 | |
| Special Services Performed: | |
| Emergency Messages Delivered 56 | Billfolds Returned to Owners |
| Emergency Long Distance Calls103 | False Fire Alarms |
| Western Union Telegrams 4 | Disturbances Investigated 3 |
| Pacific Telegraph Telegrams 3 | Suspicious Persons Investigated 9 |
| Fires (Sig. 12) | Personnel Locked out of Rooms10 |
| Conditions Reported to Maintenance 4 | Warrants Served by Fatrol |
| Escorts to First Aid 10 | Pickup on Superior Court Warrant 2 |
| Children Lost 3 | Stolen Cars |
| Children Found | Recovered Cars |
| Children Bitten by Dogs 2 | Bicycles Reported Lost or Stolen A |
| Complaints on Dogs 3 | Bicycles Found3 |
| Dogs Impounded 12 | Bicycles Returned to Owners 2 |
| Cats Impounded1 | Soldiers turned over to M. P. |
| Billfolds Reported Lost 2 | Detachment for Disposition 7 |
| Billfolds Turned in to Patrol 2 | |
| | Cars Impounded at Headquarters 8 |
| | - • • • • • • • • • • • • • • • • • • • |

Complaints:

Grand Larceny - 3; Petit Larceny - 1; Miscellaneous - 2.

the segment with the modern constitution of the property of the control of the co

| £ 9 3 | | | NORTH | NORTH RICHLAND PATROL OCTOBER 195 | | COURT CASES | ଷା | | | 4) | TOTAL |
|---|-----------------|-------|---------|--------------------------------------|----------------|-------------|----------|-------|----------|---------------------------------------|---------------|
| eq. | 9 | . 0 | ON G | CASES | CASES | SENT. | SENT. | LIC | | TOTAL | BAIL |
| VIOLATION | NO. OF CASES | CONV. | | DISM. | CONT'D, | JAIL | SUSP. | RWKD. | FINES | • ICOC | 000 |
| Illegal Parking | 77. | 7 | ∞ | N | 7 | | • | | 3.50 | | 00.00 • |
| Obstructing Traffic | ч | н | | | | | - | | 5 | 3 | 17.50 |
| Negligent Driving | 7 | 9 | ч | , | | | | | 35.50 | , . | ì |
| Rockless Driving | N | 8 | | | | | | | 3. | | |
| Speeding | ~ | | | Н | | | | | | | |
| Driving While Under Influence of Liquor | 6 | . 7 | | | ત | Н | | 7 | 462.50 | 100.00 | E i |
| Opr. Vehicle While License Rvkd. | α. | N | | | | ~ | | • | | 200,00 | 'i |
| Aid. & Abet. Oper. by Person Under Influen. | 1 | П | | | | | H | | 9 | 00.3 | 22.50 |
| Ran Stop Sign | 7 | 3 | ·60 | | ı | | | | 3 | | |
| No Driver's Lic. | ત્ય | - | | ਜ : • • | | | | | 3 | : 1. | |
| Failure to Yield Right of Way | - | | | | . | | | | 50 | · · · · · · · · · · · · · · · · · · · | 175.00 |
| Public Intox. | 22 | 7 | 17 | • | | | | | | | |
| Break. & Entering | J | ч | | | | - | - | | | 42.50 | |
| Third Degree Assault | 1 | г | | | • | • • : (| | | 52.50 | : | • • |
| Larceny of Auto | 2 | 8 | | | | 8 | | 6 . | \$788.50 | \$352.50 | \$243.00 |
| TOTAL | 73 | 35 | 92 | 4 | 9 `· | . | ? | - | | | |

ORGANIZATION AND PERSONNEL

Termination

| | Begin | ning of Non- | Month | <u>En</u> | d of Mor | <u>ıth</u> |
|---|--------|-----------------|-------|-----------|-------------|------------|
| Number of Employees on Roll: | Exempt | Exempt | Total | Exempt | Exempt | Total |
| North Richland Patrol | 5 | 17 | 22 | . 5 | 16 | 21 |
| North Richland Fire | 32 | | 32 | 31 | | 31 |
| Maintenance and Steam Unit | . 8 | 51 | 59 | 8 | 51 | 2 9 |
| TOTAL | 45 | 68 | 113 | 44 | 67 | 111 |
| Personnel Changes During Month: | | Weekl | Z | Mont | hly | |
| North Richland Patrol Termination | | 1 | | | ; ; ; | |
| North Richland Fire | | | | | į | |
| Termination | • | | | • | 1. | |
| Maintenance & Steam Unit | | | | | | · \ |
| Transfers from Municipal Transfers from Real Estate | | 4 2 | | | | |
| Transfers to Manufacturing | | 4 | | | • | 1. |

PROJECT & RELATED PERSONNEL

| | 0 | 10-31-51 |
|--|------------------------|--------------------|
| | 9-28-51 | 10.001.001 |
| | | |
| COVERNMENT EMPLOYEES | | 220 |
| Civilian Personnel-Atomic Energy Comm. | 330 | 332 |
| Civilian Personnel G. A. O. | 7 | 7 |
| Total | 237 | <u> 339</u> |
| | | |
| RICHLAND VILLACE PERSONNEL | _ | 3202 |
| Comm. Facilities (Inc. No. Richland) | 1282 | 1303 |
| Covn. Agency, Churches, Clubs, Etc. | 107 | 111 |
| Schools | 433 | 435 |
| Organizations | 10 | 11 186 <u>0</u> |
| Total | <u> 1832</u> | 1000 |
| | | • |
| CONSTRUCTION SUB CONTRACTORS | | 5768 |
| Atkinson & Jones | 57 5 6 | |
| Newberry Neon | 406 | 372 |
| Urban Smyth Warren Co. | 802 | 792 |
| Hanley & Co. | 1 | 0 |
| Kellex Corp. (Vitro Corp of America) | 230 | 209 |
| No. Elect. Mfg. Co. | 1 | - 0 |
| J. Cordon Turnbull | 14 | ,. |
| Erwin Const. Co. | 12 | 25 |
| J. P. Head | 14 | 12 |
| Royal Co. Inc. | 3 87 | 0 |
| Fred J. Early Jr. | 87 | 90 |
| V. S. Jenkins | 23 | 30 |
| Empire Electric Co. | 1 | 1 |
| Associated Engr. Inc. | 1 7 1 | 1 |
| Johnson Service | 1 | 0 |
| Thorgaard Plumbing & Heating Co. | 2 | 0 |
| L. E. Baldwin & Frank Dunahm Co. | 18 | <u>c</u> . |
| X Ray Products | - 3 7 | 1 |
| Marlarkey & Moore | | 7 |
| Montgomery Electric Co. | 4 | 3 |
| Sound Const. & Engr. Co. | 22 | 22 |
| J. G. Shotwell | , 9 | 9 |
| J. C. Whitacre Dec. Co. | 6 | 0 |
| West Coast Heating & Plumbing Co. | 15 | 12 |
| Electric Smith Inc. | 10 | . 8 |
| L. H. Hoffman | 63 | 77 |
| Stier Shelton & Schick | 1 | 1 |
| Charles T. Main | 205 | 205 |
| Mpls. Honeywell Regulator Co. | 0 | 0 |
| The Bay Co. | 23 | 34 |
| J. A. Brunzell | 0 | 0 |
| Acme Elect. Co. Inc. | 2 | 0 8 5 |
| Day Brothers | 5 | • • • • |
| Peter Kiewett Sons Co. | 0 | ? |
| Puget Sound Sheetmetal Works | 0 | |
| Valley Roofing | 0 5 2 3 11 | 0 |
| Cement Gun Const. Co. | 2 | 0 3 7 |
| National Blower Sheetmetal Co. | 3 | <u>3</u> - |
| Holliday & Edworthy | | 7 |
| Industrial Electric Co. | 8 | 12 |
| D. H. Paving Co. | 存存 | 34 |
| Steel Const. Co. of Oreson | 22 | 14 |
| CONTINUED PACE # 2 | | |
| CONTINUED TROE | | |

| | 9-28-51 | 10-31-51 |
|-------------------------------|---------|----------|
| Paul Berg | 3 | . 1 |
| G. W. Paulson Co. | 2 | 1 |
| Puget Sound Naval Shipyard | 695 | 725 |
| E. J Bartell | 2 | 0 |
| A. H. Barbour & Sons | 14 | · 3 2 |
| Noise Control of Seattle | 2 | |
| Charles B. Brower | 3 | 5 |
| Anderson Decorating Co. | 3 | 2 |
| Soule Steel Co. | 3 | 0 |
| Leland S. Rosever | 2 | 2 |
| R. M. Robson | 6 | 8 |
| Allied Painter & Decorators | 3 | 3 8. |
| Rust Eng. Co. | 0 | 8. |
| Seattle Chain Link Fence Co. | 0 | 3 |
| Weston Plumbing Co. | 0 | 9 |
| North West Painting & Roofing | 0 | 4 |
| Head Mechinical Const. Co. | 0 | 8 |
| Total | 8556 | 8514 |
| GENERAL ELECTRIC TOTAL | 8896 | 8993 |
| GRAND TOTAL | 19,621 | 19,706 |



700 AREA CLASSIFIED FILES

