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HANFORD WORKS MONTHLY REPORT

FOR

OCTOBER 1950

HW--19325-Del.

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By J. Pherson
Date 5/17/73
U. S. AEC Division of Classification

Compiled By

Division Managers

November 20, 1950

Classification Cancelled And Changed To

HANFORD WORKS
RICHLAND, WASHINGTON

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GENERAL SUMMARY

OCTOBER 1950

MANUFACTURING DIVISIONS

Production Divisions

A total of 72 tons of metal was discharged at the goal concentration. In addition five tubes of special request material were charged into the piles and five tubes were discharged with a total of 18 special request casks being shipped off site. The routine shipments of chemical 37-77 were made. The operating efficiency was 84.8 percent for all piles, with 46.1 percent at B Pile which was undergoing nozzle replacement and Van Stone flange repair.

The DR Pile was placed into operation ahead of schedule on October 3, 1950 and was operating at 390 MWD at month end, attaining this level several months ahead of schedule. There were no unanticipated operating difficulties in its start up or initial operation. At month end the operating levels were 355 MW at B Pile, 330 MW at D Pile, 440 MW at H Pile and 305 MW at F Pile. The standard pile operating crew was reduced from eight to seven and one-half men per shift per pile at B, D, F and H Piles and DR was set up with a seven man crew. This represents a net reduction of twelve people or seven and one-half percent in pile operators.

A total of 808 tubes at H Pile were loaded with P-10 material as of month end.

A total of 89 tons of acceptable slugs was canned at a yield of 89.1 percent, the low yield resulting from an unexplainable increase in the number of non-seat rejects. The machining yield of 81.6 percent was a new high. The melt plant produced 19 tons of billets at a new record yield of 86.0 percent and a solid metal from scrap yield of 93.5 percent.

A total of 117 charges were started in the Canyon Buildings, 122 were processed through the Concentration Buildings which represents a new record high production, and 121 charges were completed through the Isolation Building. The average cooling time for metal processed was 75 days with a minimum of 67 days. The average purity of completed batches was 98.5 percent.

Plant Utilities and Maintenance Divisions

The Plant electrical power demands were:	Process load	64,400
	Village load	24,800

The process load demand is an all-time high due to activation of 100-DR. The Village is 10% higher than October, 1949.

On October 13, a Critical Power Grade W was established for all areas and a Critical Power Grade Z for 100-B Area to permit making repairs to the 230 KV by-pass disconnect switch in the 100-B Area.

On October 26, an incident occurred in the 100-F Area during the dismantling of deaerators at the 185-F Building, Project C-172. The rigging failed and No. 8 unit fell through the roof of the 185-F Building. The unit came to rest at the forty foot level protruding into the 190-F Building Tank Room. Pile operations were suspended 24 hours while interim repairs were made. The dismantling work was being performed by subcontractor forces.

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General Summary

The B Area phase of Project C-347, Nozzle Program, was completed during October. During this period, extensive repairs were made to the 107-B Retention Basin, downcomer, and the effluent line at the river.

TECHNICAL DIVISIONS

Pile Technology Division

The loading of the DR Pile was completed and the pile was operating at 370 MW at the end of the month. The reactivity of the operating pile was considerably larger than had been predicted, permitting unexpectedly high power levels.

Substantial increases in pile power levels were achieved during the month, as a result of operating the piles at whatever power level was consistent with maximum permissible heat generation in the hottest tubes of the pile. Additional power increases are indicated in most cases.

Water leaks were encountered in the B, D, and F Piles; the condition was corrected at the B and F Piles and was improved at the D Pile during the month.

It was determined that most of the recent loss in reactivity of canned uranium slugs was caused by the use of new aluminum cans which had an abnormally high neutron absorption.

Changes in the electrical resistance of graphite samples suggest that surprisingly high radiation damage may be occurring in the side reflectors of the pile. On the other hand, it had been established previously that negligible damage is encountered in the front and rear reflectors.

The Navy Test Channel has operated without incident since October 18, using enriched fuel and recirculating water at a pressure of 1500 lbs./sq. in. and a temperature of 540°F.

The basic critical mass of plutonium from uranium irradiated for 420 MD/ton was found to be 700 ± 4 grams in a spherical geometry, in contrast to 725 ± 10 grams in a cylindrical geometry. Preliminary results indicate a very substantial decrease in critical mass for plutonium from uranium with less irradiation.

Consideration is being given to use of a removable core in the Test Pile rather than use of exponential piles in order to gain much greater precision in determining the constants of new graphite lattices.

Corrosion tests indicate that the presence of excess tantalum in T-347 CbTa stainless steel has no adverse effects, but the samples tested are not representative of the minimum permissible quantities of columbium plus tantalum in this alloy.

In P-10 operations, 1400 slugs were fabricated and slugs were extracted. Extraction work was suspended for eight working days because of conflict with construction activities.

A decision has been made to consolidate development activities and future expanded tritium production facilities (P-10-X Project) in Building 108-B.

General Summary

Testing of components of the metal extraction line continues favorable. The basic furnace design for the metal line has been tested. Revision of one glass extraction line has been completed and work started on revision of a second glass line.

P-10 development studies included considerable work on alloying between the furnace melt and the furnace wall, the use of molten lead as a heat transfer medium to permit uniform heating of all slugs, and the use of magnesium-aluminum alloy to lower the extraction temperature and reduce tritium diffusion through the furnace wall.

Separations Technology Division

Production testing of the use of water instead of dilute nitric acid for Dissolver flushing after coating removal has continued to show a significant decrease in plutonium and uranium losses. The testing of the thermal decomposition of hydrogen peroxide in Isolation Building supernatant recycles has also been proceeding satisfactorily. The production testing of the evaporation and recycling to Concentration of the 234 Building Purification supernatants is scheduled to be started during the coming month. The outgassing period in 235 Building Casting operations has been successfully reduced to 4 hours from 16 hours, while initial low temperature Pressing studies have given results that indicate no further work should be carried out in this direction.

No experimental solvent extraction runs were carried out in Redox and Metal Waste Recovery development during the month, all equipment having been shut down until February 1, 1951, at which time the training program for "S" Division personnel will be reactivated. In the interim period, the major effort is being devoted to the preparation of Redox and TBP Process Technical and Start-Up Manuals. Engineering development studies are continuing, however, on Production Plant Pumps, transmitters, evaporators, materials of construction, and erosion characteristics of metal waste slurries. The Hot Semi-Works engineering design and specifications have been completed and invitations to bid for Lump Sum construction were mailed out on October 27.

In the research laboratory, additional bismuth phosphate plant studies have been carried out on iodine sparging from dissolver solution, lanthanum fluoride by-product waste recycling to the Concentration Building bismuth phosphate by-product step, and reduced bismuth:plutonium carrying ratios. The americium-curium content of irradiated metal from the piles has been established for exposure levels up to 500 MWD/T. The "Electroless" plating of nickel on plutonium, crucible and slag recovery, and the arsenate coupling for 234-5 processes have been further investigated. Additional solvent extraction distribution data have also been obtained.

In the 234-5 process development laboratory, additional laboratory studies have led to the establishment of a basis of process design for skull recovery. Attempts to induce the formation of a more readily soluble form of skull material, although not needed, have been unsuccessful. Work is continuing on the testing and comparison of new and improved methods and equipment for coated plutonium surface monitoring.

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General Summary

The first plant-scale silver reactor and Fiberglass filter for iodine and particle removal from dissolver off-gases were installed on one B Plant dissolver during the month. Start-up tests and efficiency monitoring are currently under way. Preliminary data indicate that, for the first time, the dissolver off-gas is not recontaminating the sand-filtered ventilation exhaust air upon being blended at the stack.

Technical Services Division

Mass spectrometric analyses of P-10 process samples have been established by the Analytical Section on a routine basis, and have shown that the tritium content of by-product samples after 6 hours separation averages about 0.2%. Because of the high quality of the mass spectrometric results and the many analyses required, consideration is being given to the purchase of another such instrument. A Leeds and Northrup emission spectrometer and gas sampling line have been received from KAPL, and are being installed in Bldg. 108-B in preparation for P-10 product assay. On October 2, the Technical Shops in Bldg. 101 were placed on a six-day work week as required by the P-10 program.

Considerable Engineering Section liaison was required during D & C's preliminary negotiations with Roscner, the architect-engineer who has informally agreed to undertake the design of (1) the Plot Plan Utilities and (2) the Radio-metallurgy Bldg. of the Hanford Works Laboratory. The necessary modification of Roscner's Radiochemistry Bldg. contract was in progress. Design work on the latter facility is about 60% complete.

Project C-406 covering the design of the Mechanical Development Bldg. and the immediate erection of its shell for use by construction subcontractors, was approved by the A & B Committee and submitted to the A.E.C. The office space and structural design of the Pile Technology Bldg. was revised to lower the indicated total cost of this building to about \$2,850,000. Preparation of the project proposal was begun.

During October the IBM equipment for the new technical computing laboratory of the Statistics Group was received and installed in Bldg. 101. This laboratory has as its principal tool the IBM Card Programmed Electronic Calculator. Supporting auxiliary equipment include a sorter, collator, reproducer, key punch, and verifier. After testing and adjusting these new machines, computing was begun on a backlog of high priority Technical Divisions problems estimated to take six months to complete.

HEALTH INSTRUMENT DIVISIONS

Seventeen employees were added to the force. Two Class I Special Hazard Incident Investigations were reported.

Control of radiation hazards in process areas in general was satisfactory as shown by Operational Division surveys. No exposure to personnel in excess of the weekly permissible limit of 0.3 roentgen occurred.

General Summary

Control functions of the Biology and Development Divisions showed no appreciable or unexpected changes in the activity found in samples of air, drinking water, sanitary water, test wells, and biological specimens over that reported last month. The activity of vegetation in a plot previously contaminated by a rupture of a waste disposal line increased tremendously, possibly indicating a new break. Thyroid activity of ring-neck pheasants (contributed by hunters in this locality) in some cases showed concentrations in excess of the permissible limit. Analyses for Pu, U, fission products, and tritium oxide in urine samples from plant workers showed negative results for Pu and fission products. A maximum result of 250 μ g U/liter was believed a result of sample contamination. Twenty-four of fifty-four positive tritium oxide results were obtained from one individual who had a maximum reading of 25 μ c/liter on September 27, 1950.

Research and Development programs progressed satisfactorily. Continued emphasis was placed on tritium and tritium oxide hazard investigations.

PLANT SECURITY AND SERVICES DIVISIONS

There were two lost time injuries during the month. The major injury frequency rate for the year to date is 0.319.

There were two minor fires in the industrial areas with no loss resulting.

Volume continues to increase in the General and Clerical Services Sections.

All records flow sheets have been prepared and forwarded to Divisions for approval. Work on the uniform filing procedure has been started in the Manufacturing Divisions.

Methods Studies and Forms control activities resulted in estimated savings of \$17,602 of which \$17,268 will be on a recurring basis for approximately two years.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

The number of applicants interviewed decreased from 1,442 in September to 1,210 in October. Of these applicants, 336 were individuals who applied for employment with the Company for the first time. In addition, 127 new applications were received through the mail. Open, nonexempt, nontechnical requisitions decreased from 280 at the beginning of the month to 238 at the month end. Total plant roll increased from 7,795 to 7,338. Turnover rate decreased from 2.60% in September to 1.59% in October. During October, 27 new requests for transfers to other type of work were received in the Employment Office, and 40 transfers were effected.

Instructions Letter No. 157 covering the G.E. Educational Assistance Program was issued during October. Five employees retired during October, and seven employee deaths occurred. One hundred and ten visits were made to employees confined at Kadlec Hospital and four visits were made to employees confined at home. In addition, thirty-seven salary checks were delivered to employees during October. At the end of October there were 601 reservists on our rolls, and 708 employees registered under the Selective Service Act of 1948, with 105 employees classified as 1-A. Fifty-two suggestion awards, totaling \$580, were made during October. These suggestions resulted in an estimated savings of \$6,243.50.

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General Summary

During the week of October 16-20, the 40-Hour Supervisor's Training Program was conducted with 28 supervisors participating. Two issues of the H.W. SAGE was distributed during the month. At the request of the "S" Division, the program on the spirit and intent of the GE-HAMTC Agreement was presented to 28 supervisors-in-training of this division. The second of the 8-hour, trial, test program for non-exempt employees was conducted in the 200-W Area on October 13, with 30 employees of the "S" Division participating.

Formal negotiations began on October 4, with the Company offering a 3% wage increase (4¢ minimum) and the HAMTC countering with a demand for 20¢ an hour across the board. When an agreement was not reached, Federal Mediation was called in by the Council, but no settlement was effected by October 23 when negotiations were recessed. The Company was advised that it had been designated as defendant in a suit charging violation of the Davis-Bacon Act.

Negotiations with the Operating Engineers were initiated during the month. Demands included 50¢ per hour blanket increase, increased isolation pay, double time for all overtime, etc. The Federal Mediation and Conciliation Service has been requested to intervene. Negotiation of a first contract with the International Association of Machinists was concluded October 18. Increases of 5¢ per hour effective August 14, 1950, and 5¢ per hour effective January 1, 1951, were granted. The Plumbers State Joint Board have agreed upon an increase of 25¢ per hour for Plumbers and Steamfitters effective February 1, 1951, as well as a plan for vacations with pay in which accumulation will start on January 1, 1951. Negotiations with a view toward the renewal of the Master Agreement were held on October 19 and 26, 1950. The matter of increased isolation pay has been injected into the discussions, otherwise the situation remains unchanged. The Project Negotiating Committee has maintained the position that the Ironworkers opening of their Schedule "A" is not in order. The Ironworkers have insisted that either the Committee set a date for negotiations or refuse to negotiate. The Atomic Energy Commission has indicated that they will direct General Electric to include a provision in future contracts with lump sum and unit price contractors requiring the submission of weekly payrolls for the purpose of compliance with the Davis-Bacon Act and Eight Hour Law. The Boilermakers have notified Atkinson-Jones of a desire to negotiate wage increases of ten cents (10¢) across the board in conformity with their Seven Western States Agreement. No meeting has been scheduled. The Roofers have informed Atkinson-Jones that their opening notice was intended only as a request to negotiate a new wage scale. Atkinson-Jones has assured the Roofers that a meeting will be scheduled immediately after the first of November for the purpose of negotiating a new Schedule "A". A demand by the Bricklayers has been made for \$3 per hour (25¢ increase).

The Wage Rate Division calculated and issued to Payroll new base and preferential rates for approximately 3000 non-unit employees, using as a basis 3% or a minimum of 4¢ per hour, including certain employees of the Health Instrument Division, and the North Richland and Richland Municipal Fire Departments whom the HAMTC is seeking to represent. Six reimbursement requests were submitted to the AEC for approval. Phone wage surveys were made in the Northwest area regarding Boat Operators and specific jobs in printing establishments. One hundred forty-three requisitions for new help were reviewed and approved, 421 wage increases approved, 109 inter-divisional transfers approved, 220 reclassifications, 64 temporary reclassifications and 24 reactivation cases were processed and 11 additions to the weekly payroll approved.

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General Summary

Union Relations received the largest amount of Community and Public Relations attention among the several subjects dealt with during the month of October. Because of the fact that the Hanford Atomic Metal Trades Council had made its feelings known concerning General Electric's offer of an additional three per cent increase prior to the start of actual collective bargaining discussions, it was obvious to all concerned that an aggressive employee information program was required.

The various Union Relations information activities included the services of all of the various groups in Community and Public Relations, including the Hanford Works Photo House and the commercial artist. Communication media utilized included radio, daily newspapers, Hanford Works NEWS, and special supplements for Hanford Works NEWS.

News releases during October totalled 56. Of this total, 49 went to the "local list" of media, and 7 were sent to the 75 daily newspapers, wire services, and radio stations in the four Northwestern states, in addition to the "local list".

Plans were completed during the month for conducting a meeting between Richland ministers and educators and GE Nucleonics Department Management.

The Community Relations Supervisor, in addition to planning the ministers and educators meeting, also handled writing up the Community Divisions' accomplishments from September 1, 1947, to September 1, 1950, and a foreword to an historical report on Richland.

Speaking engagements arranged for by Public Functions during the month included a talk by the Assistant General Manager at the Yakima Kiwanis Club, and the Spokane Rotary Club. In addition, other speaking engagements for Hanford Works speakers were arranged for at the Sunnyside Chamber of Commerce, the AICHE meeting at Columbus, Ohio, and a talk before the Seattle Chapter of the Pacific Northwest Personnel Management Association.

A large portion of the responsibility for employee information concerning the GE "Security Package" promotion was assigned to Special Programs and Hanford Works NEWS during the month. This required that Special Programs devote a large amount of time to the preparation of the promotion program as it will be carried out in the form of written and published information. The work in this field was done jointly with the committee within Employee and Community Relations which devoted time during October to this effort.

Special Programs prepared a full page message to employees and tri-city residents and it was published in both Columbia Basin NEWS and in the Tri-City HERALD during the month. Another message, designed especially for employees was prepared by Special Programs for publication in Hanford Works NEWS.

Another extensive editing and booklet design job was completed by Special Programs during the month when they forwarded the copy and artwork for the forthcoming "Guide to Richland" to the successful bidder for the printing.

Hanford Works NEWS served as a medium for advising of the increased need for personnel at Hanford Works. Stories during the month emphasized that employees might advise relatives of the current needs, thus enlisting the assistance of employees in recruiting personnel.

General Summary

Other programs of interest to employees which received publicity in Hanford Works NEWS during the month included the Patrol Safety Hurdle Race, the Company's policy concerning employees entering the armed forces, the Hanford Civil Defense Program, information on the new income tax returns, and Suggestion System promotion stories.

The woman publicity writer in the News Bureau prepared three Women's Pages during October which were published in Hanford Works NEWS. A story containing a full schedule of youth activities was prepared by her and released to local newspapers and to the plant newspaper.

This employee also handles the "Share A Ride" column, which received approximately 270 calls during October for rides or riders. The calls included both requests for week end trips and vacation trips.

PURCHASING AND STORES DIVISIONS

There was a substantial increase in the Purchasing Division's work load during the month. The dollar value of orders placed was \$4,850,382.16 as compared with the total dollar value of \$2,100,202.97 in the previous month.

Bulk orders for approximately 2,200 tons of stainless steel were placed. This steel will be shipped to the fabricators of vessels, towers, exchangers, and similar equipment for the construction program.

The divisions' Assistant Manager made a trip to Pittsburgh to arrange for the warehousing and handling of stainless steel purchased on bulk orders. All steel which cannot be shipped directly to a fabricator at the time it is produced will be routed to the warehouse for subsequent shipment.

On October 3, the National Production Authority issued Regulation No. 2 which established ratings for defense orders. The ratings assigned to us were DO-40 - Operations, DO-41 - Construction, and DO-42 - Construction Equipment. All our outstanding orders as of the effective date of the Regulation were rated within 10 days. Current orders were rated as issued.

A Priorities and Allocation Section was established in the Purchasing Division and G. O. Mathews appointed Supervisor. It will be the responsibility of this section to properly rate all orders, maintain records, and make the reports required under the law.

Materials valued at \$21,297.69 were declared excess from Operations inventories by the Stores Division. Material valued at \$527,310.19 were declared excess from the Construction Materials Account.

A total of 2,582 purchase requisitions were screened against project inventories with the result that 1,662 items were supplied from inventories thus obviating the necessity for outside purchase.

Receipts of material through the receiving warehouse increased approximately 25% over the previous month. It was necessary to divert personnel from other sections of Stores and authorize overtime to keep current with the work.

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General Summary

Excess material valued at \$1,506,797.98 was shipped during the month.

All warehouses at the Pasco Depot, with the exception of 5 and 6, were evacuated and at month end only six employees were on duty at this location.

Considerable time and effort was expended in identifying large quantities of stainless steel sheets, plates, bars, fittings and pipe with respect to physical and chemical analysis in order that it may be used in the current construction program.

The Traffic Division was successful in obtaining publishment of new rates on phosphoric acid from Southern California points which will result in savings of 40 to 48 cents per hundred weight.

After extended negotiations, our Traffic Division was successful in having published, a new rate of 28 cents per hundredweight on lime from Evans, Washington to the project which will result in savings of approximately \$24 per car.

As a result of rate reductions obtained from the carriers, total savings in freight charges during the month of October amounted to approximately \$22,982.53.

MUNICIPAL, REAL ESTATE AND GENERAL SERVICES DIVISIONS

Number of employees on roll:	<u>Beg. of Month</u>	<u>End of Month</u>
Administration	11	11
Accounting	29	28
Engineering and Contracts	32	30
<u>Municipal Divisions</u>		
Public Works	138	125
Parks & Recreation	32	33
Patrol	46	45
Fire	58	57
Safety	3	2
<u>Real Estate Divisions</u>		
Housing	186	196
Commercial & Other Property	13	13
<u>General Services Divisions</u>		
Steam and General Maintenance	72	73
Patrol	20	20
Fire	37	36
	<u>676</u>	<u>669</u>

Richland experienced a severe wind storm during the month which caused extensive damage requiring emergency overtime to be worked in order to repair the damage to houses, commercial facility buildings, and 700-1100 area buildings.

Total housing applications pending, four hundred twenty-two (422).

General Summary

C & H Food Store No. 2 and the Uptown Theater (Midstate Amusement Corporation) opened during the month of October.

During the month, thirteen prisoners were processed through the Richland Jail.

The Greater Richland Chamber of Commerce sponsored "Fire Prevention Week" October 8 through 14, and this program was coordinated and assisted by the Municipal, Real Estate and General Services Divisions.

MEDICAL DIVISIONS

The roll increased from 279 to 281.

Dr. Eckles attended the annual meeting of the American Public Health Association in St. Louis.

Miss Fariss attended the American Dietetic Association national meeting in Washington, D. C.

Dr. Sachs attended a meeting of physicians in Seattle on civil defense, while a Public Health nurse attended a similar meeting for nurses.

Two major and three sub-major injuries to GE employees were treated. Sickness absenteeism increased by .46% to 1.86%, while total absenteeism increased by .49% to 2.64%.

Kadlec Hospital average daily census increased from 84.8 to 85.7 (75.2 adults, 10.5 infants).

Twelve cases of scarlet fever were reported, five of these developed complications.

The net cost of operating the Medical Divisions (before assessments to other divisions and Workmen's Compensation) was \$82,310., a decrease of \$5,186., and \$23,422. below the budget figure. The decreased cost was due to decreased salaries (six fewer employees), and to increased revenue.

The net cost of operating Kadlec Hospital was \$21,946, a reduction of \$2,606, due largely to increased revenue.

Industrial medical costs (Operations) were reduced by \$2,557, due largely to reduction in personnel.

GENERAL ACCOUNTING DIVISION

Payment of increased salary rates to weekly paid employees not represented by unions was included in salary checks distributed on October 13, 1950, as a result of General Salary adjustment, effective September 18, 1950, announced on October 2, 1950. Payment of the retroactive portion of the adjustment was included in weekly salary checks distributed on October 27, 1950. Increased salary rates for monthly paid employees as a result of the adjustment, and the retroactive portion of the adjustment, were paid to monthly paid employees in salary checks covering the month of October.

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General Summary

Arrangements were completed in October for check-off of Union Dues for Medical Division employees who are represented by the Building Service Employees International Union, Local No. 201.

During October, assistance was rendered to the Employee and Community Relations Division in connection with plans for presentation of the new Insurance Plan which, if accepted by 75% of eligible employees, will become effective December 1, 1950.

H. W. Instructions Letter No. 53 covering company benefits for employees entering the Armed Forces was revised on October 19, 1950, to conform to certain changes made by the Company on a company-wide basis with respect to such benefits. The Atomic Energy Commission indicated their verbal approval of the changes covered by the revised instructions letter and formal Request for Reimbursement Authorization covering these changes was transmitted to the Commission on October 19, 1950.

Work is progressing in connection with quarterly budget reviews in accordance with the recent request received from A. E. C. Schedules are in the process of being completed which will include detailed statistical information as to estimated operating personnel and related costs. The budget estimates are being prepared by the General Accounting Division using personnel forecasts prepared by the General Divisions. Work is also progressing on the narrative justifications. These justifications will point out significant changes as compared with the prior submittal dated April 24, 1950.

Instructions were prepared and distributed to each Division Accountant relative to the handling of uncollectable accounts receivable in compliance with A.E.C. Bulletin GM-159, "Transfer to A.E.C. of Uncollectible Accounts of A.E.C. Cost-Type Contractors". These instructions outlined a procedure to be followed in processing the assignment of uncollectable accounts to A.E.C. on a uniform basis at the end of each calendar quarter.

As a result of recent increased purchasing activity, volume of work in Accounts Payable has increased proportionately. Number of accounts payable vouchers booked and number of checks issued increased 20% and 8% respectively.

In the recently completed Community Chest Campaign, General Accounting Division employees contributed \$683.50, which is 37% in excess of our quota. Participation was 98.8%. The average contribution of participating employees amounted to \$3.84.

Hanford works cash disbursements and cash receipts, excluding advances from Atomic Energy Commission for the month of October as compared with September may be summarized as follows:

	<u>September</u>	<u>October</u>
<u>Disbursements</u>		
Material and Freight - GE	\$1 063 856	\$1 419 222
Payrolls - GE (Net)	2 214 615	1 918 808
Payments to Subcontractors	2 509 282	3 038 775
Other	861 842	1 107 500
Total	\$6 649 595	\$7 484 305

General Summary

	<u>September</u>	<u>October</u>
<u>Receipts</u>		
Rents	\$ 109 477	\$ 125 858
Hospital	39 810	50 785
Telephone	14 400	15 812
Bus Fares	8 078	10 299
Other	32 697	130 951
	<hr/>	<hr/>
Total	\$ 204 462	\$ 333 705
	<hr/>	<hr/>
Net Disbursements	<u>\$6 445 133</u>	<u>\$7 150 600</u>

Advances from A.E.C. were reduced from \$4,500,000 as of the end of last month to \$4,000,000 on October 31, 1950.

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STAFF

General Manager G. R. Prout
Manager, Schenectady Office B. R. Prentice
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the Plant Security and Services Divisions G. G. Lail
Department Comptroller F. E. Baker
Counsel G. C. Butler
Manager, Municipal, Real Estate and General Services
Divisions L. F. Huck
Manager, Design and Construction Divisions W. E. Johnson
Manager, Manufacturing Divisions C. N. Gross
Manager, Technical Divisions A. B. Greninger
Manager, Health Instrument Division H. M. Parker
Manager, Medical Division W. D. Norwood, M.D.
Manager, Employee and Community Relations Division H. E. Callahan
Manager, Purchasing and Stores Divisions W. A. Jeffrey

FORCR REPORT

OCTOBER 1950

	EXEMPT		NON EXEMPT		TOTAL	
	9-29-50	10-31-50	9-29-50	10-31-50	9-29-50	10-31-50
<u>GENERAL</u>	18	19	26	29	44	48 ✓
<u>LAW</u>	2	2	3	3	5	5
<u>DESIGN & CONST. DIV'S.</u>						
Construction	2	2	38	36	40	38
Const. Acctg.	10	9	60	58	70	67
Design	225	236	214	225	439	461 ✓
No. Richland Realty	17	17	82	84	99	101
<u>MANUFACTURING DIVISIONS</u>						
General	15	16	6	5	21	21
Proj. Engr. Control	28	43	23	31	51	74 ✓
Proj. Engr. Design	49	49	74	76	123	125
Proj. Engr. Minor Const.	14	-	10	-	24	-
Mfg. Acctg.	7	6	48	49	55	55
<u>OPERATING DIV'S.</u>						
"P"	75	75	281	286	356	361
"S"	117	121	393	407	510	528 ✓
Power	87	87	471	467	558	553
<u>MECHANICAL DIV'S.</u>						
Maintenance	56	57	358	353	414	410
Electrical	54	53	256	255	310	308
Instrument	52	53	201	216	253	269
Transportation	60	61	594	584	654	645
<u>TECHNICAL DIVISIONS</u>						
Administrative	4	4	2	2	6	6
File Technology	109	111	87	90	196	201
Separations Technology	103	107	55	36	158	143
Technical Services	123	127	343	338	466	465
<u>MEDICAL</u>	48	49	231	232	279	281
<u>H. I. DIVISIONS</u>						
General	5	5	4	4	9	9
Operational	57	57	161	159	218	216
Development	33	40	70	71	103	111
Biology	28	29	35	41	63	70
<u>ACCTG. DIVISIONS</u>						
Gen. Acctg. Acctg. & Payroll	26	27	151	149	177	176
<u>EMPLOYEE & COMMUNITY RELATIONS</u>	30	32	61	62	91	94
<u>PLANT SECURITY & SERVICE DIV'S.</u>						
Patrol & Security	54	54	534	537	588	591
Safety & Fire	37	38	107	102	144	140
Gen. & Off. Serv.	23	23	202	210	225	233 ✓
<u>PURCHASING & STORES DIV'S.</u>						
Purchasing	46	50	66	72	112	122 ✓
Stores	21	21	234	220	255	241
<u>COMMUNITY DIVISIONS</u>	209	212	470	458	679	670
TOTALS	1844	1892	5951	5946	7795	7838

DECLASSIFIED

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HW 19325

Ref

PERSONNEL DISTRIBUTION OCTOBER 1950

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
GENERAL	-	-	-	-	-	-	-	-	-	-	19	19
Clerical	-	-	-	-	-	-	-	-	-	-	29	29
Total	-	-	-	-	-	-	-	-	-	-	48	48
LAW	-	-	-	-	-	-	-	-	-	-	2	2
Clerical	-	-	-	-	-	-	-	-	-	-	3	3
Total	-	-	-	-	-	-	-	-	-	-	5	5
DESIGN & CONST. DIV'S.	-	-	-	-	-	-	-	-	-	-	2	2
CONSTRUCTION	-	-	-	-	-	-	-	-	-	-	36	36
Supervisors	-	-	-	-	-	-	-	-	-	-	38	38
Clerical	-	-	-	-	-	-	-	-	-	-	9	9
Total	-	-	-	-	-	-	-	-	-	-	58	58
CONST. ACCTG.	-	-	-	-	-	-	-	-	-	-	67	67
Supervisors	-	-	-	-	-	-	-	-	-	-	41	41
Clerical	-	-	-	-	-	-	-	-	-	-	107	107
Total	-	-	-	-	-	-	-	-	-	-	6	15
DESIGN	-	-	-	-	-	-	-	-	-	-	61	61
Supervisors	-	-	-	-	-	-	-	-	-	-	126	126
Engrs. & Inspectors	-	-	-	-	-	-	-	-	-	-	341	341
Other Exempt	-	-	-	-	-	-	-	-	-	-	30	30
Draftsman	-	-	-	-	-	-	-	-	-	-	75	75
Clerical & Others	-	-	-	-	-	-	-	-	-	-	17	17
Total	-	-	-	-	-	-	-	-	-	-	37	37
NO. RICHLAND REALTY	-	-	-	-	-	-	-	-	-	-	17	17
Supervisors	-	-	-	-	-	-	-	-	-	-	37	37
Janitors	-	-	-	-	-	-	-	-	-	-	17	17
Clerical	-	-	-	-	-	-	-	-	-	-	30	30
Others	-	-	-	-	-	-	-	-	-	-	101	101
Total	-	-	-	-	-	-	-	-	-	-	17	17

MANUFACTURING DIV'S.GENERAL

Supervisors
Engineers
Clerical
Total

100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
-	-	-	-	-	-	-	-	-	-	12	12
-	-	-	-	-	-	-	-	-	-	4	4
-	-	-	-	-	-	-	-	-	-	5	5
-	-	-	-	-	-	-	-	-	-	21	21

PROJ. ENGR. CONTROL

Supervisors
Engineers
Clerical
Others
Total

100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
2	-	-	-	-	2	1	4	-	-	9	18
2	-	-	-	-	2	3	9	-	-	9	25
1	-	-	-	-	1	1	2	-	-	16	21
2	-	-	-	-	-	-	2	-	-	6	10
7	-	-	-	-	5	5	17	-	-	40	74

PROJ. ENGR. DESIGN

Supervisors
Engineers
Draftsmen
Clerical
Others
Total

100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
-	-	-	-	-	2	-	-	-	1	19	22
-	-	-	-	-	1	-	-	1	4	21	27
-	-	-	-	-	7	-	-	4	4	42	57
1	-	-	-	-	-	-	-	-	1	9	11
1	-	-	-	-	10	-	-	5	10	8	28
-	-	-	-	-	-	-	-	-	-	99	125

MFG. ACCTG.

Supervisors
Clerical
Total

100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
-	-	-	-	-	-	-	-	-	-8	6	6
-	-	-	-	-	-	-	-	-	-	49	49
-	-	-	-	-	-	-	-	-	-	55	55

OPERATING DIV'S.

Supervisors
Supv. in Training
Engineers
Operators
Clerical
others
Total

100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
9	16	9	9	-	-	-	13	-	-	2	58
-	5	1	-	-	-	-	1	-	-	-	7
2	-	-	-	-	-	-	-	-	-	8	10
34	64	34	34	-	-	-	97	-	-	-	263
2	3	2	2	-	-	-	5	-	-	4	18
-	1	1	2	-	-	-	1	-	-	-	5
17	89	47	47	-	-	-	117	-	-	14	361

HW 19325

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HW 19325 *del*

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	-	-	-	-	-	15	36	-	-	-	3	54
Supv. in Training	-	-	-	-	-	12	26	-	-	-	3	41
Engineers	-	-	-	-	-	-	11	-	-	-	15	26
Operators	-	-	-	-	-	139	220	-	-	-	-	359
Clerical	-	-	-	-	-	7	17	-	-	-	4	28
Others	-	-	-	-	-	7	13	-	-	-	-	20
Total	-	-	-	-	-	180	323	-	-	-	25	528

"SI"
Supervisors
Supv. in Training
Engineers
Operators
Clerical
Others
Total

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	12	21	12	12	-	6	7	6	2	-	1	79
Engineers	-	1	-	-	-	-	1	-	6	-	-	8
Operators	75	113	74	75	9	21	47	10	7	-	-	431
Clerical	-	1	1	1	-	-	1	-	5	-	2	11
Others	3	5	4	5	-	-	5	1	1	-	-	24
Total	90	141	91	93	9	27	61	17	21	-	3	553

POWER
Supervisors
Engineers
Operators
Clerical
Others
Total

MECHANICAL DIV'S.
MAINTENANCE

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	1	8	6	2	-	4	12	5	5	-	2	45
Engineers	-	-	2	-	-	-	2	1	-	-	7	12
Craftsmen	24	66	41	15	-	34	78	40	30	-	-	328
Clerical	-	1	2	1	-	1	4	2	2	-	1	14
Others	-	-	1	1	-	1	2	2	4	-	-	11
Total	25	75	52	19	-	40	98	50	41	-	10	410

Supervisors
Engineers
Craftsmen
Clerical
Others
Total

ELECTRICAL

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	2	1	1	4	-	1	6	2	16	-	11	44
Engineers	-	-	-	2	-	-	1	1	2	-	3	9
Craftsmen	17	19	13	15	2	12	14	11	60	-	26	189
Clerical	1	-	1	1	-	-	1	1	4	-	26	35
Operation	4	4	4	4	-	-	-	-	13	-	-	29
Others	-	-	-	-	-	-	-	-	2	-	-	2
Total	24	24	19	26	2	13	22	15	97	-	66	308

Supervisors
Engineers
Craftsmen
Clerical
Operation
Others
Total

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	

INSTRUMENTSupervisors

Engineers

Craftsmen

Clerical

Others

Total

1	5	2	3	-	2	6	8	1	3	31
-	1	-	-	-	-	3	11	1	6	22
18	24	17	16	-	15	35	46	3	15	189
-	1	1	1	-	1	2	6	2	3	17
-	-	-	-	-	-	1	8	-	1	10
19	31	20	20	-	18	47	79	7	28	269

TRANSPORTATIONSupervisors

Engineers

Bus Drivers

Journeyman

Tralmen

Servicemen

Clerical

Equipment Operators

Others

Total

3	4	1	2	-	2	1	3	8	34	58
-	-	-	-	-	-	-	-	-	3	3
-	-	-	-	-	-	-	-	-	163	163
9	3	3	10	-	2	4	7	14	67	119
-	-	-	-	-	-	-	-	-	-	25
6	9	2	4	-	2	5	7	12	13	60
-	1	1	1	-	1	2	2	1	21	30
14	7	3	4	-	3	7	10	18	29	95
9	14	12	23	-	22	23	31	87	368	645

TECHNICAL DIV'S.ADMINISTRATIVESupervisors

Clerical

Total

-	-	-	-	-	-	-	-	-	4	4
-	-	-	-	-	-	-	-	-	2	2
-	-	-	-	-	-	-	-	-	6	6

PILE TECHNOLOGYSupervisors

Metallurgists & Engrs.

Physicists

Tech. Grads. & Engrs. Assts.

Technologists

Lab. Assts.

Clerical

Others

Total

3	1	1	1	1	1	13	20	-	-	20
20	4	3	6	6	2	38	71	-	-	71
1	2	2	2	2	11	11	20	-	-	20
10	1	2	2	2	5	5	5	-	-	5
5	-	-	-	-	-	-	51	-	-	51
26	4	1	6	4	10	10	13	-	-	13
4	1	-	2	2	6	6	1	-	-	1
69	13	9	19	7	84	84	201	-	-	201

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	

SEPARATIONS TECHNOLOGY

Supervisors
Chemists & Chem. Engr.
Tech. Grad.
Clerical
Chem. Operators
Others
Total

	-	-	-	-	-	1	4	17	-	-	2	24
	-	-	-	-	-	5	11	66	-	-	1	83
	-	-	-	-	-	1	1	1	-	-	-	3
	-	-	-	-	-	-	3	7	-	-	1	11
	-	-	-	-	-	-	1	7	-	-	-	8
	-	-	-	-	-	-	1	13	-	-	-	14
	-	-	-	-	-	7	21	111	-	-	4	143

TECHNICAL SERVICES

Supervisors
Chemists & Engr.
Technologists & Tech. Grads.
Lab. Assts.
Clerical
Others
Total

	-	-	-	2	5	7	13	25	-	-	3	55
	4	1	1	-	8	2	12	39	-	-	5	72
	2	-	-	2	1	8	24	21	-	-	-	58
	3	-	-	5	-	30	63	39	-	-	39	140
	-	-	-	1	4	2	3	39	-	-	-	88
	-	-	-	-	32	-	-	16	-	-	4	52
	9	1	1	10	50	49	115	179	-	-	51	465

MEDICAL

Supervisors
Physicians
Others Exempt
Technicians
Nurses
Clerical
Others
Total

	-	-	-	-	-	-	-	-	-	1	28	29
	-	-	-	-	-	-	-	-	1	2	9	12
	-	-	-	-	-	-	-	-	8	-	-	8
	-	-	-	-	-	-	-	-	2	4	13	19
	2	6	4	1	-	4	7	1	-	2	55	82
	-	-	-	-	-	-	-	-	4	9	47	60
	2	6	4	1	-	-	-	-	1	-	70	71
	-	-	-	-	-	4	7	1	16	18	222	281

H. I. DIV'S.

GENERAL
Supervisors
Clerical
Total

	-	-	-	-	-	-	-	-	-	-	5	5
	-	-	-	-	-	-	-	-	-	-	4	4
	-	-	-	-	-	-	-	-	-	-	9	9

UNCLASSIFIED

HW 19325-*del*

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
<u>OPERATIONAL</u>												
Supervisors	1	1	1	2	-	1	5	8	-	-	2	21
Engineers	4	8	5	4	-	4	7	3	-	-	1	36
Clerical	-	-	-	1	-	-	1	1	-	-	-	3
Others	16	17	10	10	-	17	35	45	6	-	-	156
Total	21	26	16	17	-	22	48	57	6	-	3	216
<u>DEVELOPMENT</u>												
Supervisors	-	-	-	-	-	2	7	4	-	-	-	13
Engineers	-	-	-	-	-	3	12	10	-	-	2	27
Clerical	-	-	-	-	-	1	2	2	-	-	-	5
Others	-	-	-	-	-	15	28	12	-	-	11	66
Total	-	-	-	-	-	21	49	28	-	-	13	111
<u>BIOLOGY</u>												
Supervisors	-	-	7	-	-	-	-	-	-	-	-	7
Engineers	-	-	22	-	-	-	-	-	-	-	-	22
Clerical	-	-	3	-	-	-	-	-	-	-	-	3
Others	-	-	38	-	-	-	-	-	-	-	-	38
Total	-	-	70	-	-	-	-	-	-	-	-	70
<u>ACCOUNTING DIV.</u>												
<u>GEN. ACC'G. & PAYROLL</u>												
Supervisors	-	-	-	-	-	-	-	-	-	1	14	15
Other Exempt	-	-	-	-	-	-	-	-	-	1	11	12
Clerical	-	-	-	-	-	-	-	-	-	19	130	149
Total	-	-	-	-	-	-	-	-	-	21	155	176
<u>EMPLOYEE & COMM. RELATIONS</u>												
Supervisors	-	-	-	-	-	-	-	-	-	-	24	24
Employee Rel. Counselor	-	-	-	-	-	-	-	-	-	-	1	1
Other Exempt	-	-	-	-	-	-	-	-	-	-	7	7
Clerical	-	-	-	-	-	-	-	-	-	-	49	49
Others	-	-	-	-	-	-	-	-	-	-	13	13
Total	-	-	-	-	-	-	-	-	-	-	94	94

	100-B	100-D	100-F	100-H	101	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
Supervisors	5	6	6	5	-	5	8	7	5	-	4	51
Other Exempt	-	-	-	-	-	-	-	-	3	-	-	3
Patrolman	52	66	67	49	-	57	120	73	4	-	28	516
Clerical	-	-	-	-	-	-	-	-	16	-	2	18
Seamstress	-	-	-	-	-	-	-	-	2	-	-	2
Tech. Grad.	-	-	-	-	-	-	-	-	1	-	-	1
Total	57	72	73	54	-	62	128	80	31	-	34	591

PLANT SECURITY & SERVICE DIV'S.

PATROL & SECURITY

Supervisors
Other Exempt
Patrolman
Clerical
Seamstress
Tech. Grad.
Total

SAFETY & FIRE

Supervisors
Engineers
Firemen
Clerical
Tech. Grad.
Total

GEN. & OFF. SERVICE

Supervisors
Laundry Operators
Janitors & Servicemen
Clerical
Others
Total

PURCHASING & STORES DIV'S.

PURCHASING

Supervisors
Others Exempt
Clerical
Rotational Trne.
Total

HW 19325 *del*

SECRET

MANUFACTURING DIVISIONSOCTOBER 1950SUMMARYProduction Divisions

A total of 72 tons of metal was discharged at the goal concentration. In addition five tubes of special request material were charged into the piles and five tubes were discharged with a total of 18 special request casks being shipped off site. The routine shipments of chemical 37-77 were made. The operating efficiency was 84.8 percent for all piles, with 46.1 percent at B Pile which was undergoing nozzle replacement and Van Stone flange repair.

The DR Pile was placed into operation ahead of schedule on October 3, 1950 and was operating at 390 MWD at month end, attaining this level several months ahead of schedule. There were no unanticipated operating difficulties in its start up or initial operation. At month end the operating levels were 355 MW at B Pile, 330 MW at D Pile, 440 MW at H Pile and 305 MW at F Pile. The standard pile operating crew was reduced from eight to seven and one-half men per shift per pile at B, D, F and H Piles and DR was set up with a seven man crew. This represents a net reduction of twelve people or seven and one-half percent in pile operators.

A total of 808 tubes at H Pile were loaded with P-10 material as of month end.

A total of 89 tons of acceptable slugs was canned at a yield of 89.1 percent, the low yield resulting from an unexplainable increase in the number of non-seat rejects. The machining yield of 81.6 percent was a new high. The melt plant produced 19 tons of billets at a new record yield of 86.0 percent and a solid metal from scrap yield of 93.5 percent.

A total of 117 charges were started in the Canyon Buildings, 122 were processed through the Concentration Buildings which represents a new record high production, and 121 charges were completed through the Isolation Building. The average cooling time for metal processed was 75 days with a minimum of 67 days. The average purity of completed batches was 98.5 percent.

Plant Utilities and Maintenance Divisions

The Plant electrical power demands were:	Process load	64,400
	Village load	24,800

The process load demand is an all time high due to activation of 100-DR. The Village is 10% higher than October, 1949.

On October 13, a Critical Power Grade W was established for all areas and a Critical Power Grade Z for 100-B Area to permit making repairs to the 230 KV by-pass disconnect switch in the 100-B Area.

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HW-19325 *Del*

Manufacturing Divisions

On October 26, an incident occurred in the 100-F Area during the dismantling of deaerators at the 185-F Building, Project C-172. The rigging failed and No. 8 unit fell through the roof of the 185-F Building. The unit came to rest at the forty foot level protruding into the 190-F Building Tank Room. Pile operations were suspended 24 hours while interim repairs were made. The dismantling work was being performed by subcontractor forces.

The B Area phase of Project C-347, Nozzle Program, was completed during October. During this period, extensive repairs were made to the 107-B Retention Basin, downcomer, and the effluent line at the river.

C. N. GROSS, MANAGER
MANUFACTURING DIVISIONS

MANUFACTURING DIVISIONS

PATENT REPORT SUMMARY

FOR

MONTH OF OCTOBER 1950

Richland, Washington
November 9, 1950

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

INVENTOR

TITLE

N O N E

C. N. Gross

C. N. GROSS

MANAGER, MANUFACTURING DIVISIONS

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Section 10 Approved By: *W. K. Woods*

W. K. Woods, Division Head
File Technology Division
Technical Divisions

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November 7, 1950

P DIVISIONOCTOBER, 1950I. GENERAL

The loading of DR Pile, which was started on September 21, 1950 (see document HW-19021-A), was completed and the pile placed in operation on October 3. The startup of this new pile proceeded ahead of schedule without difficulty and reached the target level of 330 MWD on October 13. Further increases in level were possible and by month end the pile was operating at 390 MW with no unusual operating conditions noted. The preparations and startup of the DR Pile were exceptional in that no unanticipated operating difficulties occurred.

The B, D, DR, F, and H Piles operated throughout the month except for the outages listed under Area Activities. During the month, Production Test No. 105-388 (Power Level Increase of the B, D, DR, F and H Piles) was approved and put into effect resulting in substantial increases in pile operating levels. The effect of this production test is to modify the practice of operating the piles at a specified nominal level and permit them to be operated at the highest levels attainable within approved standard operating limitations. Under this program, pile levels at month end were as follows: B Pile - 355 MW, D Pile - 330 MW, DR Pile - 390 MW, H Pile - 440 MW, and F Pile - 305 MW. The piles operated with a time operated efficiency of 84.2%.

New record yields were established in the melt plant and machining operations. A billet yield of 86.0% was attained in the melt plant and a yield of 81.6% was established for machining 4" slugs.

P Division

The H-10 program initiated in June (document No. HW-18221-A) was continued during the month at H Pile, a total of 808 tubes having been loaded. No unusual operational effects other than those previously reported have been observed.

The B Pile program for Van Stone flange reconditioning and installation of aluminum inlet and outlet nozzles was commenced on October 8. Following completion of the job, the pile was started up on October 23.

II. ORGANIZATION AND PERSONNEL

Number of Employees on Payroll - October, 1950

Beginning of Month	356
End of Month	360
Net Increase	4

Four Technical Graduates were assigned to the P Division, and one Technical Graduate was transferred from the P Division to the Project Engineering Divisions.

Four operators were hired in the 300 Area. One operator was transferred to the 300 Area from the S Division, and one operator returned from leave of absence. Three operators from the 300 Area terminated voluntarily, and one was suspended to enter active service in the army under the Selective Service Act of 1948.

One Operator terminated voluntarily from the 100 Areas.

In conjunction with the startup of DR Pile, 100 Area man-power requirements were revised. An operating crew averaging seven and one-half men per shift per area has been set up in place of the eight man crew formerly required. In addition to this over-all reduction, the DR Pile is operating with a seven man crew since one operator handles 115 Building operations for both the D and DR Piles. An over all decrease in 100 Area operating personnel requirements of seven and one-half percent has been effected by these reductions.

III. AREA ACTIVITIES

<u>Pile Summary</u>	<u>Pile B</u>	<u>Pile D</u>	<u>Pile DR</u>	<u>Pile H</u>	<u>Pile F</u>
Time Operated (%)	48.5	95.4	95.3	92.6	89.0
Operating Efficiency (%)	46.1	92.0	94.6	91.1	85.3
*Power Level (MW)	355	330	390	440	305
*Inlet Water Temp. (°C)	14.1	14.2	14.3	14.1	14.0

* Month end figures.

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P Division

<u>File Summary (Continued)</u>	<u>File B</u>	<u>File D</u>	<u>File DR</u>	<u>File H</u>	<u>File F</u>
*Outlet Water Temp. (Maximum °C., 10 tubes, 0.240" Zone)	62.8	60.1	76.5	66.1	57.6
Number of Scrams	0	0	4	0	1
Number of Purges	2	1	0	2	1
Helium Consumption (cu. ft.)	--	--	--	--	--
CO ₂ Consumption	49,368	105,264	126,076	95,611	65,688
CO ₂ Concentration	97	99	98	90	94
Metal Discharged (tons)	14.68	12.92	0.12	21.6	22.7
Inhours Gained (this month)	25	46	0	- 18	- 17
*Inhours Poisoned	596	605	0	96	495
*Inhours in Rods	67	24	200	130	55
Max. Calc. G Temp.	364°C.	367°C.	256°C.	375°C.	385°C.

* Month end figures.

PILE BUILDING

Outage Breakdown

<u>Date of Outage</u>	<u>Scheduled</u>		<u>Unscheduled</u>	<u>Length of Outage (Hrs.)</u>
	<u>Metal Discharged</u>	<u>Maintenance</u>		
10-2-50	H			31.2
10-4-50	B			25.5
(1) 10-5-50			DR	3.0
10-6-50		DR		8.7
(2) 10-8-50		B		357.5
10-9-50		DR		3.3
(3) 10-9-50			DR	1.4
10-11-50	F			25.8
10-17-50	H			23.5
(1) 10-19-50			DR	0.7
(1) 10-18-50			DR	0.4
10-24-50	F			31.3
10-25-50	D			33.9
10-25-50		DR		12.6
(4) 10-26-50			F	24.4

- (1) Unit scrambled when panellit alarm could not be reset.
- (2) Outage for Van Stone and nozzle replacement program.
- (3) Unit scrambled due to low voltage on operating power supply.
- (4) Unit shut down due to accident involving deaerator which temporarily jeopardized process water supply.

Operating Experience

Production tests having operational significance are reported below:

P Division

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

1.485"

1.490"

4674-F

4574-B

4674-D

105-103-P (Corrosion Rates at Elevated Temperatures)
Twenty-two tubes in F Pile operated throughout the month with reduced flow in accordance with the provisions of this test. No unusual conditions were observed.

105-201-P (Slope of Process Tubes)
A manometer traverse of tube 4674-D was made. Continued graphite annealing was shown by reduced warping along the entire length of the column.

105-338-P (Pile Test of Special Step Plug and Gas Seal)
A modified gas seal designed to fit a knuckle jointed vertical safety rod was installed on VSR #20 at D Pile. Performance is satisfactory.

105-354-P (Installation and Operation of ANL-140 - P-13 Project - Supplement B)
The central thermocouple and dummy fuel element were removed from the pile tube during the outage of October 2 and the five test units of ANL-140 were installed. A test of the circulating equipment subsequent to the installation of the test units but prior to the startup of the pile indicated that the recirculating pumps were not functioning properly. As a result of this difficulty, the equipment was cooled with "once through" process water pending repair of the recirculation equipment. Repairs were completed on October 17 and the equipment was placed in operation with recirculating water. The equipment is functioning normally at month end. Total production loss attributable to this project is now 0.6% of the total pile production for the first ten months of the calendar year.

105-358-P (Front Dummy Pattern Test)
During the outage of October 4 at D Pile, the front sections of six tubes having a solid aluminum, front dummy pattern were borescoped to determine the effectiveness of this type of dummy pattern in removing corrosion barnacles from process tubes. General indications are that this is not an effective method of cleaning out corrosion products.

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P Division

105-388-P (Power Level Increase at B, D, DR, F, and H Piles)
Under this production test, the following pile level increases took place during the month:
B Pile increased from 335 to 355 MW. D Pile (previously covered under PT-105-361-P, "Increase of Power Level at D Pile") increased from 320 to 330 MW. DR Pile increased from 350 to 390 MW. H Pile increased from 400 to 440 MW.

During the month, five tubes of special request material were charged into the piles for irradiation. Five tubes of irradiated special request material were discharged for shipment off site. Eighteen casks containing irradiated special request material were shipped off site.

A total of 72.02 tons of uranium slugs was discharged during the month at an average concentration of 101% of current goal value.

DR Pile commenced regular operation on October 3 and continued throughout the month. (See document HW-19191 for details of startup.) Tests made of the effectiveness of horizontal control rods and vertical safety rods indicate satisfactory control power.

On October 5, an unscheduled outage occurred at the DR Pile when the unit was scrammed due to an abnormally high inlet pressure on tube 0865-DR. A small stone lodged in the rear pigtail was the cause of the high pressure. Inspection of the discharged metal pieces did not reveal any evidence of high temperatures which might have resulted from the partial flow restriction. The tube was recharged and returned to normal service. No other unusual operating conditions were observed during the month at DR.

Mechanical Experience

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

- (a) Horizontal rod #A at D Area binds at 190 to 195 inches as previously reported but is operable.
- (b) Vertical rod #22-D is tied out of service to permit capping of the thimble which was found to leak when tested October 25. Replacement of the thimble is planned.
- (c) Horizontal rod #2-F developed a leak in the cooling tubes and the rod has been removed from service pending replacement.
- (d) Vertical rod #13-F binds and is tied out of service pending repair.
- (e) Vertical rod #27-F binds when operated under power but is scrammable.

P Division

(f) Vertical rod #37-F binds in travel.

During the month, vertical thimble #40 at H Area was replaced with a thimble bearing external thermocouples to be used in establishing relationships between thimble and graphite temperatures.

A knuckle-type, flexible rod and improved gas seal were installed in VSR #20 position at D Area in conjunction with development work on the ball 3X system. Both the rod and the gas seal function satisfactorily.

The program of Van Stone flange repairs and replacement of stainless steel nozzles with aluminum nozzles on the B Pile which was started on October 8 was completed on October 23. Below is a summary of the Van Stone flange repairs made during this outage:

Front flanges below 0.030 residual thickness -----	3.7%
Rear flanges below 0.030 residual thickness -----	6.0%
Tubes requiring additional sum clearance (3/8" minimum) --	1.5%

During the extended outage at B Area, extensive repairs were made to the 107-B north basin and a 6' x 6' x 6' sump was installed. Additional needed repairs are in progress.

The water leak at D Pile (described in detail in document HW-19201) continued throughout the month with an attendant loss of pile reactivity amounting to a maximum of approximately 71 ih. Attempts to isolate the cause of the leak have indicated that a number of minor leaks are responsible for the water in the pile, and it seemed most likely that these were occurring at the Van Stone joints where insufficiently tight gaskets could allow water to enter the pile through the gunbarrels.

As an indication of the amount of gasketing at each joint, the clearance between the flange faces was checked on all tubes front and rear. It was assumed that where the large flange coupling faces had been drawn very close together that the gasketing was inadequate since the pressure would be on the large flange faces of the coupling rather than the gasket at the Van Stone joint. On this assumption, 39 front nozzles and 7 rear nozzles were removed and an extra gasket was placed over the Van Stone. Since this was done (on October 25), the rate of water collection in 115 Building driers has decreased daily until at month end it is 8½ gallons per day. In addition, 31 of the 71 ih reactivity loss ascribed to the water leak have been recovered.

Following the October 11 outage at F Area, routine surveys indicated unusual amounts of moisture in the pile atmosphere. An investigation established that a water leak of minor proportions existed, although no reactivity loss was experienced. During the shutdown of October 24, an investigation of the rear face revealed a leaking gasket. Subsequent to the repair of this gasket the water removal by the driers has returned to normal.

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An accident on October 26, resulting from the mechanical failure of equipment, occurred at F Area during the removal by a sub-contractor of the deaerator tanks from the 185-F Building. One of the tanks, similar to 2 already successfully removed, dropped about 50' damaging the supporting steelwork for the next adjacent deaerator and coming to rest in a somewhat precarious position. The F Pile was shut down for 24 hours until the condition could be corrected due to the possibility of a further accident jeopardizing the process cooling water supply.

During the October 11 outage at F Pile, several abandoned top fringe tubes were examined to determine their condition with consideration being given to the possibility of recharging them with regular metal. Borescopic examination showed corrosion to be too great to permit charging without replacement. One of these tubes, 4680-F, was removed with considerable difficulty and sectioned for metallurgical study.

During the month it was observed that four of the concrete slabs in the outlet section of the unused east side of the 107 retention basin at H Area were buckled upward. With the basin completely empty, water leaked upward through the cracks between the slabs at several points, indicating the presence of leaks in the west basin which has been in continuous use since the area was activated. Observations of thermally hot radioactive springs along the river bank below the basin confirmed the presence of the leaks and indicate that the difficulty is not a recent development. At month end, test wells are being sunk at several points near the basin to provide additional information essential to the planning of a major repair program.

File Development

Development and installation of an air aspirator at F Area to replace the 107 basin sampling pumps was completed during the month. This installation will result in a savings of approximately \$700 per year in servicing and lubrication costs.

Gas Processing Building

The 115-D Building gas circulating equipment, which was modified to service both D and DR Piles, operated normally during the month. Installation of additional standby facilities continued according to plan, and are 85% complete at month end.

Additional refinements have been made in the gauge systems on the carbon dioxide storage facilities at H Area with attendant increased accuracy in inventory measurement.

Special Hazards

Radiation intensities up to 690 mrem/hr were experienced on the second experimental level of the DR Pile following the installation of the neutron spectrometer facility in Y hole during the October

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P Division

25 outage. Access to this level has been restricted until more adequate shielding is provided.

During discharge operations on the outage of October 25 at D Area, unusually high contamination levels were experienced on the rear face. Readings as high as 35 rep/hour with a gamma component of 300 mr/hour were noted. Special cleaning of tip-offs was required. There was no overexposure of personnel.

Increases in operating level at B Pile have caused an increase in radiation levels at various check locations around the pile. Several zones have been restricted until complete data are available.

Project Status

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

- C-306 (Front Face Shielding Caps)
B, D, and DR Piles completed. F Pile is scheduled for November.
- C-330 (Improved Ventilation, Building 313-314)
Development work is being actively continued.
- C-339 (Rolling Mill)
Termination of this project is proceeding in accordance with a directive received from the Atomic Energy Commission on August 3, 1950.
- C-347 (Nozzle Replacement)
The installation of nozzles has been completed at B and D Piles. It is planned to begin work on F Pile during October.
- C-355 (Pile Clearance, Near Side)
Further work on this project has been postponed indefinitely since the need for doing this work is not at present urgent.
- M-713 (Flexible Vertical Rod)
Initial strength tests of the experimental rod proved satisfactory. A full scale rod for pile tests is planned.
- M-723 (Repairs to 107-B Basin)
Repairs were made during the extended October outage. Additional repairs are planned.
- C-321 (Effluent Diversionary Outlet)
Drawings are complete and the project proposal is nearing completion.
- B-554-R (Steel Process Sewer, 105-107-B)
Additional investigation into the condition of

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the present 105-B process sewer was completed during the October extended outage. Recommendations are being prepared.

B-803 (High Tank Control Valves, 100-B, D, F, and H)
Drawings are complete and the project proposal is nearing completion.

B-814 (CO₂ Bulk Handling Facilities)
Drawings are complete and the project proposal is nearing completion.

B-806 (Flexible Horizontal Rod)
Project scope has been defined and proposal preparation has started.

B-1841 (Ball 3X System)
Development work on the ball 3X system continues. Plans for expediting preliminary work on pile installations are being considered.

C-388 (P-10X)
The Scope Committee approved the use of the 108-B Building for housing the P-10X facilities. Tentative plans were also made to add the necessary facilities to meet currently established production requirements. The scope placing P-10X facilities in 108-B is defined by the following document and drawings:

1. HW-19310, "P-10X Design Features", F. A. Bowman to File, October 31, 1950.
2. Drawing No. H-1-2612, "P-10X Project Plot Plan, - 108-B".
3. Drawing No. H-1-2613, "P-10X Project - Building 108-B Contamination Zoning".

At present the design features, floor plan, and contamination zoning of 108-B are under study.

The study of J slug handling is approximately 90% complete.

300 AREA METAL FABRICATION

Production Statistics

Production for the month of October was as follows:

Billets Produced	19 Tons
Rods Machined	114 Tons
Bare Pieces Machined	93 Tons
Acceptable Pieces Canned	89 Tons

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P Division

DECLASSIFIEDMelt Plant

The casting yields were as follows:

	<u>September</u>	<u>October</u>	<u>To Date 1950</u>
Billet (Avg. per furnace run)	85.5	86.0	75.4
Billet (Yield from total scrap processed)	90.9	90.9	84.3
Solid Yield	94.2	93.5	89.9

A continued improvement was made on both billet yield and quality during the month. The billet yield represents a new record for casting uranium scrap.

Machining

The machining yields were as follows:

	<u>September</u>	<u>October</u>	<u>To Date 1950</u>
	80.9	81.6	78.5

The yield for October is a new record yield for four inch slugs machined from rolled rods. The machining of long, good quality rods assisted in attaining this yield.

Chip Recovery

The chip recovery yield was as follows:

	<u>September</u>	<u>October</u>	<u>To Date 1950</u>
	88.2	87.7	88.6

The entire chip recovery process was operated four shifts and the press was operated an additional nine shifts. A total of 27,065 pounds of TXB was produced.

The slight decrease in yield was caused by a larger amount of fines being included in the turnings processed. The fines resulted from machining rods of smaller nominal diameter and were more readily dissolved in the chip pickle acid.

Oxide Burning

The material burned was as follows:

<u>Weight Out - Pounds</u>		
<u>September</u>	<u>October</u>	<u>To Date 1950</u>
6,053	5,427	147,034

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P Division

Oxide on Hand at Month End (Metal Content)

To be burned	1,805
To be analyzed	1,189
To be shipped	<u>17,389</u>
Total	20,373 pounds

Canning Operation

The canning yield was as follows:

	<u>September</u>	<u>October</u>	<u>To Date</u> <u>1950</u>
	91.6	89.1	92.8

Canning rejects, by cause, were:

	<u>Percent</u>		
	<u>September</u>	<u>October</u>	<u>To Date</u> <u>1950</u>
Non-seating	2.4	5.0	1.8
Marred Surface	2.1	2.3	1.9
Al-Si on Outside of Can	0.7	0.8	1.0
Frost Test	0.6	0.3	0.7
Bad Welds	1.0	0.8	0.7
Miscellaneous	<u>1.6</u>	<u>1.7</u>	<u>1.1</u>
Total	8.4	10.9	7.2

The lower canning yield during October resulted chiefly from a high percentage of non-seating and marred surface rejects. Although marked improvement had been made toward reducing both types of rejects by month end, the exact cause for the high frequency of non-seating rejects has not been definitely established. The rather wide dimensional variation in Victor aluminum cans is responsible to some extent for increasing non-seating rejects; however, the aluminum silicon canning bath composition is suspected of being the chief cause. It has not been possible to determine why, because although the bath behaves differently in use, apparently requiring higher temperatures to maintain good fluidity, analyses fail to show any significant difference from that of aluminum silicon formerly used. Increasing the canning bath temperatures from _____, improved the situation and was instrumental in reducing non-seating rejects from 8% to 2%. Investigation into the problem is being continued. Marred surface rejects are chiefly attributable to the training of new operators, although some are a result of defects in the Victor cans which are not apparent until after the etching bath.

Effective October 13, the use of Scovill cans was discontinued because of significantly high reactivity losses amounting to approxi-

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P Division

mately 0.096 in greater than the loss for Victor cans for each stringer tested. Approximately 25,000 Scovill cans are being held, pending a decision as to their disposition.

Special Request Pieces Canned

<u>Request Number</u>	<u>Content</u>	<u>No. of Pieces</u>
UCRL-122	Aluminum-Platinum, Plutonium Alloy	1

In addition, 1,706 bismuth slugs and sixty papoose slugs were canned.

Slug Recovery

	<u>Percent Recovered</u>		<u>Avg. Wt. - Pounds</u>	
	<u>October</u>	<u>To Date 1950</u>	<u>October</u>	<u>To Date 1950</u>
Z Slugs	95.3	86.5	3.900	3.901
X Slugs	4.2	11.8	3.860	3.858
Rejects	0.5	1.7	--	--
Total	100.0	100.0		

Inspection and Testing

Autoclave results were as follows:

<u>September</u>	<u>October</u>	<u>To Date 1950</u>
0.41/M	0.29/M	0.21/M

Thirteen autoclave failures occurred during the month. Seven failures were directly attributable to poor bonding of the cap coupled with small pinholes in the weld bead, three resulted from small holes in the can wall, one had a cracked cap, and cause for the remaining two was undetermined.

No slugs were found to be penetrated at 0.010" during the month.

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

	<u>Percent Usable</u>		
	<u>September</u>	<u>October</u>	<u>To Date 1950</u>
Aluminum Caps	99.5	99.4	98.2
Aluminum Cans	97.5	94.6	93.8
Steel Sleeves	100.0	*	85.3

* No new sleeves were inspected during October.

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To properly match the outside diameter of Victor cans with the proper size sleeves, it was necessary to perform a 100 percent inspection for outside diameter. Those having an outside diameter of 1.434" or greater were segregated for use in conjunction with the large diameter sleeves and those under 1.434" for use with small diameter sleeves.

Material Handling

During the month, 98 tons of alpha rolled rods were received from Simonds Saw and Steel Company.

Six hundred and twenty canned gamma extruded slugs were shipped to ORNL.

No U₂₃₅ alloy slugs were received during the month. A total of 162 canned pieces was transferred to the 100 Areas making a total of 7,360 pieces transferred to date. Six acceptable pieces were returned from 100-D making a total of 176 canned pieces on hand ready for pile loading.

305 Test Pile

The test pile was shut down for approximately one week during the month for calibration of the control rod and a study of barometric pressure effects on the pile. Although this work is not yet completed, it resulted in a marked improvement in the accuracy of testing regular canned material and billet eggs.

A total of 141 tests were made during the month. Thirty-three tests were run on regular slugs, 52 on billet eggs, 16 on J Al-Si bath material, 6 on graphite, and the following on special work requests:

<u>Request No.</u>	<u>Title</u>	<u>No. of Tests</u>
158	To compare the reactivity of Scovill and Victor cans.	3
159	To determine (1) whether the reactivity difference between Scovill and Victor cans in SWR 158 is statistically significant, (2) the magnitude of this difference in canned slug stringers, and (3) the relative reactivity of Alcoa cans of similar geometry.	18
160	To test the purity of graphite.	13

In addition, 42 tests were run on uranium slugs to determine the relationship between the reactivity of bare and canned slugs.

Special Hazards

No unusual conditions developed during the month.

P Division

Development

A combined chamfering tool and slug catcher was tested and installed on all roller turner lathes during the month. Based on initial time studies, this change will result in a time saving equivalent to about \$1400. per year.

Modified mold baskets were installed in the melt plant furnaces on a replacement basis. This revision provides for better alignment of the molds with crucibles. It is estimated that this change will result in an annual saving of \$780. in labor and reprocessing costs.

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November 8, 1950

S DIVISION

OCTOBER, 1950

OPERATING SECTION

I. GENERAL

One hundred seventeen charges were started in the Canyon Buildings, one hundred twenty-two charges were processed through the Concentration Buildings, and one hundred twenty-one charges were completed through the Isolation Building exclusive of acid washes. The average purity for completed charges was 98.5 per cent.

	<u>B Plant</u>	<u>T Plant</u>	<u>Combined</u>
Number of charges started in Canyon	58	59	117
Number of charges completed thru 224	60	62	122
Number of charges completed thru 231	57	59	116

The average cooling time for metal processed was approximately 75 days, with the minimum cooling reached for any one push processed during the period being 67 days. The average over-all time cycle for the process including the processing of an acid wash run from each plant was 12.7 hours based on a 31 day production month.

Canyon and Concentration Building Production Performance Data -
(10-1-50 thru 10-31-50, inclusive)

<u>For Completed Charges</u>	<u>B Plant</u>	<u>T Plant</u>	<u>Combined</u>
Percentage of starting product in waste:			
This month	3.4 (a)	3.0 (a)	3.2
Last month	3.0 (b)	2.9 (b)	3.0
Cumulative to date	4.0 (c)	3.8 (c)	3.9
Percentage of starting product recovered:			
This month	96.2	97.4	96.8
Last month	96.9	95.7	96.3
Cumulative to date	96.8	95.7	96.2

	<u>B Plant</u>	<u>T Plant</u>	<u>Combined</u>
Percentage of starting product accounted for:			
This month			
Last month	99.6	100.4	100.0
Cumulative to date	99.9	98.6	99.3
	100.8	99.5	100.1
Gamma decontamination factor (Log.)			
This month			
Last month	7.03	7.27	7.14
Cumulative to date	6.91	7.20	7.03
	7.32	7.35	7.33

(a), (b), (c): Includes waste from processing recycle. The recycle wastes are estimated as: (a) 0.025%-T Plant; 0.015%-B Plant. (b) 0.025%-T Plant; 0.017%-B Plant. (c) 0.074%-T Plant; 0.009%-B Plant.

Isolation Building Performance Data (10-1-50 to 10-31-50, inclusive)

	<u>Prepared for Shipment</u>	<u>Recycle</u>	<u>Waste</u>	<u>Retained Material Samples</u>	<u>Material Balance</u>
Average for this month	91.54	6.88	0.05	0.03	98.5
Average for last month	92.4	6.07	-0.08	-0.015	98.4
Average to date	95.51	4.82	0.05	0.013	100.4

II. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	510
End of month	535
Net increase	25

Changes which occurred:

- 3 new hires (monthly roll)
- 3 transfers from another division (monthly roll)
- 1 transfer to monthly roll from weekly roll
- 4 transfers from other divisions (Technical Graduates-weekly roll)
- 3 transfers to other divisions (Technical Graduates-weekly roll)
- 20 transfers from other divisions (weekly roll)
- 2 transfers to other divisions (weekly roll)

E. T. Walsh was promoted from Supervisor-in-Training to Senior Supervisor, October 1.

R. W. Knostman was transferred from the weekly roll as a Supervisor-in-Training, October 1.

G. R. Gangnath, R. S. Himmelright, and H. P. Simonds were transferred from the Technical Divisions as Supervisors-in-Training, October 1.

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The following new hires reported as Supervisors-in-Training on dates as shown:

C. E. Hirsch	October 5
L. D. Gustafson	October 16
W. P. Wood	October 16

III. AREA ACTIVITIES

Production Performance

The fifty-eight charges scheduled in the B Plant Canyon Building were started; however the fifty-nine charges started in the T Plant Canyon Building fell three short of the schedule. This was due to time lost because of failure of the 8-2 centrifuge late in the month and the subsequent difficulties experienced in detecting and eliminating the source of trouble.

Extraction Waste Losses - B and T Plants

Significant data on average extraction waste losses are tabulated below:

	<u>B Plant</u>		<u>T Plant</u>	
	<u>October</u>	<u>September</u>	<u>October</u>	<u>September</u>
Analyses before rework	1.64	1.61	1.46	1.32
Analyses after rework (throw-away)	1.25	1.18	1.12	0.98
Average MWD/Ton	420	417	416	421

Acid Washes - B and T Plants

Acid washes, started through extraction at the end of September, were completed through one parallel line in the Canyon Building and through the Concentration Building in both B and T Plants. Product recovery was normal at all points in B Plant, but abnormal recoveries were noted at Section 14 in the T Plant Canyon Building and in Cell F of the Concentration Building. The Section 14 pick-up was 28.67 per cent of a standard charge although no specific cause was determined. Accordingly a special flush of Section 14 was made after the processing of 18 charges; the pick-up, 4.55 per cent, was normal.

The acid preflush through E and F cells picked up 33.52 per cent of standard charge, of which approximately 28 per cent was attributable to F Cell. Here again a special F Cell flush was made after further processing, and a normal pick-up of 4.62 per cent was obtained.

The following data detail the product recovery for the two washes:

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<u>Run</u>	<u>Extraction</u>	<u>Sect. 12 & 2nd</u>	<u>221</u>	<u>224</u>	<u>Total thru</u>	<u>Preflush E</u>
		<u>1st Cycle</u>	<u>Cycle</u>	<u>Bldg.</u>	<u>Bldg.</u>	<u>Process & F Cells</u>
B-10-09-AW-1	10.76	18.00	7.14	35.90	5.96	41.86 20.00
T-10-09-AW-1	4.62	39.91	9.61	54.14	3.81	57.95 33.52

Production Tests - B and T Plants and Isolation Building

Coating Waste Losses (Production Test 221-B-8)

Further evaluation of the use of water flushing of bare slugs following decoating operations continued to indicate a small but definite saving of product as compared with 5 per cent nitric acid flushing.

Thermal Decomposition of peroxide in Supernatants from Peroxide Precipitations (Production Test 231-11)

No process difficulties were experienced in carrying out thermal decompositions of peroxide in the Isolation Building supernatants while using a 60 minute heating cycle to attain 70°C; therefore evaluation of a 40 minute cycle was begun. Thus far no process abnormalities have been experienced. Evaluation will continue.

Reduction of Extraction Rework Chemicals

A 50 per cent reduction in extraction rework chemicals was evaluated over a series of runs in T Plant during the month and found to be economically unjustifiable. The rework product recovery was decreased an average of 0.17 per cent per run, thus overbalancing the combined gains through essential material cost reduction and reduced waste storage space.

Parallel Operation of F Cell Centrifuge - B Plant

Piping modifications in F Cell of the B Plant Concentration Building were completed which permit parallel operation of the two centrifuges located in that cell. Satisfactory processing of runs through the equipment since the rearrangement has been experienced and the time cycle through this step has been reduced to nine and one-half hours. Similar changes were made in T Plant during the previous month.

WASTE DISPOSAL

Cribbing of Second Cycle Waste

With the X-112-B and X-112-T tanks each becoming half full during the month, cribbing of the second decontamination cycle waste from each was resumed. A total of 327,250 gallons in T Plant and 507,700 gallons in B Plant had been cribbed by month end without incident.

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DECLASSIFIEDHW-19325 - *Del*Diversion of Concentration Building Waste - T Plant

The sludge layer in the X-204-T settling tank having reached a level two inches below the overflow, T Plant Concentration Building waste was diverted to the X-203-T tank during the month.

Waste Status

The status of the Waste Storage areas as of October 31, 1950 is indicated in the following table.

Tank Farm	200 East Area Waste					Reserve Capacity in				
	Gallons (10 ³) in Storage					Batches to Process				
	B	C	BX	BY	Total	B	C	BX	BY	Total
Metal	1579	3374	3158	1490	9601	0	0	0	1514	1514
1st Cycle	2645	3170	2299	0	8114	0	0	248	434	682
2nd Cycle	1127	0	0	0	1127	Cribbed as necessary				
TBP Reserve	-	-	-	-	-	-	-	-	Tank	
									109 BV 758,000 gals	
Waste Evap.						Tank				
Reserve	-	-	-	-	-	106B	-	-	-	530,000 gals

Tank Farm	200 West Area Waste				Reserve Capacity in			
	Gallons (10 ³) in Storage				Batches to Process			
	T	U	TX	Total	T	U	TX	Total
Metal	1579	4737	2226	8542	0	0	1091	1091
1st Cycle	3170	1585	2725	7480	0	0	516	516
2nd Cycle	1382	0	0	1382	Cribbed as necessary			
TBP Reserve	-	-	-	-	-	-	Tank	
							115TX	
							758,000 gals	
Waste Evap.							Tanks 116,	
Reserve	-	-	-	-	-	-	117 & 118TX	
							2,274,000 gals	

MECHANICAL PERFORMANCECentrifuge Failure - T Plant

In T Plant near the end of the month the Section 8 centrifuge failed completely and could not be restarted. When a replacement, a recently overhauled and tested centrifuge, failed similarly within a few minutes, installation of another centrifuge was delayed pending full investigation. It was determined that a non-standard process jumper, in service since February, 1950, was causing the connecting dip tube to bind against the centrifuge bowl. This was true when the jumper was installed in either machine, and removal of the bent dip tube permitted normal operation of the machines. Following a complete dip tube inspection and

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replacement of one additional bent dip tube, a newly fabricated non-standard jumper was installed and normal operation resumed. Similar repairs are planned for the second centrifuge to restore its status as an available spare.

Canyon Equipment Failures - B and T Plants

A description of equipment failures in B and T Plant Canyons is given below:

- a) In B Plant the Section 7 precipitator agitator assembly failed and was replaced. The defective assembly is being held for final disposal.
- b) In B Plant a leak was detected and confirmed at the discharge flange of the jet in the Section 7 centrifuge to solution tank transfer assembly. A new assembly was installed, and the old one held for final disposal.
- c) In T Plant the precipitator to centrifuge "A" jet assembly in Section 14 failed at the steam connector head, and was replaced. The defective assembly was held for subsequent repair.
- d) In T Plant the precipitator to centrifuge "A" jet assembly in Section 17 failed at the process connector head. Investigation revealed the connector head itself to be faulty. This was replaced, the assembly regasketed, and reinstalled. Subsequent operation has been satisfactory.
- e) In T Plant the precipitator distributor in Section 17 failed at the jet steam inlet flange. The assembly was removed, regasketed, and returned to satisfactory service.
- f) In T Plant the precipitator to centrifuge "A" jet assembly in Section 19 became inoperative and was replaced. The removed assembly was disassembled, cleaned, regasketed, and reinstalled when the second assembly failed to perform satisfactorily. Operation has since been normal. The second assembly will be overhauled and stored as a spare.
- g) In T Plant the precipitator to centrifuge "B" jet assembly in Section 13 failed at the jet steam inlet. It was replaced with a new assembly on which the jet flanges and bolt holes were welded to prevent gasket leaks. No warping of the assembly due to welding was noted, and subsequent operation has been satisfactory.

Concentration Building Mechanical Difficulties - B and T Plants

- 1) Leaks developed in the precipitator jacket in Cell A at B Plant which required rewelding.

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- 2) The water sprays for the centrifuges in B and E cells in T Plant were found to be severely corroded, with the orifices in the spray heads considerably enlarged. These sprays were replaced.
- 3) The HF addition tubes in the D Cell precipitator in T Plant were found after usage through approximately 250 runs to be severely corroded and were replaced. The HF addition tubes for the B and E cell precipitators, which have been in service for a lesser period, were found upon inspection to be in satisfactory condition. Inspection of some installations in B Plant showed the HF addition tubes still in good condition.
- 4) The spray in the B cell precipitator was replaced after corrosion caused the suction leg to break off just below the spray slot.

IV. SPECIAL HAZARDS

Isolation Building Stack Gas Contamination

The activity of the air being discharged from the 903 exhaust system at the Isolation Building was constant during the month at an approximate concentration of 1×10^{-11} ug/cc. This figure is higher than normal by a factor of 10, but should be restored to the normal of 1×10^{-12} by replacement of filters on the exhaust from cell 3 which had been completed at month end.

V. PROCESS CONTROL

Dissolver Off-Gas Filter (Proj. C-337) and Silver Reactor (Proj. C-378)

Installation of the first off-gas filter - Silver reactor unit was completed in 221-B Building on the 4-5L dissolver, October 24. At month end one coating removal and three dissolvings had been completed using the filter-reactor. Evaluation of the unit is in progress. It is expected that the second filter-reactor will be completed and installed in T Plant during November.

First Decontamination Cycle Waste Evaporation (Project C-369)

Design

The design phase of the project is 88% complete. Practically all of the critical drawings have been submitted for approvals and subsequent forwarding to the Control Division of Project Engineering for the procurement of materials. Completion of design is scheduled for early November.

Construction

- a) Installation of the raw and sanitary water lines is approximately 40% complete.

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- b) The foundations of the buildings are complete as well as the stub wall of the process section.
- c) The piping under the process section, although scheduled to be complete at this time, is only 30% complete and is retarding the architectural phase of the construction.
- d) The footing and slab of the diversion box has been poured, and the wall forms are in place.
- e) Excavation for outside delivery lines from the diversion box to three tanks in the TX tank farm is 40% complete.
- f) Relocation of a power line has been completed.
- g) Electrical leads have been installed to the floor level of the strand steel building.

VI. EXPANSION SECTIONTBP Project (C-362)Essential Materials

- 1. Concerns who expressed interest in supplying nitric acid as required for the Project are scheduled to return their bids by 11-6-50. The Purchasing Division feels that present indications point to a satisfactory contract.
- 2. A survey was made of the storage space requirements for a four months operating supply of dry chemicals. The study indicated that a minimum of space exists in 221-U and 275-W to store this quantity and the retaining of a temporary construction warehouse in the vicinity of the 200-U Area is being investigated for additional essential material storage space.

DesignA) Phase I - Metal Removal - One Cascade

- 1. Ninety-three Phase I prints were approved during the month. Of the 481 scheduled prints for this Phase, 139 have been approved to date.
- 2. Revision Request No. C-362 (14) to change the material of construction for the waste pump tank (TK-WR-001) from a steel to type 347 stainless steel was approved. This change was felt to be advisable due to the fact that the tank can not be replaced and it is possible that incompletely neutralized waste could be routed into this tank.

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3. With the concurrence of the Instrument Division, the operating and design sections of the Electrical Division, and the D&C Divisions, Kellex was requested to eliminate the concrete encasement for instrument and electrical lines at the 241 waste removal units.
4. Work Releases No. 5 and 6 of Work Authority No. C-362 (7), releasing the construction of the waste removal system at 241-U Tank Farm, were issued during the month. G.E. Construction Division will perform all of the work inside the present 241-U fenced area, with the exception of the waste line loop between the master and cascade diversion boxes. The pipe loop, located in the northeast corner of the 241-U Area, will be fenced off to place it outside the 241-U Area proper. A&J will perform all the remaining authorized work. None of the A&J work will require HI control. A&J will be responsible for material control for all the job. The work is required to be finished by June 1, 1951.

B) Phase II - Metal Removal - Remaining Cascades

1. Only 2 of the scheduled 28 Phase II scope prints have been received to date. Kellex proposes to re-issue their Design Proposal KLX-1077 including the changes requested by G.E. Scope prints will be issued subsequent to the issuance of the corrected document. Construction completion dates for Phase II are presently planned as follows:

241-CR, September 1, 1951
241-BXR, December 1, 1951
241-TXR, February 1, 1952

C) Phase III - Design of Underground Pipe Lines

1. The P & M Division estimates the design of this Phase to be 50% complete. The Phase III drawing schedule lists 134 prints. The Manufacturing Divisions have approved 34 of these prints to date.
2. A contract for the construction of this Phase is currently being negotiated with A&J. It is expected that construction work will be initiated during November, 1950.

D) Phase IV - Reactivation and Conversion of 200-U for TBP

1. The remainder of the Phase IV drawing schedule was received from Kellex. The total number of Phase IV drawings scheduled for issuance is 1541. Ninety-eight prints, including 41 mock-up prints, have been approved by the Manufacturing Divisions to date.

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2. Purchase requisitions have been issued by the D&C Divisions for 140 electrical motors. These included motors of 5 different ratings, i.e. 2, 3, 5, 7½ and 10 HP. This will supply all the motors required for 211-U Canyon service with the exception of the column pulse generator motors.
3. A more detailed breakdown of building ventilation requirements was received from Kellex. The total requirements for 211-U, 224-U, and 291-WR vault were specified as 43,000 cfm. This provides 4 air changes per hour for the pipe trench, 6 air changes per hour for normal cells, 8 air changes per hour for organic cells, and 17 air changes per hour for the cells housing the evaporator units (cooling requirements).

After a thorough investigation it was decided that the existing stack fans were of insufficient capacity to fulfill the above demands even in series operation. Since parallel operation is desired, the purchase of new fans of suitable design to provide the required needs was recommended.

4. Kellex document titled "Investigation of Adequacy of Existing Steam Header System - 221-U Canyon Building" was received. This document outlined Kellex's reasons for concluding that the existing steam supply system appears adequate.
5. Conclusion that expansion bends or bellows in Building 221-U jumper installations would not be required was reached in a meeting of Kellex and GE representatives, substantiated by general observations of jumper installations in the 272-E Mock-Up Shop. The diversion box and cascade pipe jumpers were not included in the discussion since Kellex personnel present indicated that this condition had previously been investigated and no expansion bellows or extra expansion loops were required. It was concluded that if the use of an expansion bellows is found unavoidable, prior notice will be given the General Electric Company before it is included in the design drawings.
6. In view of difficulties and procurement delays brought about by the non-standard reversed dished head originally specified by Kellex for 221 and 224 Building Process Tanks, instructions were given to alter the design to use standard flanged flat bottom tanks.

Development

1. Detailed design of the column pulse generator by Proportioneers Inc. was 80% complete as of October 27, 1950. Proportioneers estimates that their design work will be completed by November 3, 1950. It is expected that fabrication of the unit will be started immediately after preliminary approval of the completed design.

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Proportioneers has issued a purchase order to the General Electric Company Apparatus Department for the pulse generator drive mechanisms. This system consists of a variable speed AC drive requiring only an induction motor to be installed in the cell. Speed control will be effected by a frequency changer and related electrical devices that will be installed in the operating area rather than the cells.

2. The Separations Technology Division has previously indicated that data from the long tube evaporator in 321 Building does not favor single step product concentration to attain the 85% UNH solution assumed for the TBP and UO_3 scope. More recent data shows that above 78% concentration the heat transfer coefficient drops off sharply indicating a crystallization of UN or UO_3 on the tube walls.

It is therefore planned to concentrate the UNH solution to 78% UNH in the presently scoped equipment, prior to its feed into the UO_3 Plant. It is anticipated that this change will not require any alterations to the UO_3 scope since it is estimated that the 4000# of additional water per day in the feed solution will increase the time cycle for each of the UO_3 decomposition pots only 20 minutes. With two of the 18 pots as spares and assuming an 80% operating efficiency this small increase is not excessive.

3. A prototype Peerless pump was received by the Separations Technology Division this week and initial performance tests were begun. The delivered pump is a six stage centrifugal pump. Head capacity, and power curve data obtained in the initial six hours of operation corresponded to the manufacturers performance data. The pump operated smoothly and no vibration tendencies were noted. At a meeting of Separations Technology, S, and D&C Divisions representatives, it was agreed that the independent thrust bearing at the top of the torque tube was not necessary for proper pump operation. Production pumps will be ordered without such a bearing and with a rigid coupling joining motor and pump. The prototype unit will be modified to similar conditions upon receipt of the rigid coupling and further tests will proceed.

Construction

277-U Mock-Up Building

1. The underground grid system is complete and all the underground electrical conduits have been encased. All the building column forms have been completed but concrete will not be poured until the arrival of structural steel. Forms for 3 of the 6 mock-up cell floors have been completed and reinforcing steel has been located.
2. The Purchasing Division reports that a portion of the structural steel for the 277-U Building was shipped from the East coast by

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boat instead of rail. This will introduce a substantial delay in the final receipt of the structural steel. Shipment of the steel to the job by the Seattle fabricators is expected to extend from November 20 to December 10. Because of this delay, it is expected that the building will not be closed in until February 1, 1951.

U Area Dismantling

1. Approximately 50% of the canyon cells have been stripped of jumpers and tanks. Ten per cent of the cell cover blocks have been removed from 221-U for storage. Canyon stripping is estimated to be 33% complete. All panel board instruments in the operating gallery have been removed for packaging. Approximately 50% of the gang valves and related piping have been removed.
2. As of October 25, 1950, 380 men were engaged in this Phase of this Project. This work is expected to be complete by January 1, 1951.

UO₃ PROJECT

1. Directive HW-158, Modifications No. 3 and 4 have been received. Modification No. 3 authorizes General Electric Company to incur costs not to exceed \$1,805,000 for the design and construction of the UO₃ Plant (Project C-361). These costs include the transfer of capital property having an estimated book value of \$14,000. Modification No. 4 simply rescinds a request for a revised construction schedule which was made in Modification No. 3.
2. Project C-361, Basic Work Authority (C-361-6) was received during the month. This work authority authorizes the following:
 - a) Prepare complete design for the Metal Conversion Facilities.
 - b) Selection of a construction sub-contractor in accordance with established contractual procedures.

This contract is to be negotiated on a CPFF basis.

 - c) Procurement of engineered or critical items which might possibly delay work if not requisitioned at the earliest possible date.
3. In general the design of Project C-361 is on schedule, over-all design being 35.9% complete to date compared to a scheduled completion of 38%. Procurement of material is in general on schedule with 62% of the total requisitions being issued to date.

Redox (Project C-187-D)

Design

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DECLASSIFIEDArchitect-Engineer (Kellex Corporation)

1. Design work by the New York office of the Architect-Engineer was completed during the past month and all design changes are now being handled on a field change request basis by the field office of the Architect-Engineer.
2. Additional acceptance tests prepared by the Architect-Engineer were received during the past month and comments returned to the Design Division for inclusion in the test sheets prior to final approval.
3. The specifications for the filter media and packing densities of the packaged unit Fiberglas filters in the 202-S Canyon Building were received by the Design Division from the Technical Divisions during the past month and transmitted to the Architect-Engineer. The specifications include two types of Fiberglas (115-K and "AA") placed in 4 layers in the filter, each layer being of a somewhat different packing density.
4. At the request of Manufacturing Divisions, the designed floor loading in the chemical storage section of the 202-S Canyon Building has been increased from 200 lbs/sq. ft. to a minimum of 300 lbs/sq. ft. and the floor will be constructed accordingly. The raising of the floor load will permit higher stacking of dry packaged chemicals in the area and a more efficient utilization of floor space.
5. Among the last drawings to be received from the Architect-Engineer were cell layout drawings showing the cell equipment in place with all jumpers in place. Sufficient detail was shown in the drawing of the jumpers to indicate where interferences could be expected in removing and installing jumpers by remote means. In general, it appears that jumper removal, particularly where associated with smaller equipment, will be more difficult than is experienced in the present plants because of local interference and general congestion in the cells, due in part to the relatively small size of some of the canyon equipment and in part to the uneven split of jumpers between the cold and hot walls of the cell.

G. E. Design

1. Design of outside facilities by the Power and Mechanical Group of the GE Design Division continued during the past month. A major piece of the design submitted from this group concerned the architectural, piping, and electrical aspects of the 276-S Building (Organic treatment). Revisions, bringing up to date previously issued drawings, were processed and the first few of the acceptance tests for GE Design outside facilities were received for approval.
2. Drawings showing the present HW sampling equipment adapted for use in the Redox Plant were issued for comments by the 200-W Area Project

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Engineering Group. Alterations to the box shielding on a few of the hotter samplers is now in progress along with other minor alterations to the proposed design.

3. Information is currently being gathered from interested vendors on an alternate method of heating the UNH transfer line from the 203-S Building (UNH Storage) to the 224-U Building (UO₃ Plant). This method, based on the principles used in the electrical thawing of frozen water pipes, will be compared in all respects with the previously proposed method of heating via heating cable embedded in the pipe lagging.

Construction1. 202-S Canyon Building

- a. The building structure is estimated to be 48.5% completed. Concrete work in the east and west ends of the building progressed rapidly during the past month and concrete pours are now being made at the crane maintenance platform level of the east end of the building and at the 4th level of Aqueous make-up on the west end of the building. Pouring of the canyon section of the building is in progress following the installation of the last kick plates on the operating gallery side of the canyon cell.

Concrete pours in the pipe tunnel roof (deck level) were completed in the extreme east and west ends of the canyon, however, no further pours are contemplated over the pipe tunnel until the tunnel pipe has been installed.

- b. Piping (including pipe through concrete) is estimated to be 14% complete. Welding and positioning of floor drain header piping is in progress in the north and south sample galleries and in the Aqueous make-up lower levels.

2. 240-S - 241-S Building

Work on the 240-S waste lines is estimated to be 50% complete. Excavation work on the 241-S tank farm is estimated to be 95% complete. All concrete tank pads have now been poured and of 7 tank base membranes now in place, 6 have received the grout overlay. Two bottom dollar plates have been placed on tank pads and are ready for welding. The fabrication of knuckle plates continues to be a problem, and the first shipment of these plates is expected on the plant on 11-2-50. Base forms for the retention basins have been started.

3. 277-S Mock-Up Building

Work on the 277-S Building is estimated to be 85% complete. The

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primary steel uprise along with mock-up cells is essentially completed. Electrical wiring continues in the building and is completed except for that of the mock-up frames and in a few outside locations. The transformer in the 277-S Building has been energized.

4. 291-S Stack

Work on the 291-S Stack is estimated to be 35% complete. The stack contractor has arrived at the site and some 8 concrete pours have been completed on the stack proper. Pouring of the fan base near the fan control house has been completed. Water proofing of the outer walls of the sand filter is now essentially complete and backfilling is now in progress.

5. Outside Lines

The estimated completion of outside lines is as follows:

Water	33%
Septic Tank and Tile Field	89%
Process Sewers	5%
Steam	60%

Training and Procedures

1. Training

The preparation of the manuals "An Introduction to the Redox Plant" and "An Introduction to the TBP- UO_3 Plant" is well along. These manuals will be distributed to the field early in December. As indicated by the titles, they are introductory in nature, however, they contain enough detailed discussion of salient features to provide an integrated picture of the new plants.

A schedule has been issued for the Training Lecture series to be given in connection with the Redox and TBP- UO_3 Training Programs. Lectures will start on Nov. 13, will end on April 25, 1951, and will be given in 200-West Area. There will be seventeen lectures, given by specialists, on topics pertinent to the operation of the Redox and TBP- UO_3 plants. Each lecture will be given four times to obtain coverage of all shifts.

A third component of the Redox-TBP- UO_3 Training Program, that of operational training on the demonstration and scale-up columns at Building 321, will start in mid February for S Division supervision and operators.

2. Procedures

a. General

A revised schedule was issued for the preparation of manuals,

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construction checking procedures, and operating procedures.

b. Redox

Collection of the miscellaneous information required for the writing of procedures is underway, and preliminary work is being done on procedure writing.

c. TBP-UO₃

A similar collection of miscellaneous information is underway for this project. A number of design decisions must be made before this project is ready for procedure writing.

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POWER DIVISION
OCTOBER 1950

GENERAL

Water treatment was satisfactory for the month with raw water turbidities and coagulant feeds following a normal pattern.

PERSONNEL AND ORGANIZATION

No. of employees on payroll - October

Beginning of month 558

End of month 556

Net Decrease 2

The indicated net decrease is the result of the transfer into the Division of six employees, while eight left the Division. Those leaving the Division included one, dropped for inability to perform available work, two transfers to other Divisions, three resignations, one death, and one retirement.

100 AREAS

Beneficial occupancy of the 100-DR Water Plant, Project C-342, was obtained by the Power Division on October 1. On October 3 the plant was placed in continuous, full flow operation for start-up of the DR pile. A performance test was run on No. 5 boiler on October 18, 19, and 20, and the boiler was made available for operations on October 25. The full load power house test was conducted on October 25. With some few exceptions, unfinished project items have been assigned to the Manufacturing Divisions for completion.

Two deaerators have been lowered to ground level on the C-102 De-aerator Dismantling Project in the 100-F Area 185 Deaeration Building. In the process of lowering the third, which was the No. 8 deaerator, the rigging failed and the deaerator fell through the fifty-five foot level roof and came to rest at the forty foot level, partly protruding into the 190 Tank Room. This incident occurred at 3:06 p.m. on October 26. For safe operation, it was necessary to remove from service all equipment in the east half of the 185 Deaeration Building and the No. 3 storage tank in the 190 Tank Room, with the exception of No. 4 tank left floating with outlet valve open to suction header. This arrangement will continue until No. 8 deaerator is removed from the roof. Pile operations were curtailed until 6:00 p.m. October 27. During this period, additional supporting steel was erected under No. 7 deaerator as a precautionary measure.

Process water flow and pressure was reduced from 4:20 p.m. on October 8, to 7:20 p.m. on October 23 in the 100-B Area 190 Process Pump House

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for Project C-347 nozzle program work. During the above curtailment, sludge was removed from both sections of the raw water reservoir; the No. 1 process water storage tank was drained, inspected and repaired, and the north elevated water storage tank on the emergency water system was drained and inspected.

A grade "Z" power condition was in effect from 8:37 a.m. to 3:05 p.m. on October 13 in the 100-B Area. During this period, electric power was supplied to the area from the 184 Power House emergency generator. A grade "W" power condition existed in the remaining areas during this period.

On October 4, in the 100-B Area 190 Process Pump House, the No. 1 Process Pump motor failed during an attempted start. Motor repairs had not been completed at the month's end.

In the 100-D Area 184 Power House, failure of automatic combustion control equipment resulted in a 50 psi steam pressure drop for a three to four minute period at 7:15 p.m. on October 1. Resultant process water pressure variations at the 190 Process Pump House amounted to a maximum of only 3 psi. Normal steam pressure was restored by the manual operation of combustion control equipment.

The transfer of dichromate equipment from the 108 Chemical Mixing Building to the 185 Deaeration Building in the 100-D Area has been completed except for the installation of bag hoisting equipment. This work is being done on Project C-396.

200 AREAS

The raw and sanitary water lines supplying the 231 Isolation Building and the 234-5 Facility were out of service on October 7 while a 4-inch connection was made to each for the new Evaporation Facilities for Waste Solutions, 200 West Area, Project C-369. The sanitary water line was out of service from 8:15 a.m. to 1:05 p.m. and the raw water line was out of service from 3:15 a.m. to 4:00 p.m.

The 225 psi steam line to the 221-271 "U" Canyon Building was placed in service on October 9. On October 11, the line was removed from service for five hours in order to make a 10-inch connection to the Redox Area.

The No. 2 transformer bank serving the 234-5 Facility in the 200 West Area failed at 12:55 p.m. on October 5, resulting in the trip-out of half the operating supply fans and the No. 3 and No. 4 freon compressors. This caused considerable disturbance of the ventilating systems but no reversals of air flow. The load was transferred to the No. 1 transformer bank and normal ventilating conditions restored at 1:25 p.m.

Work is in progress at the 284 Power House in the 200 West Area on the relocation of auxiliary equipment switchgear in connection with the installation of the new emergency generator. Construction work is, also, in progress on the installation of a new 3000 gpm motor

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driven pump in the 282 Reservoir Building in the 200 West Area. These jobs are included in Projects C-187-D and C-187-E.

300 AREA

The permanent installation of a whistle in the 384 Building Boiler House was completed on October 11.

Because of the new Hanford Works Laboratory location in the 300 Area it was necessary to relocate the water supply lines from North Richland which are in the vicinity of the ground water storage tank. A 12-inch by-pass line around the site was installed on October 21. The water supply from the North Richland source was interrupted from 8:30 a.m. to 4:00 p.m. for this purpose.

101 SHOPS

Maintenance work is in progress to prepare the air conditioning units for winter operation. Insulation repairs are being made, faulty steam coils replaced and steam regulating valves repaired and adjusted.

WHITE BLUFFS ICE PLANT

Manufacture of ice was discontinued for the season on October 11.

POWER ENGINEERING SECTION

A study was initiated at the request of the Atomic Energy Commission to determine the feasibility of converting Manufacturing area boilers to natural gas fuel. The engineering is being done by the Project Engineering Divisions.

A plot plan of power facilities for the Hot Semi-Works, Project C-349, was reviewed and approved by the Power Division.

Acceptance procedures for power equipment in the Redox Area, Project C-187-D, were reviewed and approved.

Design assistance was furnished for the relocation of water lines and site preparations for Hanford Works Laboratory, Project C-349-II.

Study of water plant problems, power plant efficiencies and related matters continued throughout the month.

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HW-19325 *Del*

POWER DIVISION STATISTICS

From October 1 1950

Through October 31, 1950

A R E A S

<u>RIVER PUMP HOUSE (Bldg. 181)</u>		<u>100-B</u>	<u>100-D</u>	<u>100-DH</u>	<u>100-F</u>	<u>100-H</u>
River Elevation (msl ft.)	(max)	388.8	380.7		367.2	372.8
	(min)	386.4	378.8		365.4	371.8
	(avg)	387.7	379.8		366.3	371.8
River Temperature	avg. °f.	58.3	59.0		59.0	59.2
Water to Reservoir	gpm avg. rate	25,307	55,992		36,535	49,557
Water to 183 DR	gpm avg. rate		29,414			

RESERVOIR (Bldg. 182)

Flow to Filter Plant	gpm avg. rate	21,568	46,165		31,745	44,160
Flow to Cond. System	gpm avg. rate	2,794	3,500		3,358	4,530
Flow to Cond. System (DR)	gpm avg. rate		4,095			
Flow to Export System	gpm avg. rate	945	2,232		1,432	867
Flow to Export System	gpm nor. rate	5,476	5,476		5,476	5,476
Chlorine, Added (#1 Inlet Pounds		10,666	16,352		18,000	13,000

FILTERED WATER (Bldg. 183)

Flow to Power House	gpm avg. rate	170	499		233	208
Flow to Process (190)	gpm avg. rate	18,989	33,527	35,186	29,075	39,935
Flow to DR	gpm avg. rate		6,201			
Flow to Fire & Sanitary	gpm avg. rate	189	212	--	215	115

WATER TREATMENT (Bldg. 183)

Chlorine - Consumed	pounds	2,934	4,998	11,695	2,000	6,000
	ppm avg.	1.50	1.07	1.07	1.50	1.04
Lime - Consumed	Pounds	11,000	38,400	38,860	26,000	31,000
	ppm avg.	1.4	2.2	3.5	2.2	1.9
Coag - Consumed	Pounds	38,000	99,500	87,400	62,000	111,000
	ppm avg.	4.7	5.8	8.0	5.3	6.8
Raw Water pH	pH	8.05	7.96	8.22	8.0	8.0
Finished Water pH	pH	7.70	7.73	7.67	7.71	7.79
Alkalinity, M.O. - Raw	ppm avg.	56	55	58	57	60
Finished	ppm avg.	53	52	54	56	62
Residual Chl. - Settled	ppm avg.	.25	.24	No Anal.	.19	.21
Finished	ppm avg.	.12	.11	.18	.13	.11
Iron - Raw	ppm avg.	.07	.06	.08	.06	.07
North Clearwell	ppm avg.	.012	.014	.003	.009	.015
South Clearwell	ppm avg.	.013	.015	.008	.011	.016
Hardness - Finished	ppm avg.	68	67	72	64	66
Turbidity - Raw	ppm avg.	2.8	3.6	3.0	2.0	3.0
Filtered	ppm avg.	0	0	0	0	0

Power Division Statistics

From October 1, 1950

Through October 31, 1950

		<u>A R E A S</u>				
		<u>100-B</u>	<u>100-D</u>	<u>100-DR</u>	<u>100-F</u>	<u>100-H</u>
<u>POWER HOUSE (Bldg. 184)</u>						
Maximum Steam Generated	lbs/hr.	148,000	280,000		132,000	128,000
Total Steam Generated	M lbs.	65,314	181,200		86,967	79,456
Steam Load - Avg. Rate	lbs/hr.	87,788	243,548		116,891	106,795
225 psi Steam to Plant (est)	M lbs.	54,781	153,052		73,143	66,774
15 psi Steam to Plant (est)	M lbs.	605	605		605	605
Coal Consumed	Tons	4,060	10,793		5,582	4,380
Coal in Storage (est)	Tons	37,989	33,703		33,107	36,141

TANKS (190 Bldg.)

Flow to 190	gpm avg. rate	18,739	33,277	35,186	28,325	39,685
Dichromate-Consumed	pounds	13,300	22,300	32,000	20,000	28,500
Chemical Analysis:						
pH	pH avg.	7.61	7.66	7.67	7.65	7.66
Dichromate	ppm avg.	1.8	1.9	2.0	1.8	1.8

PROCESS PUMP ROOM (Bldg. 190)

Flow to 105	gpm avg. rate	18,564	33,102	34,836	26,650	39,510
	gpm nor. rate	33,200	33,500	36,200	30,810	41,400
Water Temperature	Avg. °F.	60.8	60.8	60.8	60.8	60.8

VALVE PIT (Bldg. 105)

Solids Consumed	pounds	2,900	2,000	0	700	4,500
Chemical Analysis:						
A, B, C, & D Headers						
<u>Standard Limits</u>						
pH	7.5 - 7.8 pH	(max)	7.70	7.70	7.70	7.65
		(min)	7.60	7.60	7.60	7.55
		(avg)	7.63	7.63	7.65	7.60
Na ₂ Cr ₂ O ₇	1.8 - 2.2 ppm	(max)	1.9	1.9	2.2	2.0
		(min)	1.7	1.7	1.3	1.7
		(avg)	1.8	1.8	2.0	1.8
Iron	ppm	(max)	.020	.015	.025	.015
		(min)	.010	.005	.005	.010
		(avg)	.010	.010	.012	.012
Chlorides	ppm	(avg)	1.5	1.4	1.3	1.6

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Power Division Statistics**DECLASSIFIED**

From October 1, 1950

Through October 31, 1950

200 AREAS200-E200-WRESERVOIR (Building 232)

Raw Water Pumped	gpm avg. rate	2 529	2,946
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FILTER PLANT (Building 283)

Filtered Water Pumped	gpm avg. rate	307	655
Chlorine Consumed	lb.	151	241
Alum Consumed	lb.	852	1 395
Chlorine Residual - Sanitary Water ppm		.45	.31

POWER HOUSE (Building 284)

Maximum Steam Generated	lbs./hr.	31,250	57,708
Steam Generated - Total	M lb.	19,616	36,909
Steam Generated - Ave. Rate	lb./hr.	25,021	49,600
Coal Consumed (est.)	Tons	1,179	2,022
Coal in Storage (est.)	Tons	7,321	20,221

300 AreaPOWER HOUSE (Building 384)

Maximum Steam Generated	lbs./hr.	18,000
Steam Generated - Total	M lb.	11,443
Steam Generated - Avg. Rate	lb./hr.	15,380
Coal Consumed - Total (est.)	Tons	743
Coal in Storage (est.)	Tons	1,382

SANITARY AND FIRE SYSTEM

Sanitary Water from 3000 Area	gal.	24,384,600
Well Water Pumped - Total	gal.	0
Total Water Per Day	gal/day	786,600
Total Water	gpm avg. rate	546
Chlorine Residual	ppm	.35

MISCELLANEOUS AREAS

Ice Manufactured	lbs.	46,800
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101 SHOPS

Coal Consumed	Tons	248
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INSTRUMENT DIVISIONMONTHLY REPORT

October, 1950

GENERAL

Fourteen new employees and two reactivations were added to the roll during the month.

Additional funds were approved for the construction of the new Instrument Maintenance and Development Shop. A lump sum contract was awarded Edmund P. Erwen on October 6. Site preparation has been started.

100 AREAS (Reference: Doc. No. HW-19386)

Addition of new hires in the mechanic classification has allowed removal of men of lower classification from shift work. A minimum of shift coverage is being provided the five operating areas.

100-B Area

Nozzle replacement was completed between October 9 and 21. One thermocouple was replaced and three repaired.

Special instruments and controls were installed for the Westinghouse Creep Test to determine effects of neutron bombardment on special metals as compared to tests made only under varying thermal conditions.

Prototype Teepler pump control of Los Alamos design, Hanford revision, has been in continuous operation for five days with satisfactory results in Building 108-B (P-10).

100-D Area

Measurement of clearance between gun barrel and nozzle on front face flanges during the October 25 shut-down resulted in removal of thirty-nine nozzles for inspection. Two connections suspected as leaking were repaired. Since start-up, the amount of water removed from pile atmosphere has been reduced by half. Orifice meter performance under reverse gas flow was determined to be satisfactory. In event of water leakage near the front face, reactivity loss may be reduced by carrying the moisture away from instead of into the unit.

100-DR Area

IBM temperature monitor relay cabinet has been installed and circuit tied into the temperature monitor cabinet.

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HW-19325 *Del*

Upper limit of the BGSTN temperature recorder was raised to 400° C. to allow a higher operating level.

An unusual amount of disturbance to the water pressure controls in 190 Bldg. has been caused by foreign matter fouling the pilot valves. Accurate determination of the source has not been possible due to the urgency of maintaining operating schedules. Additional air filters are being procured.

100-F Area

Following the October 11 start-up an unusual amount of moisture was collected from the pile atmosphere. During the October 24 shut-down, pressure tests were used to isolate the process tube leak at a gasket on a rear nozzle. Dew-point analysis indicated the general region of the leak but is of limited value in isolation of the fault.

100-H Area

During the October 17 shut-down, three defective thermocouples were replaced. Examination revealed cause of failure to be improper cleaning of the wire prior to soldering into the well during fabrication.

Oscillographic camera records of the instrument power supply voltage revealed an unusual amount of high amplitude, fast transients that had not appeared on previous oscillograph records. Tests indicated that the Beckman amplifier was somewhat effective in rejection of line transients but the Beckman controller was not and consequently fed transients back into the amplifier circuit of sufficient magnitude to disturb its stability. Similar transients did not affect the amplifier with the controller fed by a clean supply. Source of the transients has not been determined.

Shutdown Experience

100-DR was scrambled manually at 1:36 A.M., October 18 due to an alarm on the pressure monitor that could not be reset within the allowable time. A recurrence was experienced at 2:05 A.M. on the same date. Subsequent investigation revealed a loose switch lead, which was corrected.

200 AREAS (Reference: Doc. No. HW-19387)

T & B Plant Production Instruments

A routine survey disclosed gross contamination on sensing lines and inside the specific gravity recorder case at section 7-1 in 221-T Building. It was necessary to dispose of the instrument and replace it with a spare. No reason for the contamination was found.

Projects C-337 and C-378 - Silver Reactor and Gas Filler

During test runs in mock-up it was found necessary to relocate the temperature control sensing element due to process system lag. Installation has been completed and preliminary tests indicate satisfactory instrument performance.

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Project C-395 - Parallel Operation of Sections 19 and 20

Installation of equipment is proceeding normally in Building 221-T. Total instrumentation for both areas is 70% complete.

Z Plant Production Instruments

New rotameters have been installed for furnace No. 2 in hood 8, using MFP-10 in place of glass tubes. Piping was rearranged to afford more working space. Some time will be required to evaluate these in comparison with standard rotameters in HF gas service.

A routine check of the analytical balance in hood 12 indicated it to be out of tolerance. As extensive repairs inside the hood are impractical, a new balance has been requested for replacement.

Project C-392 - Additional Vacuum System for Hood 25

Instruments have been mounted in the panel and primary elements for measurement of vacuum and temperature have been fabricated. Installation will be made as production schedules permit.

Additional Laundry Facilities

Fabrication of clothing radiation monitoring equipment in 300 Area shops is 90% complete. Mounting of tubes and auxiliary equipment is being done in 200 West Area.

300 AREA (Reference: Doc. No. HW-19388)

MANUFACTURING SECTIONP-2900-58891 - Fabrication of Neutron Spectrometer

Instrument was taken to the field for installation after approval of a mock-up of the shielding arrangement.

P-33401-68891 - (P-11)

Fabrication of the liquid level indicator is complete; final assembly awaiting receipt of gears and bearings.

P-3831-58891 - Toepler Pump Control Units (P-10)

Two units have been completed, four units are 90% complete, four units 30% complete and three units 20% complete. Scarcity of electronic materials has delayed delivery as scheduled.

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DEVELOPMENT SECTION

The IBM temperature monitor was completed with exception of plug-in relays and delivered to 100-DR for installation.

Major components for the process tube temperature mapping display have been received and fabrication of the assembly is under way.

DESIGN AND CONSTRUCTION GROUP - 760 BUILDING (Reference: Doc. No. HW-19389)

Project C-300 (100-G Area)

Thermocouple assembly for the heat transfer test (Project 17) has been completed by the 300 Area Instrument shop and delivered. Instrument work is approximately 98% complete.

Project C-187-E (Redox)

Construction drawings for 202-S Building are nearly complete. Fabrication of the crane optical equipment for this building has been completed. Instruments are being salvaged from 221-U and 224-U buildings for use on the Analytical Laboratory waste disposal system.

Project C-362 (Tributyl Phosphate Process)

Those instruments being removed from 221-U and 224-U that are applicable to this process are being renovated and revised by the Instrument Division in the White Bluffs warehouse. A letter of instruction was prepared for Kellogg covering instrument requirements on the graphic panels and auxiliary equipment.

Project C-349 (Hot Semi-Works)

Instrumentation specifications have been approved and incorporated into the project specifications. Construction of this project is to be by lump sum contract.

Project C-193 (234-5 Building)

Phase II

Instrument drawings of hood pressure monitor in the Development Laboratory have been completed and submitted for approval.

Phase III

Schenectady drawings are being reviewed as they are received. A list of test instruments needed for maintenance of Phase III equipment has been prepared.

Job M-801 (Carbon Monoxide Recording and Alarm System)

Mine Safety Appliance Company submitted the only bid meeting specifications. Further clarification of their bid was needed and a re-bid was requested.

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[REDACTED]

MAINTENANCE DIVISION

October, 1950

The Division had a backlog of 10,397 mandays of work at the close of the month, representing 30 days of work for the present force.

ICO Areas

ICO-B

Extensive repairs to the pile were started on October 9 and completed on October 23. During this period 1988 stainless steel process tube nozzles were replaced with aluminum nozzles. All process tube end flanges were inspected for pitting due to galvanic action and checked for lateral clearance with the gun barrels. It was necessary to re-flange 188 tube ends due to pitting and reduce the length of 29 gun barrels to provide clearance.

During the period of the "B" pile shutdown, repairs were made to the 107 retention basin, north section. This involved repairing and replacing sealing compound in the expansion joints and sealing numerous cracks that had developed in the concrete walls. Tests have indicated that additional repairs are required.

The effluent cooling water downcomer on the "L" pile developed cracks near the supporting beams in the upper section. These were repaired by welding. Also, a permanent suspended scaffold was installed to provide future access to the downcomer for inspection and repair.

The concrete pipe effluent line on the river bank was repaired while the pile was out of service. The repair was accomplished by encasing the cracked section with concrete.

Project C-383 - P-10-A - 108-B Expansion

Preliminary inspection of work completed has been conducted and the Technical Division has accepted operating responsibility for operating phases of work completed. Exceptions will be completed in the near future.

Project C-363 - P-10-B - Cold Facilities

Preliminary inspection for acceptance of work has been held and Technical accepted phases of work completed. Exceptions will be scheduled for completion in the near future.

Project C-399 - P-10-D - Hot Development Facilities

Extended shutdown is in progress to connect building air supply and exhaust systems to new installations. Related air monitoring and air mask systems will be completed during this shutdown also.

[REDACTED]

100-D

Maintenance forces completed required inspections and adjustments preliminary to the start-up of the DR pile. As construction forces completed the DR water area, maintenance personnel were assigned to aid in the start-up of these facilities.

During a routine pressure testing of vertical safety rod thimbles on the pile, #22 was found to have a leak rate of 6 #/minute. The rod was taken out of operation and the thimble was sealed until replacement can be made.

Due to binding, #20 vertical safety rod was taken out of service in September. Replacement has now been made with a specially fabricated jointed rod.

100-F

The "F" pile developed water leaks into the gas system. A defective gasket was found and replaced. Following this the moisture level in the gas has returned to normal.

100-H

The cooling water supply cross header screens were found to be allowing dirt particles to pass due to a loose fit of the screen in the body. Special gaskets consisting of a neoprene ring and stainless steel disc were fabricated and installed to close the opening.

200 Areas

The roofs of the 200 North badge houses were repaired. This required the elevating of the roof to provide slope and the installation of flashing over doors and entirely around the tower on top of the badge houses.

Asbestos shakes were installed on the carpenter shop, Building 272, and the oil storage building 2715, in the East Area.

Project C-395

Modification of Sections 19 and 20, Canyon Building, to permit parallel operation has been completed to permit beneficial occupancy and has been accepted by the "S" Division for operating purposes. Minor items remain to be installed as materials are available, but which do not interfere with the operation of the cell.

Projects C-337 and C-378

The first of four dissolver off-gas filter and iodine removal units, has

been installed in the "B" canyon dissolver cell. The second unit is presently in the mock-up in the area shop for pipe connector fitting and subsequent testing by Technical personnel.

234-5 Building

The glass lined filter head tanks in process hoods #5 and #6 were replaced. This was made necessary by the failure of the lining. For the same reason the four inch glass lined tee was replaced on the recovery tower on hood #30 evaporator.

The stainless steel jet on number 1 furnace in hood #8 was replaced with a Karbate lined jet when the original failed due to erosion. Several jets have now been replaced and increased jet life and improved performance have resulted.

The nickle reaction tube assembly was replaced in #3 furnace in hood #8 when the original tube developed a leak in the discharge gas line. This is the fourth replacement made since building start-up.

It was necessary to fabricate a replacement knock-out punch for use with a skate assembly in use in hood #19. It was possible to do this by using the inspection sheets and duplicating the critical dimensions.

A new design skate assembly is being fabricated for hood #19, as well as a new gage assembly for checking the finished pieces.

Project C-392

Hood #25 expansion has been substantially completed. This will increase productive capacity by providing a second bell jar position in hood #25 and a improved vacuum system in connection with it.

300 Area

Tests have been conducted on the use of substitute materials for the stainless steel thermal wells in the bronze furnace in 313 slug preparation line. It has been established that the use of S.A.E. 1010 steel for the making of these wells would increase their life as well as reduce material cost. Therefore, this change has been incorporated.

Recent failure and repair of the rod guides on the Hedart straightener in the 314 Building has shown that old guides can be repaired by hard facing with Stoddite #6 at a considerable savings over the purchase of new guides. Therefore stocking of new guides as made by the manufacturer will be discontinued.

The annual areawide steam shutdown was accomplished on Saturday, October 21. During this period all repairs were completed to the steam system that can not be made when in service.

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HW-19325 *Del*

ELECTRICAL DIVISION

OCTOBER, 1950

GENERAL

The month end backlog of scheduled work was 10,663 mandays, an increase of 542 mandays during the month, principally in the Telephone Section. This is approximately 2 mandays per non-exempt employee.

The power demands for the month were:

	<u>Date</u>	<u>October KW Demand</u>	<u>Comparative Sept. Demand</u>
Process Load	10-26-50	64,400	61,550
Village Load	10-31-50	24,800	20,850

The process load demand is at all-time high with the DR plant in production. The Village demand is seasonal, but 10 percent ahead of the previous year. A combined chart is attached showing the 24 hour load for the peak day of the month.

Project C-295, Part II (Addition of Second Bay, 251 Substation) - All drawings were reviewed and comments made to Design and Construction Divisions.

Project C-380-R (Electric Metering - Village of Richland) - Sample installations have been made to enable selection of the best and most economical methods of mounting.

Savings resulting from new separate power contracts with the Bonneville Power Administration for the process load, and for the Village of Richland have been reviewed and currently indicate savings of the order of \$200,000 per year.

Standard charges were established for the installation of plant telephones and service.

AREA ACTIVITIES

Electrical maintenance and operating responsibility was assumed for the DR plant by sections as of October 13. On October 9, the 105-DR Pile Building scrambled due to low voltage on the Bonneville Power Administration system. The under-voltage relay in the 105-DR safety circuit was readjusted for a lower drop-out point since the system disturbance was not considered severe enough to justify a scram. Work relating to minor items left over by Construction is essentially complete.

An 800 HP Westinghouse process pump No. 1 in the 100-B Area failed, requiring re-winding. This is the 12th of 36 motors of this type to fail.

Work continued at an accelerated pace on Project P-10 in Building 108-B. Work was completed on the air monitoring system and the Globar furnace installation on the first floor. Work was near completion on the vital power system and the ventilation and exhaust systems.

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Electrical Division

A contact failed on the automatic tap changer of transformer No. 1 supplying Building 234-5 in the 200-Z Area. This necessitated carrying all the load on the No. 2 transformer until replacement parts could be obtained and installed.

The re-designing and re-arrangement program on argon welders in the 313 Building in the 300 Area was completed this month. This has resulted in increased operating efficiency and reduced maintenance.

A severe wind storm on October 27 blew down or weakened a number of area substation poles. Temporary repairs were made pending replacement on Project C-403, approved during the month.

TRANSMISSION AND DISTRIBUTION

Extensive work continues in Richland to supply services to contractors and facilities and to increase transformer sizes to relieve overloaded conditions.

Extremely high winds early Friday morning, October 27, resulted in approximately 70 cases of trouble in the Richland Area, including broken poles, wires down, transformer, branch fuses blown and trees blown into lines. Damage in work areas was relatively minor with no interruption to process load.

On October 10, it was discovered that the 230 KV by-pass disconnect switch A-320 in the 100-B Area by-pass line would not close. A Critical Power Grade W for all areas and a Critical Power Grade Z for 100-B Area was established on October 13 to permit making the necessary repairs to this switch. Emergency power for the critical loads in 100-B Area was supplied by the 750 KW area emergency generator. The switch was repaired and returned to service within the eight hours allotted.

Project C-177 (115 KV Transmission Lines and Substations) is 100 percent complete.

TELEPHONE SECTION

The North Electric Company is conducting tests in the 200 Area Exchange in response to our request for correction of dialing faults.

The 100-F Area telephone system was cut-over to the White Bluffs Exchange on October 9, relieving the congested trunking situation in the 100 Areas.

Three voice frequency telephone repeaters were connected into "O" or tenth level trunks in the BY Exchange. These special trunks will be used to improve the reception on long distance calls placed from the areas.

Work was started on the installation of dial switching equipment in the BY Tandem Office to increase the available telephone service to the Hanford Area. This switching equipment was removed from the discontinued 100-F Area Exchange. This work is scheduled for completion on November 6.

A number of lead covered cable faults in Richland, 200-W Area, and BY/100-F trunks developed during wet weather. A study is being made of sheath cutting by support rings on older cable.

Studies were completed relative to cabling requirements for proposed additional housing and for the increasing needs of Building 720.

Electrical Division

Information has been submitted to Project Engineering Divisions covering complete plans and requirements for the new 300 Area Exchange.

The following is a summary of current telephone service rendered by the Project telephone system:

	<u>Lines in Service</u>	<u>Stations in Service</u>	<u>Vacant Lines</u>
Richland	3779	5957	221
Project Total	5120	7380	578

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HW 19325 *sel*

POWER STATISTICS - ELECTRICAL DIVISION FOR MONTH ENDING OCTOBER 31, 1950

ITEM	ENERGY -- MW HRS.		MAX. DEMAND - KW		LOAD FACTOR - %	
	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.
<u>230 KV SYSTEM</u>						
A-2 Out (100-B)	7,270	4,690	11,700	12,000	86.2	52.5
A-4 Out (100-D)	7,230	13,580	21,500	22,700	46.6	80.4
A-5 Out (100-H)	7,560	8,676	13,950	14,400	75.2	81.0
A-6 Out (100-F)	6,400	6,690	11,000	11,300	80.7	79.6
A-8 Out (200 Areas)	3,276	3,852	5,040	6,120	90.1	84.6
TOTAL OUT	31,736	37,488	63,190**	66,520**	69.6	75.7
MIDWAY IN	32,482	38,229	57,600*	59,200*	78.2	86.8
Transm. Loss	746	741				
Percent Loss	2.3	1.9				
<u>115 KV SYSTEM</u>						
B1-S4 Out (N. Richland)	1,531	1,666	3,110	3,283	68.3	68.2
B3-S4 Out (300 Area)	82	--	732	--	15.0	--
B3-S5 Out (300 Area)	72	--	1,000	--	10.0	--
BB1-S1 Out (Richland)	3,728	5,318	9,810**	11,880	52.7	60.2
BB1-S2 Out (Richland)	3,408	5,420	10,890**	13,230**	43.3	55.1
BB3-S4 Out (300 Area)	528	712	1,600	1,760	45.8	54.4
TOTAL OUT	9,349	13,116	27,142**	30,153**	47.8	58.4
Benton In	130	60	15,800	1,440	11.4	56.0
S. Richland In	8,896	13,700	22,140*	28,600*	55.7	64.4
TOTAL IN	9,026	13,760	37,940**	30,040**	33.0	61.6
Transm. Loss	-323	644				
Percent Loss	-3.5	4.7				
<u>66 KV SYSTEM</u>						
B7-S10 Out (W. Bluffs)	294	309	900	968	45.3	42.9
Hanford Out	286	301	600	600	66.1	67.4
TOTAL OUT	580	610	1,500**	1,568**	53.6	52.3
HANFORD IN	577	614	1,400*	1,500*	57.1	55.0
Transm. Loss	-3	4				
Percent Loss	-.5	.6				
<u>PROJECT TOTAL</u>						
230 KV Out	31,736	37,488	63,190**	66,520	69.6	75.7
115 KV Out	9,349	13,116	27,142**	30,153**	47.8	58.4
66 KV Out	580	610	1,500**	1,568**	53.6	52.3
TOTAL OUT	41,665	51,214	91,832**	98,241**	62.9	70.0
230 KV In	32,482	38,229	57,600*	59,200*	78.2	86.8
115 KV In	9,026	13,760	37,940**	30,040**	33.0	61.6
66 KV In	577	614	1,400	1,500	57.1	55.0
TOTAL IN	42,085	52,603				
Transm. Loss	420	1,389				
Percent Loss	1.0	2.6				

* Coincidental Demand
** Non-Coincidental Demand

Average Power Factor - 230 KV System--94.8
Average Power Factor - 115 KV System--95.6
Average Power Factor - 66 KV System--90.0

TRANSPORTATION DIVISION
MONTHLY REPORT
OCTOBER 1950

GENERAL

VIEW

Transportation Division personnel forces decreased by 1 exempt and 9 non-exempt employees during the month from 652 to 642 by 3 new hires, 1 transfer in, 2 reactivation - personal illness, 9 transfers out, 6 terminations and 1 deactivation - personal illness.

RAILROAD ACTIVITIES

Commercial cars handled during October increased approximately 38% over September with the continuation of large volume coal receipts and increased receipts of acid for the 200 Areas. Process service declined slightly with all movements being completed as scheduled. Cars handled in October including process movements totaled 2,476 compared with 1,843 in September, 1,615 in August, 1,162 in July, 2,180 in June, 3,164 in May, 3,132 in April, 2,978 in March, 1,443 in February and 1,223 in January.

The following recapitulation indicates the number of commercial cars handled:

Carload Movements - General Electric Company

<u>Loads In</u>	<u>Empties In</u>	<u>Loads Out</u>	<u>Empties Out</u>
824	31	29	751

Carload Movements - Subcontractors and Others

	<u>Loads In</u>	<u>Empties In</u>	<u>Loads Out</u>	<u>Empties Out</u>
Asbestos Supply Co.	2	-	-	2
Associated Engineers	2	-	-	2
Atkinson & Jones Co.	53	-	-	49
C & E Construction Co.	5	-	-	5
F. J. Early	23	-	-	25
Morrison-Knudsen Co.	5	-	-	5
Richland Fuel & Lbr. Co.	76	-	-	69
Rust Engineers	0	1	-	0
State of Washington	1	-	-	1
U.S. Army 519th Anti-Aircraft Btln.	7	-	-	6

Effective October 25, Transportation Division railroad train crews discontinued switching service at 241-S, 221-U and Redox tracks in the 200-West Area. This service will be performed by Atkinson & Jones personnel with a Plymouth locomotive. Transportation Division railroad personnel will spot and remove all cars at the locked gate on the 221-U lead.

In response to a request from the Transportation Division to the Washington Public Service Commission, Transcontinental Weight Bureau Test Car WO-2 arrived in Richland on October 23 for the purpose of testing scales at Riverland and Richland Classification Yards. Scales were tested on October 25 and the car departed October 26 via the Northern Pacific Railroad.

Transportation Division

Tests disclosed that the scales at the Riverland Classification Yard were in good condition. Scales at the Richland Classification Yard were in need of minor adjustments which are now being completed by the Instrument Division.

Completed hydrostatic tests and servicing of relief valves on main reservoirs of locomotives 39-3719, 39-3725 and 39-3726. Completed servicing of cooling systems on all water cooled railroad equipment with antifreeze. Completed removal of weed spraying equipment from the railroad snow plow car and reinstalled snow plow blade with necessary equipment to place it in operating condition for the coming winter season.

Railroad track maintenance and rehabilitation work continued on a normal basis throughout the five sections. Surfacing was in progress in the vicinity of Helen which included the Helen turnout, "A" line at May Junction "B" line between Mile Posts 28 and 32 and Section V requiring 4,331 man-hours. Installed 1,291 cross ties and 147 switch ties in 200 East Area and at Susie requiring 1,733 man-hours.

AUTOMOTIVE ACTIVITIES

The Area bus system transported 9% more passengers in October than in September. The following tabulation indicates the passenger volume by shifts and the revenue received:

No. 1	(and No. 3 inbound)	26,037
No. 2	(and No. 1 inbound)	54,564
No. 3	(and No. 2 inbound)	54,363
Total		134,964
Revenue		\$ 6,748.20

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

Passenger busses - 100-B	11
Passenger busses - 100-D	11
Passenger busses - 100-F	11
Passenger busses - 100-H	11
Passenger busses - Hanford	5
Passenger busses - 200 East	12
Passenger busses - 200 West	18
Passenger busses - 300 Area	7
Passenger busses - Riverland	3
Passenger busses - Pistol Range	1
Passenger busses - White Bluffs	2
Passenger busser - North Richland	3
Passenger busses - Pasco	2
700-300 Area Shuttle	26
Inter-Area Passenger Service	3
Inter-Area Express Service	1
Inter-Area Mail Service	1

Classification changed to
RESTRICTED
 By Authority of ~~U.S. GOVERNMENT~~
 OFFICE OF TECHNICAL DOCUMENTS
 VIEW BOARD, ~~U.S. GOVERNMENT~~ Clk.
 Date: *12-18-51*

DECLASSIFIED

DECLASSIFIED

Transportation Division

Effective October 6, bus service to and from the Pasco Base Depot was reduced from seven day service on all shifts to five day service on number two shift only as the result of a substantial reduction in activity at this location.

Effective October 30 the 100-D intra-Area shuttle bus route was revised to provide service within the 100-DR Area.

Special bus service throughout the Plant Area was rendered on October 18, 19 and 20 to prospective buyers who were inspecting tract houses. This service was requested by the Stores Division.

The Village Bys System transported 9% more passengers in October than in September. Volume of service rendered is indicated in the following statistics:

Total passengers, including transfers	37,066
Total bus trips	3,624
Total bus miles	19,932
Total revenue	\$ 2,774.25

Off-Plant automobile trips (Company business and/or official visitors) totaled 192.

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

Applicants: Male	56	Number retested	0
Female	8	Number rejected	0
	<u>64</u>	Number tests given	64
Permits Issued: Limited to driving with glasses	10		
Unlimited	<u>54</u>		
	64		
Permits reissued		25	

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

	<u>Gasoline</u>	<u>Diesel Fuel</u>	<u>50 Cetane</u>	<u>Kerosene</u>	<u>White Gas</u>
Stock at start of month	52,161	16,549	8,101	2,532	197
Received during month	96,627	15,765	28,857	6,000	200
Total	148,788	32,314	36,958	8,532	397
Delivered to Areas	97,446	16,188	27,436	5,627	139
Stock at end of month	51,342	16,126	9,522	2,905	258

[REDACTED]

[REDACTED]

Transportation Division

The following tabulation indicates the Plantwide usage of automotive equipment:

<u>Code</u>	<u>Type</u>	<u>No. of Units</u>	<u>Total Mileage</u>
1A	Sedans	321	192,542
1B	Busses	155	206,909
1C	Pickups	460	255,050
1D	Station Wagons	102	88,925
1E	Armored Cars	12	749
1G	Weapon Carriers	38	12,793
68 Series	Trucks	323	91,003
		<u>1,411</u>	<u>1,151,068</u>

The Transportation Division discontinued operation of the Pasco Base Depot Paint and Body Shop on October 26 in order to meet the commitment of this building to the Quartermaster Corps. Decreased activity of the Stores Division at this location with the corresponding reduction in the maintenance of warehouse equipment permitted transfer of personnel and equipment to the 100-H Area Garage where body repairs and touch up painting will be performed in addition to minor maintenance. Working conditions at the new location are considerably better. Savings in the amount previously expended for utilities, patrol and fire protection should be realized since no additional requirements are expected for the 100-H Area Garage.

Effective October 2 winterizing of automotive and other similar types of water cooled equipment was begun and is now virtually complete.

Kim hot-starts were removed, serviced, and reinstalled on all GMC coaches in preparation for colder weather.

Completed repairs and released for service two motor cranes and one crawler type crane which had been out of operation while awaiting repair parts.

Fork lift trucks and warehouse tractors previously transferred on a temporary basis to the U. S. Army at the Pasco Base Depot were returned. The transfer of 15 pieces of HC equipment to the Atomic Energy Commission for the construction of the Richland Swimming Pool was completed. Replacement of 46 International pickups with Ford pickups procured from Excess was completed.

LABOR ACTIVITIES

The following tabulation indicates in gallons the volume of asphalt road material handled by the Services Section:

	<u>MC 1</u>	<u>MC 3</u>	<u>MC 4</u>	<u>MC 5</u>
Stock at start of month	0	800	0	0
Received during month	0	9,334	0	0
Dispensed during month	0	2,433	0	0
Stock at end of month	0	7,701	0	0

DECLASSIFIED

DECLASSIFIED

HW-19325-*Del*

Transportation Division

The following tabulation indicates the volume of materials handled by the Services Section and a breakdown by Plant Areas:

	<u>100</u> <u>B</u>	<u>100</u> <u>C</u>	<u>100</u> <u>F</u>	<u>100</u> <u>H</u>	<u>200</u> <u>K</u>	<u>200</u> <u>E</u>	<u>300</u>	<u>Total</u>
Cars coal unloaded	71	165	94	133	34	20	0	517
Cars other material	0	5	3	4	20	3	3	38
Cars loaded out	0	2	0	0	0	0	0	2

Expended 1,858 man-hours handling 65 truckloads of equipment, 36 truckloads of material, 2 carloads of scrap metal, 1 carload of machinery, 8 carloads of ballast and 2 carloads of scrap rail.

Expended 1,928 man-hours in handling miscellaneous materials for the Stores Division at White Bluffs.

Expended 1,282 man-hours in handling materials for the Stores Division which included the unloading and warehousing of 13 truckloads and 4 carloads of incoming material at warehouse #6 in Richland.

Expended 1,299 man-hours in handling Area deliveries, 212 man-hours for Stores deliveries, and 382 man-hours for moving office furniture.

Routine Area maintenance was performed in all operating Areas with labor and transportation equipment being furnished for Projects P-177, P-198, P-282, P-289, P-290, P-291, P-326, P-337, P-342, P-347, P-368, P-369, P-377, P-378, P-382, P-383, P-384, P-396, P-399, M-723, M-755, M-757, M-761, M-802, M-810, M-812, M-816, and L-466.

Changed to
[REDACTED]
[REDACTED]
VIEW BOARD. H. J. Newton, Chairman
[REDACTED]
[REDACTED]

DATE OCTOBER 16, 1950

85

PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT 200 AREA PROJECTS

(\$100,000) HIGH SPOT ESTIMATE ONLY
WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

DATE OCTOBER 16, 19 50

DATE RECEIVED		BLDG. OR AREA		DESCRIPTION OF WORK		SPONSORING DIVISION		PROJECT NO.		ESTIMATED COST		ENGINEERING STATUS PER CENT COMPLETE		PROJECT DATE		APPROPRIATION REQUEST DATE		APPROVED & B COMMITTEE		ROUTED TO GOVERNMENT		DIRECTIVE DATE		AUTHORIZATION RECEIVED		WORK RELEASE		FIELD WORK PER CENT COMPLETE		REMARKS			
2469	12-30	200		UNDERGROUND GEOLOGICAL & HYDROLOGICAL INVESTIGATION PROGRAM INCLUDING TEST WELLS & OTHER FACILITIES	H.I.	C-326	REV. 2			36,800		5-25-50	5-25	6-13	6-14	7-5	7-10	7-13												DELATED FOR HIGHER PRIORITY WORK			
2460	12-23	221TB		EQUIPMENT FOR DISSOLVER OFF-GAS FILTRATION PART II	S	C-337	REV.			158,000		12-14-49	12-13	12-20	12-23	1-30-50	2-9	2-16												WORK PROGRESSING			
2446	7-19	200E		HOT SEMIWORKS COMPLETE PLANS & SPECS. PARTS I & II	SEP. TECH.	C-349				150,000		2-1-50	2-8	2-8	2-15	3-9	3-16	3-24												DESIGNS COMPLETE			
				HOT SEMIWORKS PART III	SEP. TECH.	C-349				2,582,000		5-31-50	5-31	6-13	6-14	9-19	9-26	10-9												BEING PROCESSED FOR LUMP SUM BIDDING			
2513	8-30	231-5		AUXILIARY HOOD ENCLOSURE FOR PART I, BLDG. 234	S	C-366				49,000		2-20-50	3-6	3-21	3-22	4-11	4-14	4-26												FABRICATION OF ENCLOSURE BEING PERFORMED BY OUTSIDE VENDOR			
2491	5-13	200W		EVAPORATION FACILITIES FOR WASTE SOLUTIONS (200W)	S	C-369-R				489,000		6-23-50	6-23	7-11	7-12	8-18	8-24	9-1												WORK INITIATED			
2490	5-13	22-TB		100% REMOVAL FACILITIES FOR DISSOLVER OFF-GAS (200EW)	S	C-378				149,000		3-9-50	3-9	3-31	4-12	5-9	5-12	5-23												WORK PROGRESSING			
2501	9-2	221TB		REARRANGEMENT OF F CELL EQPT. BLDGS. 224 T & B	S	C-384				30,000		4-12-50	4-12	4-25	5-10	6-9	6-15	6-20												WORK PROGRESSING			
2540	5-11	234-5		ADDITIONAL UNIT TO SUPPLEMENT THE OPERATION OF HOOD #25. BLDG. 235	S	C-392				25,500		6-1-50	6-1	6-17	6-28	7-14	7-19	7-25												WORK PROGRESSING			
2501	9-2	221TB		PARALLEL OPERATION, SECTIONS 19 & 20, BLDGS. 221 T & B	S	C-395				91,165		6-26-50	6-26	7-20	7-20	8-4	8-8	8-15												WORK PROGRESSING			
2544	6-2	221TB		CONDUCTIVITY METERS FOR CELL DRAINS, BLDGS. 221 T&B	S	C-397				21,700		7-12-50	7-12	8-9	8-10	8-28	8-31	9-5												WORK BEING SCHEDULED			
2543	6-1	231		EXPERIMENTAL COATING HOOD, BLDG. 231, 200W AREA	SEP. TECH.	C-398				53,000		8-8-50	8-8	8-9	8-9	9-12	9-14	10-5												WORK BEING SCHEDULED			
A554	12-23	225U		OFFICE AND STORAGE ANNEX TO BLDG. 222U	H.I.	M-755				9,700		10-26-49	10-26	11-22	11-25	12-7	12-7	2-21-50												SUBCONTRACT AWARDED 7-3-50			
2504	7-22	271TB		INSTALLATION OF LABORATORY FURNITURE IN BLDGS. 271 T & B	TECH. SERV.	M-766				13,600		4-25-50	4-25	5-9	5-10	5-31	6-2	6-14												WORK PROGRESSING			
2520	1-16	234-5		LOADING FACILITIES FOR RECYCLED MATERIAL BLDG. 234	S	M-802				19,000		4-24-50	4-24	5-9	5-10	6-5	6-5	7-14												WORK INITIATED			
A570	3-15	200W		CONSOLIDATED MAINTENANCE SHOP, 200W	MAINT.	M-813				15,000		9-12-50	9-12	9-12	9-12															INFORMAL REQUEST FOR ENGRG. DESIGN AWAITING AUTHORIZATION			
										(310,000)																							
A571	4-7	200W		ANIMAL EXPOSURE CHAMBER	H.I.					(45,000)																				AWAITING DESIGN INFORMATION FROM H.I. DIVISION			
2503	7-22	234-5		DUCT LEVEL FLOOR COVERING AND SAFETY SHOWERS	S					(150,000)																				DESIGNS POSTPONED BY S-DIVISION			
2546	7-28	221TB		EQUIPMENT FOR SETTLING AND CRIBBING OF SECT. 5 WASTES	S					(33,700)																				PROJECT IN PREPARATION			
2547	8-15	235		PROJ. FOR COATING UNIT HOOD #26	S					(25,000)																				NOT STARTED			
																																COMBINED TOTAL OF AUTHORIZED AND PENDING 200 AREA WORK \$1,291,165	

PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT 300 AREA PROJECTS

(\$300,000) HIGH SPOT ESTIMATE ONLY
 [] WORK PROGRESS DURING PERIOD
 [] WORK PREVIOUSLY DONE

DATE OCTOBER 16, 19 50

ENG. REQ. NO.	DATE RECEIVED	BLDG. OR AREA	DESCRIPTION OF WORK	SPONSORING DIVISION	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
A3061	8-14	311	IMPROVED VENTILATION - BLDGS. 313-314	P	C-330	200,000	100	12-8-49	12-8	12-28	12-18	2-1-50	2-3	2-10	100	INVESTIGATIONAL WORK ON BAG FILTER REQUIRED
A550	9-15	300	ADDITION TO BLDG. 3745	H.I.	C-354	20,300	100	11-8-49	11-8	12-1	12-1	12-19	12-23	3-2-50	100	SUBCONTRACT AWARDED 7-3-50 WORK PROGRESSING
A528	11-14	300	NEW INSTRUMENT MAINTENANCE & DEVELOPMENT BLDG. 3717-B	INST.	REV. 2	154,000	100	4-26-50	3-25	4-28	5-10	6-6	6-8	6-19	100	SUBCONTRACT AWARDED 10-6-50
E432	1-11	300	PRIMARY ELECTRIC POWER LINES FOR HAYFORD WORKS LABORATORY	ELECT	C-404	38,500	100	8-24-50	8-24	9-12	9-12				100	AWAITING AUTHORIZATION
A5108	10-10	3701	300 AREA BARGE HOUSE ADDITION	SERV.		14,500	100	12-14-48	12-10	12-14	12-31	1-3	1-6		100	INFORMAL REQUEST BEING CANCELLED
A5106	10-10	3701	URANIUM DETECTORS, 300 AREA BARGE HOUSE	SERV.		19,400	100	9-8-50	9-8						100	INFORMAL REQUEST AWAITING APPROVALS
A548	8-29	300	SOLVENT STORAGE FACILITIES - BLDG. 3706	TECH. SERV.		(60,000)	100								100	AWAITING INFORMATION FROM TECH. DIVISION
A574	4-28	300	ADDITION TO BLDG. 3702	TECH. SERV.		29,000	100	9-15-50							100	CANCELLED PER LETTER 10-3-50, T. W. HAUFF TO S.F. SCHURE
A582	6-9	300	MFG. DIVISION ADMINISTRATION BLDG. EXPERIMENTAL INDUCTION HEATING FACILITIES	ALL MFG.		(70,000)	100								100	AWAITING INFORMATION FOR BUILDING REQUIREMENTS
E434	1-13	300	BLDG. 3732	PILE TECH.		52,800	100								100	PROJECT IN PREPARATION
A3083	7-21	311	SEGREGATION OF FLUORIDE SLUDGE	P		(40,000)	100								100	DESIGNS HELD PENDING FURTHER DECISIONS ON WORK TO BE DONE
A3085	6-28	RIVER	HIGH TANK RIVERLAND	TRAN. PILE TECH.		46,000	100	10-2-50	10-2						100	PROJECT AWAITING APPROVALS
A3093	10-9	305	305 BLDG. MODIFICATION AND TEST BLOCK			150,000	100								100	DESIGN STARTED
																COMBINED TOTAL OF AUTHORIZED AND PENDING 300 AREA WORK \$851,000

RECEIVED
OCT 16 1950

PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT GENERAL PLANT PROJECTS

(\$000,000) HIGH SPOT ESTIMATE ONLY

WORK PROGRESS DURING PERIOD

WORK PREVIOUSLY DONE

DATE OCTOBER 16, 19 50

ENG. REQ. NO.	BLDG. OR AREA	DESCRIPTION OF WORK	SPONSORING DIVISION	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT COMPLETE	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
962 7-10	ALL	115 KV POWER LINE TO RICHLAND PLUS SUBSTATION FACILITIES	ELECT. C-177	1,483,000		7-17-47	-	-	7-21	8-14	8-26	8-29		2000000000	WORK PROGRESSING
A452 2-17	ALL	INSTALLATION OF OVERALL PLANT TELEPHONE FACILITIES	ELECT. C-276	1,548,600		9-8-48	7-13	9-8	9-9	10-3	10-6	10-6		2000000000	WORK PROGRESSING
990 6-28	ALL	INSTALLATION OF NEW SECURITY FENCES - ALL AREAS	SERV. C-291	424,000		8-31-48	9-9	9-9	9-15	10-13	11-8	11-8		2000000000	WORK PROGRESSING
2480 3-15	ALL	H.I. OPERATIONAL DIVISION SURVEY INSTRUMENTS	H.I. C-333	85,000		3-30-49	4-1	4-1	4-1	4-20	4-26	4-29		2000000000	WORK PROGRESSING
E406 5-16	1100	ADDITIONS TO RICHLAND ELECTRICAL DISTRIBUTION SYSTEM	ELECT. C-341	155,000		5-29-49	5-29	6-6	6-16	MOD. 1	8-24-50	8-30		2000000000	WORK BEING SCHEDULED
A543 7-14	HANF.	ARSENAL BLDG., FIRE PROTECTION & SANITARY FACILITIES - PATROL PISTOL RANGE	SERV. C-360	54,000		12-19-49	12-23	2-14-50	2-15					2000000000	PROJ. RETURNED WITHOUT ACTION BY AEC AT REQUEST OF G.E.
A542 7-8	200	ADDITION TO METEOROLOGY BLDG. 622	H.I. C-365	23,100		3-2-50	2-25	3-9	3-10	4-3	4-5	4-12		2000000000	WORK PROGRESSING
A563 12-22	ALL	METEOROLOGICAL FIELD STATIONS	H.I. C-371	30,800		3-25-50	3-25	4-11	4-12	5-9	5-11	5-23		2000000000	INSTR. UNIT CUT FOR BIDS
E435 2-10	1100	ELECTRICITY METERING - COMMUNITY OF RICHLAND	ELECT. C-380-R	331,000		6-15-50	6-15	6-26	6-27	8-29	9-8			2000000000	WORK BEING SCHEDULED
A568 2-27	ALL	1950 AREA ROAD MAINTENANCE PROGRAM	TRAN. C-389	94,000		5-6-50	5-6	6-13	6-14	6-22	6-27	7-3		2000000000	AWAITING FINAL INSPECTION
A557 11-11	ALL	FENCES FOR DISTRIBUTION AND 230 KV SUBSTATIONS (PART 1)	ELECT. C-403	40,000		8-19-50	8-19	10-2	10-3					2000000000	PART I AWG. AUTHORIZATION PART II TO BE SUBMITTED ON 7-1-51
A562 11-1	3000	CENTRAL STORES WAREHOUSE IN 3000 AREA	M-770	17,000		7-11-50	7-11	7-11	7-11	8-1	8-1	M-770		2000000000	DESIGN SCOPING IN PROGRESS
A558 11-11	500	TRANSFORMER & CIRCUIT BREAKER OIL REPROCESSING FACILITIES	ELECT. M-805	13,300		6-13-50	6-13	6-13	6-14	7-11	7-11	8-14		2000000000	BIDS RECEIVED ON PURIFIER UNIT
A4808 5-25	3000	CONSOLIDATION OF TRANSPORTATION FACILITIES	M-811	19,000		8-8-50	8-8	8-8	8-8	8-16	8-16	8-28		2000000000	DESIGN SCOPING IN PROGRESS
A560 11-11	1100	RELLOCATION OF RICHLAND LINE CREW HEADQUARTERS	ELECT.	(30,000)										2000000000	AWAITING INFORMATION FROM ELECTRICAL DIVISION
A565 1-16	1100	NEW BIG-ASSAY LABORATORY	ENG. DESIGN	14,000		9-22-50	9-22	9-26	9-27	10-6				2000000000	INFORMAL REQUEST FOR ENGINEERING DESIGN AUTHORIZED
A571 5-19	ALL	ASBESTOS SHINGLES FOR AREA BADGE HOUSE, PATROL HEADQUARTERS, & FIRE STATION	SERV.	21,700										2000000000	PROJECT NOT REQUIRED PER LETTER FROM H.I. PERSON TO T.B. FARLEY 9-29-50
E426 11-11	ALL	SALVAGE AND RECOVERY OF TELEPHONE CABLE AND EXCHANGE EQUIPMENT	ELECT.	32,600		8-21-50	8-21							2000000000	PROJECT PROPOSAL ROUTED FOR APPROVAL
<div>RECEIVED</div>															COMBINED TOTAL OF AUTHORIZED AND PENDING GENERAL PLANT AREA WORK \$8,660,100

**PROJECT ENGINEERING DIVISIONS
ENGINEERING DESIGN
100 AREAS**

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
A-1001	9-1-49		100	"AS-BUILT" DWGS. SINCE 9-1-46	30	30		NO PROGRESS THIS MONTH
A-1002	2-1-50	TECH. & P	105	G.E.C. STUDY	30	30		EXTENDED STUDY BY STANDING COMMITTEE
A-1074	11-2-49	P	115BDF	DESIGN MOISTURE EXTRACTION EQUIPMENT FOR GAS SYSTEM	0	0		NOT STARTED
A-1128	2-1-50	P	100H	DESIGN GRAPHITE MONITORING PUSH RODS	70	100		DESIGNS COMPLETED 10-4-50
A-1132	2-8-50	P	105	ROTARY TUBE CUTTER	90	95	11-1-50	FIRST TRIAL SATISFACTORY; OTHER TEST SCHEDULED
A-1140	6-1-50	P	107B	INVESTIGATE SEWER LEAKS	40	55	11-15-50	TESTING & OBSERVATION WILL BE COMPLETED DURING EXTENDED SHUTDOWN. RECOMMENDATION REPORT WILL FOLLOW.
A-1143	7-7 50	P	105BDF	STUDY BALL 3X SYSTEM	-	100		REPORT SUBMITTED 10-5-50
A-1144	9-1-50	P	105D	STUDY 105D CUSHION	-	100		DRAWING SUBMITTED
A-1145	8-24-50	P	105BDF	DESIGN SPECIAL TIPOFF	-	100		DRAWING SUBMITTED
A-1147	8-25-50	P	105BDF	105 BLDG. REAR FACE OIL TROUGH	-	5		DESIGN STARTED

RECEIVED

PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN 200 AREAS

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
2266	10-28-49	-	200EW	"AS-BUILT" DWGS. SINCE SEPT. 1, 1946	45	45	12-31-50	ONLY URGENT CORRECTIONS BEING MADE TO DWGS. AT PRESENT
2534	4-17-50	S	234-5	DESIGN NEW SHAFT FOR WASTE SUMP TANK AGITATORS	20	20		DESIGN WAITING ON MANPOWER
2535	4-17-50	S	222TB	DESIGN HOOD FOR LIQUID WASTE ASPIRATOR	25	25		CANCELLED BY TECH. DIV.
2541	5-15-50	S	234	DESIGN VACUUM BREAKER FOR EVAPORATOR BLDG. 234	80	80		DESIGN BEING REVIEWED BY S-DIV.
2545	6-13-50	MAINT.	2704E	DESIGN PIPING FOR TWO FIRE HOSE STATIONS	0	100		DESIGN COMPLETE
2548	9-18-50	S	235	SAMPLER FOR REDOX	-	100	10-13-50	DESIGN COMPLETE

DESIGNED

PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN

300 AREA

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
A-3002	9-1-49		300	"AS-BUILT" DRAWINGS SINCE 9-1-46	0	0		ONLY URGENT CORRECTIONS BEING MADE AT PRESENT
A-3088	2-13-50	P	314	STUDY GATE TYPE CRUCIBLE, MELT PLANT	80	80	12-1-50	WORK POSTPONED UNTIL TEST OF SIDE POUR CRUCIBLE IS COMPLETED
A-3090	3-7-50	P	314	HCOD FOR OUTGASSING FURNACE	70	70	11-30-50	WORK DELAYED FOR MORE URGENT WORK

RECEIVED
OCT 16 1950
ENGINEERING DIVISION

PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN PLANT GENERAL

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
887-R	9-11-50	POWER		SURVEY VOLUME - 100, 200 AREA COAL PILES	10	100	10-1-50	COMPLETED
A-537	4-8-49	TRAN.	ALL	SURVEY FOR MAINTENANCE OF ALL RAILROADS INSIDE RESTRICTED AREAS	70	70	11-15-50	NO PROGRESS THIS MONTH
A-553	9-7-49	-	ALL	ARCHITECTURAL STANDARDS	15	15		NO PROGRESS THIS MONTH
A-569	3-2-50	TECH. & MFG.	300	ENGRG. REPORT ON 300 AREA DEVELOPMENT STUDY	35	35	12-15-50	NO PROGRESS THIS MONTH
A-578	10-1-50	D. & C.	200	200E-W WASTE TIE-LINE (LAYOUT ONLY)	-	5	2-1-51	SURVEY WORK STARTED ON A NEW ROUTE
A-585	6-29-50	S	ALL	STRESS ANALYSIS PROCESS CASK CAR	40	50	10-20-50	WORK PROGRESSING
A-591	8-24-50	MFG.	-	STATISTICAL CHARTS - MFG. DIVISIONS	15	100	10-1-50	REQUIRED WORK COMPLETED
A-592	9-5-50	AEC	-	PRELIMINARY SURVEY - HOUSING ADDITION	65	100	10-9-50	COMPLETED
A-593	9-13-50	H.I.	ALL	GATE HOUSE BADGE ELEVATORS	-	5	2-1-51	WORK PROGRESSING
A-594	9-15-50	POWER	ALL	TOPOGRAPHIC MAP - PLANT AREA	-	30	1-1-51	WORK PROGRESSING
A-596	9-27-50	P	100D	105-DR PILE SURVEY	-	85	11-1-50	WORK PROGRESSING
A-597	10-11-50	MAINT.	ALL	CD-2 AREA SHELTERS	-	5	12-1-50	WORK PROGRESSING
E-439L	1-12-50	-	ALL	ELECTRICAL AS-BUILTS (LAYOUT WORK ONLY)	37	37	1-1-51	NO PROGRESS THIS MONTH
E-406L	8-1-49	ELECT.	1100	ADDITIONS TO VILLAGE DIST. - LAYOUT ONLY FOR PROJECT C-341	98	98	12-15-50	NO PROGRESS THIS MONTH
A-1001L	5-26-49	-	100	AS-BUILTS - 100 AREAS - LAYOUT ONLY	80	80	6-1-51	NO PROGRESS THIS MONTH
2266L	1-13-50	-	200EW	AS-BUILTS (LAYOUT WORK ONLY)	80	80	2-15-51	NO PROGRESS THIS MONTH
A-3002L	12-7-49	-	300	AS-BUILTS - 300 AREA - LAYOUT ONLY	71	71	2-1-51	NO PROGRESS THIS MONTH
4365D	12-2-49	P	-	PROCESS CHARTS - 300 AREA (FOR IND. ENGRG. GROUP)	70	70	3-1-51	NO PROGRESS THIS MONTH

RECEIVED

**PROJECT ENGINEERING DIVISIONS
ELECTRICAL DESIGN
PLANT GENERAL**

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
A-480RE	8-11-50			CONSOLIDATION OF TRANSPORTATION FACILITIES	0	0	5-1-51	
A-505E	8-19-49	-	ALL	ELECTRICAL STANDARDS - DESIGN & DRAFTING STAFF WORK				
A-516E	8-19-49	TECH.	200E	HOT SEMIWORKS	75	100	10-10-50	COMPLETED
A-562SE	2-27-50	STORES	ALL	CENTRAL STORES WAREHOUSE	10	10	12-1-50	WORK HELD UP
A-565E	3-23-50	H.I.	700	BIO ASSAY LABORATORY	10	10	1-1-51	NO PROGRESS THIS MONTH
A-570E	7-20-50		200W	CONSOLIDATED MACHINE SHOP	10	10	1-1-51	NO PROGRESS THIS MONTH
A-582E	8-11-50		300	ADMINISTRATION BLDG.	0	0	2-1-51	
A-588E	8-11-50		105F	MAINTENANCE SHOP	0	5	1-1-51	
E-413	6-21-50	ELECT.	ALL	SUPERVISORY CONTROL ON 115KV LINES	25	25	10-16-50	NO PROGRESS THIS MONTH
E-428	11-1-49	ELECT.	HANF.	DISMANTLE DISTRIBUTION LINES AND TELEPHONE CABLE - HANFORD	10	10		PRELIMINARY WORK STARTED
E-432	1-11-50	ELECT.	300	ELECTRICAL POWER - HANFORD LAB.	50	50	10-16-50	NO PROGRESS THIS MONTH
E-435	2-10-50	ELECT.	RICH.	ELECTRICITY METERING - RICHLAND	40	40	6-1-51	HELD UP
E-439	7-14-50		100	"AS-BUILT" - 100 AREA				HELD UP
E-441	7-14-50		200	"AS-BUILT" - 200 AREA				HELD UP
E-442	7-14-50		300	"AS-BUILT" - 300 AREA				HELD UP
E-443	7-14-50		700- 1100	"AS-BUILT" - 700-1100 AREA				HELD UP
E-444	7-14-50		ALL	"AS-BUILT" - POWER LINES				HELD UP
E-445	7-14-50		ALL	"AS-BUILT" - TELEPHONE				HELD UP
A-1130E	2-16-50	TECH.	100B	P-10-A EXPANSION	80	100	10-16-50	COMPLETED
A-1135E	4-2-50	TECH.	100B	P-10-D ADDITIONAL HOT FACILITIES	70	75	11-1-50	WORK PROGRESSING
2491E	9-14-49	S	200EW	FIRST CYCLE EVAP. FAC. - 241 T-X, ELECTRICAL DESIGNS	70	90	10-20-50	WORK PROGRESSING

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CONTD. ON PAGE 2

PROJECT ENGINEERING DIVISIONS
ELECTRICAL DESIGN
PLANT GENERAL

DATE OCTOBER 16, 1950

E. R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
2540E	7-22-50		200W	COATING UNIT - HOOD 25, BLDG. 234-5	0	0	11-1-50	HELD UP
2543E	7-22-50		200W	EXPERIMENTAL COATING HOOD - BLDG. 231	5	5	12-1-50	HELD UP
2544E	6-12-50	S	200EW	CONDUCTIVITY METERS 221 T-B	5	5	12-15-50	NO PROGRESS THIS MONTH
A-3061E	12-10-49	TECH.	314	INCREASED VENTIL. - ELECT. DESIGNS ONLY	0	0	3-1-51	WORK INITIATED

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OCT 17 1950
ELECTRICAL DIVISION

PROJECT ENGINEERING DIVISIONS INDUSTRIAL ENGINEERING ALL AREAS

DATE OCTOBER 16, 1950

E. R. N. O.	DATE REC'D.	SPONS DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL DATE	R E M A R K S
					LAST MO.	THIS MO.		
1141	6-16-50	DESIGN	100	P-10-X FEED SLUG HANDLING P-10-X FUEL SLUG HANDLING	0	5		WORK PROGRESSING WORK PROGRESSING, SCOPE INCREASED WORK PROGRESSING
4365	4-15-49	P P P P P P P P P P P	300	P-10 CASK DECONTAMINATION P-10 EXTRUSION INDUSTRIAL ENGINEERING - P-DIVISION OPTIMUM BILLET DIMENSION DETERMINATION REDUCED CUT-OFF TOOL WIDTH MELT PLANT MATERIAL HANDLING 303 PROCESS & ESSENTIAL MATERIALS CHIP RECOVERY EXPOSURE STUDY "LONG ROD" MACHINING & STRAIGHTENING MATERIAL HANDLING CREW METHODS REVISED MACHINING STANDARDS EVALUATE AUTOMATIC SPRAY GUN EVALUATE EFFECT OF MACHINING LINE MODIFICATIONS EQUIPMENT REQUIREMENTS - 313 BLDG. FOR HIGHER PRODUCTION CONSTRUCT & TEST ROD DOLLY	80 - 20 70 90 20 0 35 80 0 - - - -	5 5 60 20 70 90 20 0 35 100 0 50 100 100 10 25		WORK COMPLETED 9-29-50 COMPLETED 10-5-50 COMPLETED 10-10-50
4370	11-1-49	P P P P P	100	INDUSTRIAL ENGINEERING - P-DIVISION CHARGE-DISCHARGE METHODS SUGGESTION EVALUATION FOR P.C. GROUP CREW REQUIREMENTS, 105 AREA EVALUATE PROPOSED CHARGE-DISCHARGE EQUIPMENT CHANGES	65 55 25 -	65 55 25 100		COMPLETED 10-13-50
4374	12-20-49	S S	200	INDUSTRIAL ENGINEERING - S-DIVISION CREW REQUIREMENTS 234-5 BLDGS. METHODS IMPROVEMENT 234-5	0 0	10 0	12-20-50	WORK INITIATED 9-18-50
4383	3-6-50	POWER	ALL	FUEL OIL STUDY	98	98	11-18-50	REVIEWING FINAL REPORT
4386	3-13-50	MFG.	ALL	STUDY DEVELOPMENT AND ROUTINE	0	0	3-13-51	SERVICE AND SURVEY
4388	11-15-49	MFG.	ALL	ANALYSIS OF HEAVY DUTY LACQUERS	90	90	11-1-50	NO PROGRESS THIS MONTH
4390	5-9-50	MFG.	100	LUBRICATION SPECIFICATIONS 105H	95	100		WORK COMPLETED 10-2-50
4391	5-12-50	MFG.	ALL	INDUSTRIAL LUBRICATION PROGRAM	50	50	11-10-50	NO PROGRESS THIS MONTH
4392	5-17-50	MFG.	ALL	METALLIZING J.I.	35	35	12-1-50	NO PROGRESS THIS MONTH

CONTD. ON PAGE 2

PROJECT ENGINEERING DIVISIONS
INDUSTRIAL ENGINEERING
ALL AREAS

DATE OCTOBER 16, 1950

E R. NO.	DATE REC'D.	SPONS. DIV.	BLDG. OR AREA	D E S C R I P T I O N	PERCENT ENGINEERING COMPLETE		EST. COMPL. DATE	R E M A R K S
					LAST MO.	THIS MO.		
4393	5-19-50	MFG.	100	LUBRICATION SPECIFICATIONS - 1000R	80	95	11-15-50	WORK PROGRESSING
4395	6-28-50	MFG.	ALL	MANUFACTURING DIVISIONS PROCEDURES	12	15	12-1-50	WORK PROGRESSING
4399	7-13-50	E & C	ALL	E & C DIVISION PROCEDURES	5	5	2-1-51	WORK INITIATED
4401	8-18-50	MFG.	ALL	WORK ORDER CONTROL STUDY	50	60		WORK PROGRESSING

RECEIVED

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

CLASSIFIED

DATE OCTOBER 16, 1950

JOB NO.	BLDG. OR AREA	DESCRIPTION	PERCENT ESTIMATING COMPLETE		DATE REC'D.	DATE REQ'D.	DATE COMPL.	AMOUNT	REMARKS
			LAST MO.	THIS MO.					
C-300	-	W.O. #83240 - EST. TO COMPLETE	-	100	9-25-50	9-28-50	9-28-50	6,400	EST. TO R.M. HURST
C-321	107BDF	EFFLUENT DIVERSIONARY OUTLET	-	50	9-18-50	10-16-50			
C-349	200E	S/S FLOOR COVERING - CELLS A, B & C	75	100	9-8-50	9-14-50	9-14-50	12,000	EST. TO H.E. HYLBAK
C-349	-	HOT SEMIWORKS	-	10	10-2-50	11-15-50			
C-377	300	INSTR. MAINT. & DEV. BLDG. - FAIR COST EST.	80	100	9-1-50	9-15-50	9-23-50	129,000	EST. TO R.M. OLDRIGHT
C-388	-	P-10-X ESTIMATE - ALT. #2	-	100	9-28-50	10-9-50	10-6-50	6,600,000	EST. TO F.A. BOWMAN
C-388	-	P-10-X RESCOPE - ALT. #3	-	90	10-5-50	10-16-50			
M-723	107B	BASIN REPAIRS - EST. TO COMPLETE	-	100	9-22-50	10-1-50	10-4-50	18,100	EST. TO H.P. SHAW
M-761	-	P-10-X ESTIMATE - ALT. #1	-	100	9-13-50	9-14-50	9-14-50	7,250,000	EST. TO F.A. BOWMAN
A-480-R	-	TRANS. CONSOLIDATION - EST. DETAIL	-	100	9-20-50	9-27-50	9-21-50	1,126,000	EST. TO H.F. PETERSON
A-546	200	HOT SEMIWORKS - CPFF BASIS	-	100	9-13-50	9-15-50	9-15-50	3,506,000	EST. TO J.W. BRANDS
A-570	200W	CONSOLIDATED MAINTENANCE SHOP	-	100	7-20-50	9-27-50	9-27-50	285,900	EST. TO H.F. PETERSON
A-575	100DR	PILE TECH. SHOP	50	100	9-12-50	9-20-50	9-19-50	70,000	EST. TO H.E. HYLBAK
A-582	300	MFG. DIV. ADMIN. BLDG. - 300 AREA	-	100	8-21-50	8-29-50			HELD UP
A-588	105F	MAINT. SHOP FOR CONTAMINATED WORK	75	80	9-8-50	9-22-50			
A-990-R	-	AREA FENCES - EST. TO COMPLETE	0	100	9-23-50	9-28-50	9-28-50	45,000	COMPL. SCH. FOR 10-17-50
A-1135	100B	P-10-D OFFICE BLDG. - 2 ALTS.	-	100	9-27-50	10-3-50	10-5-50	VARIOUS	EST. TO R.M. HURST
A-1141	108	P-10-X STOR. BLDG. - 2 ALTS.	-	100	9-13-50	9-19-50	9-28-50	VARIOUS	EST. TO H.P. SHAW
A-1142	105DR	IN-PILE ATMOSPHERE EXP.	-	100	9-22-50	9-22-50	9-27-50	95,000	EST. TO F.A. BOWMAN
A-1142	105DR	IN-PILE ATMOSPHERE EXP.	-	100	10-2-50	10-5-50	10-5-50	140,000	EST. TO H.P. SHAW
2546	221TB	SETTLING SEC. 5 WASTE	-	100	9-26-50	10-4-50	10-3-50	31,000	EST. TO E.M. JOHNSTON
2546	200	SETTLING CF SECTION 5 WASTES	-	100	9-26-50	10-2-50	10-2-50	31,300	EST. TO E.M. JOHNSTON
H 20261	222T&B	DECONTAMINATION CANOPY	-	100	9-22-50	10-3-50	10-11-50	10,000	EST. TO W.A. BRIGGS - TECH

OCTOBER 16, 1950

RECAP - ALL AREAS

PROJECT COSTS

	100	200	300	GENERAL	TOTAL
AUTHORIZED	\$ 4,733,400	\$3,727,465	\$ 374,300	\$4,237,800	\$13,072,965
AWAITING APPROVAL	25,000	15,000	103,900	126,600	270,500
WORK IN PREPARATION	<u>7,555,400</u>	<u>548,700</u>	<u>372,800</u>	<u>4,296,000</u>	<u>12,772,900</u>
TOTALS	\$12,313,800	\$4,291,165	\$ 851,000	\$8,660,400	\$26,116,365
LAST MONTH'S TOTALS	\$12,173,800	\$4,440,465	\$ 751,000	\$8,592,000	\$25,957,265

PROJECTS COMPLETED DURING MONTH: NONE

SUBCONTRACTS IN FORCE: \$ 395,756

SUBCONTRACTS PREPARING: \$7,066,000

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WITH DELETIONS**

TECHNICAL DIVISIONS

11-10-50

October, 1950

SUMMARYPile Technology Division

The loading of the DR Pile was completed and the pile was operating at 300 MW at the end of the month. The reactivity of the operating pile was considerably larger than had been predicted, permitting unexpectedly high power levels.

Substantial increases in pile power levels were achieved during the month, as a result of operating the piles at whatever power level was consistent with maximum permissible heat generation in the hottest tubes of the pile. Additional power increases are indicated in most cases.

Water leaks were encountered in the B, D, and F Piles; the condition was corrected at the B and F Piles and was improved at the D Pile during the month.

It was determined that most of the recent loss in reactivity of canned uranium slugs was caused by the use of new aluminum cans which had an abnormally high neutron absorption.

Changes in the electrical resistance of graphite samples suggest that surprisingly high radiation damage may be occurring in the side reflectors of the pile. On the other hand, it had been established previously that negligible damage is encountered in the front and rear reflectors.

The Navy Test Channel has operated without incident since October 18, using enriched fuel and recirculating water at a pressure of _____ and a temperature of _____

The basic critical mass of plutonium from uranium irradiated for 420 MD/ton was found to be 700 ± 4 grams in a spherical geometry, in contrast to 725 ± 10 grams in a cylindrical geometry. Preliminary results indicate a very substantial decrease in critical mass for plutonium from uranium with less irradiation.

Consideration is being given to use of a removable core in the Test Pile rather than use of exponential piles in order to gain much greater precision in determining the constants of new graphite lattices.

Corrosion tests indicate that the presence of excess tantalum in T-347 CbTa stainless steel has no adverse effects, but the samples tested are not representative of the minimum permissible quantities of columbium plus tantalum in this alloy.

In P-10 operations, 1400 slugs were fabricated and _____ slugs were extracted. Extraction work was suspended for eight working days because of conflict with construction activities.

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DECLASSIFIED

Technical Divisions

HW-19325 *del*

A decision has been made to consolidate development activities and future expanded tritium production facilities (P-10-X Project) in Bldg. 108-B.

Testing of components of the metal extraction line continues favorable. The basic furnace design for the metal line has been tested. Revision of one glass extraction line has been completed and work started on revision of a second glass line.

P-10 development studies included considerable work on alloying between the furnace melt and the furnace wall, the use of molten lead as a heat transfer medium to permit uniform heating of all slugs, and the use of magnesium-aluminum alloy to lower the extraction temperature and reduce tritium diffusion through the furnace wall.

Separations Technology Division

Production testing of the use of water instead of dilute nitric acid for Dissolver flushing after coating removal has continued to show a significant decrease in plutonium and uranium losses. The testing of the thermal decomposition of hydrogen peroxide in Isolation Building supernatant recycles has also been proceeding satisfactorily. The production testing of the evaporation and recycling to Concentration of the 234 Building Purification supernatants is scheduled to be started during the coming month. The outgassing period in 235 Building Casting operations has been successfully reduced to 4 hours from 16 hours, while initial low temperature Pressing studies have given results that indicate no further work should be carried out in this direction.

No experimental solvent extraction runs were carried out in Redox and Metal Waste Recovery development during the month, all equipment having been shut down until February 1, 1951, at which time the training program for "S" Division personnel will be reactivated. In the interim period, the major effort is being devoted to the preparation of Redox and TBP Process Technical and Start-Up Manuals. Engineering development studies are continuing, however, on Production Plant pumps, transmitters, evaporators, materials of construction, and erosion characteristics of metal waste slurries. The Hot Semi-Works engineering design and specifications have been completed and invitations to bid for Lump Sum construction were mailed out on October 27.

In the research laboratory, additional bismuth phosphate plant studies have been carried out on iodine sparging from dissolver solution, lanthanum fluoride by-product waste recycling to the Concentration Building bismuth phosphate by-product step, and reduced bismuth:plutonium carrying ratios. The americium-curium content of irradiated metal from the piles has been established for exposure levels up to 500 MWD/T. The "Electroless" plating of nickel on plutonium, crucible and slag recovery, and the arsenate coupling for 234-5 processes have been further investigated. Additional solvent extraction distribution data have also been obtained.

In the 234-5 process development laboratory, additional laboratory studies have led to the establishment of a basis of process design for skull recovery. Attempts to induce the formation of a more readily soluble form of skull material, although not needed, have been unsuccessful. Work is continuing on the testing and comparison of new and improved methods and equipment for coated plutonium surface monitoring.

The first plant-scale silver reactor and Fiberglass filter for iodine and particle removal from dissolver off-gases were installed on one B Plant dissolver during the month. Start-up tests and efficiency monitoring are currently under way. Preliminary data indicate that, for the first time, the dissolver off-gas is not recontaminating the sand-filtered ventilation exhaust air upon being blended at the stack.

Technical Services Division

Mass spectrometric analyses of P-10 process samples have been established by the Analytical Section on a routine basis, and have shown that the tritium content of by-product samples after 6 hours separation averages about 0.2%. Because of the high quality of the mass spectrometric results and the many analyses required, consideration is being given to the purchase of another such instrument. A Leeds and Northrup emission spectrometer and gas sampling line have been received from KAPL, and are being installed in Bldg. 103-B in preparation for P-10 product assay. On October 2, the Technical Shops in Bldg. 101 were placed on a six-day work week as required by the P-10 program.

Considerable Engineering Section liaison was required during D & C's preliminary negotiations with Rosener, the architect-engineer who has informally agreed to undertake the design of (1) the Plot Plan and Utilities and (2) the Radio-metallurgy Bldg. of the Hanford Works Laboratory. The necessary modification of Rosener's Radiochemistry Bldg. contract was in progress. Design work on the latter facility is about 60% complete.

Project C-406, covering the design of the Mechanical Development Bldg. and the immediate erection of its shell for use by construction subcontractors, was approved by the A & B Committee and submitted to the A.E.C. The office space and structural design of the Pile Technology Bldg. was revised to lower the indicated total cost of this building to about \$2,850,000. Preparation of the project proposal was begun.

During October the IBM equipment for the new technical computing laboratory of the Statistics Group was received and installed in Bldg. 101. This laboratory has as its principal tool the IBM 6ard Programmed Electronic Calculator. Supporting auxiliary equipment include a sorter, collator, reproducer, key punch, and verifier. After testing and adjusting these new machines, computing was begun on a backlog of high priority Technical Divisions problems estimated to take six months to complete.

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RECORDED

DECLASSIFIED

November 10, 1950

FILE TECHNOLOGY DIVISION

OCTOBER, 1950

VISITORS AND BUSINESS REPORTS

William Davis, Knolls Atomic Power Laboratory, was here October 1 through 14 for consultation on P-10 analytical problems.

Warren Winsche and David Gurinsky, Battelle Memorial Institute, were here October 2 through 4 for metallurgical consultation on uranium canning.

R. O. Bolt, California Research Laboratory, was here October 5 and 6 to discuss irradiation of materials.

R. W. Coyle, J. G. Morgan, C. E. Stilson, and H. E. Robertson, Oak Ridge National Laboratory, were here October 5 through 13 to supervise experiments and set up N.E.P.A. apparatus.

C. E. Weber and J. Blowney, Knolls Atomic Power Laboratory, were here October 11 and 12 for technical consultation on special requests.

Dwaine Bowen and William Carter, North American Aviation Corporation, were here October 11 through 13 for technical consultation on graphite.

R. A. Noland and L. R. Kelman, Argonne National Laboratory, were here October 24 through 27 for consultation on the P-10 program and on canning problems.

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H. A. Broida, National Bureau of Standards, was here October 20 through November 1 for consultation on spectroscopic methods of product analyses.

J. W. Moyer, Knolls Atomic Power Laboratory, was here October 20 and still here for consultation on spectroscopic methods of product analyses.

Business trips of File Technology Division personnel during October were as follows:

C. R. F. Smith visited Knolls Atomic Power Laboratory on October 9 through 14 for P-10 analytical discussions.

R. L. Olson visited General Engineering and Consulting Laboratory and Knolls Atomic Power Laboratory on October 9 through 14 for P-10 consultation. He also visited Oregon State College on October 23 to discuss certain phases of their research program.

E. A. Eschbach visited Argonne National Laboratory on October 16 through 18 for P-10 consultation.

H. F. Zuhr visited General Engineering and Consulting Laboratory on October 9 through 14, Argonne National Laboratory on October 16 through 18, and Los Alamos National Laboratory on October 18 through 20 for P-10 consultation.

S. S. Jones visited General Engineering and Consulting Laboratory and Knolls Atomic Power Laboratory on October 9 through 13 to investigate facilities for heater construction.

W. W. Koenig visited Carnegie-Illinois Steel Corporation on October 9 to attend a meeting for determinations of specifications on stainless steel.

R. Ward visited Argonne National Laboratory on October 23 through 27 to discuss radio-metallurgy developments and uranium-metallurgy; Battelle Memorial Institute on October 30 to discuss the Hanford program; and Knolls Atomic Power Laboratory on October 31 to discuss the assistance to Hanford program.

L. D. Turner visited Argonne National Laboratory on October 23 through 27 to discuss radio-metallurgy developments and uranium-metallurgy.

A. R. Matheson visited Oregon State College on October 23 to discuss certain phases of their research program; and he also visited Knolls Atomic Power Laboratory on October 31 and 31 for P-10 consultation.

ORGANIZATION AND PERSONNEL

	<u>September</u>	<u>October</u>
Physics Section	44	44
Engineering Section	59	58
Metallurgy Section	36	37
P-10 Project	55	57
Administration	4	4
	<u>198</u>	<u>200</u>

Special Request Program

A total of 130 P-10-A slugs and 2 other special requests were charged during the month while 86 P-10-A pieces and 9 other special requests were discharged.

Thirty-two special requests are now on hand awaiting charging.

Two slugs containing radium (ANL-153) which failed to pass the bubble test, and which had been returned to the Argonne National Laboratory, were returned here after reworking. One of the slugs again failed to pass the bubble test.

A test irradiation of tantalum metal pellets (HW-101) was completed. The can was opened without difficulty in the underwater opening facility. Since this can was of design similar to the new receptacle slugs, the successful opening also constitutes the first test of these latter slugs.

A new tube was successfully inserted in the B Test Hole facility of the D Pile, replacing the one removed last month. Radioactive contamination prevented recovery of samples stuck in the removed tube.

A new method of tritium production accounting for the B, D, DR, and F Piles has been devised which depends upon the power in the surrounding tubes rather than the inhours absorbed. The new method has the advantage that it gives results directly proportional to the tritium production which is not the case with inhour accounting. The proposed new method is described in "Inhour Allocation for P-10 Production", October 11, 1950, (Document No. HW-19114).

Test Pile

Tests on aluminum cans from three vendors showed that Alcoa cans had the lowest neutron absorption. Victor cans had a dih of - 0.03 ih compared to Alcoa cans while Scovill cans had a dih of -0.13 ih. Scovill cans have been used in greater quantities than others in recent canning and this effect accounts for most of the drop in the quality of canned metal recently observed in the Test Pile. The use of Scovill cans has been discontinued.

Work continued on the improvement of the precision of Test Pile work with special attention to the correction for barometric pressure changes.

Six Special Work Requests were carried out during the month. In two of these, samples of Aquadag were found satisfactory for pile use. Two requests consisted of irradiating foils for the calibration of shielding experiments. One request was a check of the purity of six graphite bars for the lattice design group. The remaining request was a purity test of graphite samples submitted by the A.E.C. for the Great Lakes Carbon Company.

Xenon Cross Section Measurement

A special plug and related shielding was installed in the Y hole of the DR Pile, to produce a neutron beam for use with the neutron spectrometer. H.I. surveys following the startup of the pile revealed that the shielding was inadequate

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One technical graduate and one laboratory assistant were hired for the Physics Section. One laboratory assistant terminated and a technical graduate transferred to H.I.

In the Engineering Section, two technical graduates transferred to H.I., one laboratory assistant terminated, and one engineer was transferred to the P-10 Project. A physicist was hired for the physical-chemistry group and an engineer was hired for work in the Pile Engineering Group. One clerk transferred in from the Accounting Section. One technical graduate on the Rotational Training Program transferred into the Division for work with the Pile Engineering Group; later in the month this man was the victim of a fatal accident during non-working hours.

A new metallurgist was hired for the Metallurgy Section.

In the P-10 Section, one laboratory assistant transferred to Community and Fire Division. One technical graduate on the Rotational Training Program transferred into the P-10 Project from "S" Division, and a clerk transferred in from Stores.

PHYSICS

DR Pile Startup

The loading of the DR Pile was completed and the pile was brought to full power operation during the month.

After completion of the loading, and with cooling water in the pile, nine vertical safety rods were required to hold the pile subcritical. In a similar situation at H Pile during startup there, twelve vertical safety rods were required. The nine horizontal control rods in the DR pattern and one vertical rod also held the pile subcritical whereas at the H Pile the entire 15 rods in the horizontal pattern there were not quite sufficient to hold the pile. These two observations both suggested that the DR Pile had from 100 to 200 inhours less reactivity than H Pile. However, comparison of the reactivity of the DR Pile at 350 MW with that of the H Pile at the same stage in its history indicates no significant difference between the two piles. Further work is in progress to clarify this situation but no explanation had appeared by month-end.

Some difficulty was experienced in calculating the number of poison columns required during the initial rise to power operation. A full report of this incident is given in "Unexpected Reactivity Excess at DR Startup", November 1, 1950, (Document No. HW-19323).

Sudden reactivity changes of 15 to 20 inhours were observed during the first week of operation at 350 MW. These were traced to intermittent boiling in the B Test Hole facility due to improper connection of the cooling water supply. This has been corrected.

Area Physics Work

The flatness of the power distribution at H Pile was improved by the loading of some special tubes in the H-10 zone with natural uranium metal and by a judicious

choice of control rod configurations. This contributed materially to maintaining graphite temperatures within allowable limits when the power level was raised to 440 MW.

Observations on long term reactivity changes at the H Pile continue to indicate that sufficient excess reactivity will be available during the H-10 exposure cycle from control rods and from replacing bismuth and dummy columns with natural uranium. The total number of tubes containing an H-10 load was increased from 796 to 812 during the month. An increase to 825 tubes is planned for the coming month.

The previously reported 70 inhour reactivity loss due to a water leak at D Pile persisted until October 25 at which time a steady improvement began as a result of partial repair of the leak. By month-end 24 inhours had been recovered.

The reactivity coefficient test at B Pile, reported last month, has been analyzed and the coefficients were found to be in agreement with previous trends. Coefficient tests were performed at the F and DR Piles during the month and analyses were in progress at month-end.

The IBM installation at the DR Pile progressed steadily during the month and completion of the work is expected during next month.

A pattern for the emergency charging of poison columns, particularly adapted to H Pile requirements, has been prepared and will be described in a forthcoming document: "H-Pile Poison Patterns for Counteracting Rod Failure".

Plutonium Critical Mass Experiments

Eighteen critical mass determinations were made during the month, all in the 13 inch diameter spherical reactor. The basic critical mass of 420 MWD/ton material in 1.5 N nitric acid was found to be 700 ± 4 grams. This value is expected to be a minimum for spherical reactors and is compared with a minimum of 725 ± 10 grams for cylindrical reactors.

The effect of the presence of nitrate was determined by addition of excess nitric acid. Results of chemical assays were not available at month-end but the effect was approximately 50 grams Pu/mol of nitrate.

Preliminary results from experiments conducted with plutonium made at a 212 MWD/ton exposure level indicate a very substantial decrease in critical mass as compared to 420 MWD/ton material.

Failure of a weld in the feed line to the reactor and fatigue failure of a polythene valve diaphragm resulted in the loss of one week of operating time. Approximately 10 grams of plutonium contaminated an area of 15 square feet. Most of the plutonium was recovered and access to the contaminated area was restored by covering the contamination with masking tape and G.E. Cocoon.

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with respect to intermediate and fast neutrons. Methods of improving the shield are being investigated.

The elements of the cold trap assembly for the xenon generator have been completed and assembly will begin in the near future.

Exponential Experiments

The use of standardized foils, maintained in graphite holders, as reported last month, has removed the discrepancy between various measurements of the thermal neutron diffusion length in a solid purified graphite stack. The result obtained is 52 cm.

Measurements were also made of the thermal neutron diffusion length in an exponential pile, built with the 105 pile lattice spacing but containing only empty process tubes. The result obtained was only 50.5 cm which is considerably less than results obtained under similar conditions in the DR and H Piles. (51.4 cm at DR, 55.0 cm at H). The reasons for this difference were not known at month-end. Additional measurements were made in the exponential pile with no process tubes in the holes, and with graphite plugs in the holes. Results with the graphite plugs were in good agreement with results with the solid graphite stack.

Considerable attention has been given to the possibility of using a removable core in the Test Pile for determining the constants of new lattices rather than exponential experiments. Calculations by the Theoretical Physics Group indicate that greater precision can be obtained by this method. The experience gained in the DR Pile experiments for devising an H-10 loading have been of great value in this work. The Project Engineering Division has been asked to prepare a cost estimate for converting the Test Pile so that such experiments could be done.

Shielding

It has been established that the Hanford biological shield reduces the neutron intensity by a factor of 10^8 . Detailed analysis is continuing of foil data obtained in the special stepped shielding plug reported last month.

Instrument Development

A new type of counter circuit, employing condenser storage and a servo registering device, has been constructed and shows promise of competing with the dynamic pulse counter. An invention report is being prepared on this device under the name: Servo Dynamic Pulse Counter.

Work on the original dynamic pulse counter is also proceeding.

Work on the magnetic spectrometer has been suspended by diversion of personnel to the xenon cross section measurement work.

Reactivity

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

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	<u>B Pile</u>	<u>D Pile</u>	<u>DR Pile</u>	<u>F Pile</u>	<u>H Pile</u>
In rods	67 ih	36 ih	200 ih	55 ih	130 ih
In xenon poison	507	503	611	542	680
In Special Requests					
F-10					
Materials Testing Program					
Other					
In bismuth	123	94	0	109	58
In plant assistance	15	40	0	6	13
In dummy columns	5	26	6	29	20
In overall coefficient	-257	-315	-70	-296	-180
Total cold, clean reactivity	913	786	747	830	726

The B Pile record shows an increase of 25 inhours during the month. This increase resulted from an adjustment of the value assigned to the overall coefficient as a result of a recent test. The gain actually occurred over a period of several months but was not apparent until the new coefficient value was obtained. The D pile summary shows a loss of 7 inhours during the month. This summary is for the last day of steady state operation during the month and does not reflect the gains from repair of the water leak. The F Pile lost 17 inhours and the H Pile lost 18 inhours during the month.

ENGINEERING

Pile Power Levels

Substantial increases in pile power levels were achieved during the month of October. These gains have resulted from operating the piles at the maximum power level consistent with a heat generation which will give a central graphite temperature of 380°C. This method permits taking advantage of changes in water temperature, water flow, and more uniform heat distribution or flattening.

Listed below are the pile power levels at the beginning and end of the month:

<u>Pile</u>	<u>October 1</u>	<u>October 31</u>
B	335	355
D	320	330
DR	5	390 (Startup of new pile)
F	305	305
H	400	440

Future power increases are indicated in most cases. There was some indication that the local power generation in the fringe of the pile increased at a faster than the local power generation in the center of the pile as the power levels were raised.

F Pile has suffered more graphite damage than the B and D Piles, making it difficult to estimate graphite temperatures in all regions of that pile. A program is progressing for installing several thermocouples across the transverse

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axis of the pile. Upon completion of this work the thermal conductivity damage can be re-assessed and more accurate graphite temperatures predicted. It is believed probable that the power level of this pile is being limited because of inability to measure near side graphite temperatures. The present limits are conservatively based on the maximum temperatures which can be calculated from existing graphite thermocouples. The calculated maximum temperature has been about 380°C but in most cases the observed temperature in the region of highest power generation has been 340°C, or less. The true condition can only be assessed when the thermocouple installation program has been completed.

Fringe Tube Utilization

A study is being pursued to evaluate the possible recharging of fringe air tubes in D and F Piles. From 5 to 10 MW of power could be realized if the 66 air tubes in F Pile were recharged and slight gains could be realized in D Pile. Investigations to date have revealed large volumes of gelatinous corrosion products in the air tubes but the extent of attack on the tubes is not fully known. One tube was removed and examined and it was found that the attack was only superficial.

V.S.R. Thimble Temperatures

Data have been accumulated which show that Vertical Safety Rods thimbles do not exceed maximum adjacent graphite temperatures. This information was obtained from three thimbles each containing two thermocouples placed 4 3/16" apart opposite a tube block and a filler block thermocouple, and from a number of thimble thermocouples placed adjacent to graphite thermocouples. This information formed the basis for raising the graphite temperature of the H Pile from the previous limit of 370°C to the 380°C limit which has been established for the other piles.

Pile Water Leaks

B, D, and F Piles had water leaks into the packing during the month. The B and D Pile leaks occurred during the nozzle replacement program. These leaks occurred because of additional clearance in the replacement nozzle gasket recesses. Units having small clearances between the nozzle and gun barrel flanges were removed and supplied with additional gaskets. The B Pile leak was stopped completely and at D Pile some improvement was noted at the end of the month. F Pile had a water leak of 175 pints per day, but no reactivity effects were noted. This leak was stopped when a cracked gasket was found and replaced.

Replacement of Nozzles in B Pile

Aluminum alloy nozzles were installed in B Pile, replacing stainless steel nozzles. With the completion of this program on the B and D Piles, only F Pile has stainless steel nozzles. Six front face aluminum nozzles which had been installed on pitted Van Stone flanges in August, 1943, were removed and examined. There was no evidence of corrosion on either the nozzles or the flanges. Recent examination of 30 front face galvanized nozzles in H Pile revealed that there was no sign of any Van Stone flange corrosion attack.

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DECLASSIFIEDThimble Removal and Ball Third Safety Program

The conventional stepped plug, thimble, and rod guide in the #20-D position have been replaced with an experimental fluted stepped plug and gas seal. The rigid safety rod would not operate satisfactorily so was replaced with a jointed flexible rod on October 25. This change necessitated complete redesign of the gas seal, which must be used to prevent escape of the pile atmosphere when the thimble is removed. The new seal consists of an externally pressurized section of soft neoprene tubing through which the rod must pass. The #20 rod operates satisfactorily with a scram time of 2.5 seconds; it appears that objectionable amounts of irradiated graphite will not be carried out of the pile on the jointed rod. However, if the rod does prove to be a source of contamination it can be periodically cleaned and re-lubricated.

More basic data are being collected on ball flow characteristics to serve as the basis for improvements which will be incorporated in subsequent stop plug designs. The effects of tapered flutes, air jet assistance, and velocity on flow rates are being studied. It is planned to incorporate all possible improvements in another test plug to be installed on the DR or H Pile.

Special Pile Instruments

A graphite core borer has been built and tested which will bore and retrieve solid samples from process tube blocks anywhere in the pile. The samples obtained will be $3/8$ " in diameter and about $1\ 1/8$ " long. They will be bored normal to the axis of the process tube in either the vertical or horizontal directions.

Previously it has only been possible to secure solid samples from around test holes. Graphite samples are used in irradiation damage studies.

A program has been established to develop instruments for measuring graphite growth inside the piles. Instruments now under development include a slope gage for measuring the slope along the process tubes, a bore gage for measuring changes in process tube block bore, a vertical height gage for measuring vertical expansion of filler blocks adjacent to test holes, and a block width gage for measuring width of tube blocks above and below test holes.

Tube Replacement

Fabrication and testing of equipment for pulling new tubes into misaligned process channels has been completed. The practice has been to push new tubes into the pile by hand, which often is very difficult. This equipment should make it possible to pull new tubes into the pile in about 15 minutes. Consideration is being given to possible improvements in tube removal techniques and equipment.

Boiling Studies

The experimental equipment for evaluating the possibility of boiling in the process tubes has been modified. It is now possible to measure the pressure drop in a small diameter tube having water enthalpy 50% in excess of the maximum which can be encountered in the piles at corresponding water flow rates.

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A re-evaluation of factors influencing the limitations imposed on the heat load of a pile process tube by boiling considerations has been undertaken. This work is being done primarily to permit the greatest possible power output in DR and H Piles. It will also be necessary to establish individual limits for each pile because of non-uniformity of process water piping and water rates.

High Pressure Water Channel (P-13, ANLM 140, P.T.-105-354)

The behavior of water, prototype fuel, and structural materials under conditions of the Westinghouse Pile is to be determined by simulating these conditions in the Hanford Piles. Fuel and other materials were charged October 1, but a pump failure was discovered October 2, so the equipment was run on the emergency process water system while the pump was being replaced. This equipment has been operated with recirculating water since October 18 without incident, at a pressure of

Controlled Temperature Exposure of Graphite

Heated graphite samples are to be exposed in a dry process hole with a water cooled annulus. Mock-ups of the annular cooling channel are running at 100-F flow laboratory. Heaters are being made at KAPL in Schenectady.

Can Opener

The can opener makes circumferential cuts in standard-size slugs. Two SR-79 slugs and one ORNL-113 were opened and shipped, requiring 43 man-hours.

KAPL Fuel Element Tests (Beta Experiment, SR-79, P.T.-105-130)

These tests are to determine the influence of the Hanford flux on the behavior of fuel and coolant materials for SIR. The capsules from R-2 (U foil in Na) and R-5 (U foil in Na + Na₂O₂) were shipped to KAPL. Experiments under exposure at present are:

<u>Slug</u>	<u>Tube</u>	<u>Days at 305 MW as of October 23</u>	<u>Days Exposure Requested (305 MW)</u>
R-1	1071-F	203.6	330
R-5	0865-F (75%)	132.6	317

Fission Gas Experiment (KAPL)

This experiment is to determine the rate of gas release from fuel materials at 450°C and Hanford flux. Design details were discussed with C. E. Weber and J. Blowney of KAPL on their visit to Hanford. Instrumentation was discussed with C. Hansen on his visit. Design is now being co-ordinated.

Controlled-Temperature Facility

A survey of AEC laboratories is being made to determine the need for a facility to irradiated large specimens at controlled temperatures in the range 100 to 350°C.

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Differential Transformer Calibration (WAPD-M-103, P.T. 105-379)

A determination will be made of the influence of Hanford flux on the calibration of a linear variable differential transformer and on the electrical resistivity and dimensional stability of zirconium. The slug was charged into the tube on October 22. Charging required one hour and 35 minutes. The assembly was leak tight and has been operating satisfactorily.

Removal Equipment

Large assemblies of materials which become highly active are being installed in test holes; methods of disposing of these assemblies must be developed. The Engineering Section of the Technical Services Division is now designing equipment to handle this problem. The P-13 pressure tube and the controlled-temperature gas-reaction assembly may ultimately have to be removed by this equipment.

Graphite Irradiation Studies

A reliable experimental determination of the temperature coefficient of damage to graphite, in the low temperature region, was made from X-ray and physical expansion measurements on large capsule samples. The rate of expansion at an average exposure temperature of 40°C is about 30 percent lower than the rate at 15°C. This value is in agreement with previous estimates based on the degree of skewing of overall pile distortion, which was presumed to result from the heating of the cooling water in its passage through the piles. These results also emphasize the importance of temperature control in the study of radiation damage effects, and indicate the necessity of controlling, to fixed values, the cooling water temperatures in the present test facilities.

Physical expansion rates were determined for a series of capsule irradiated lamp-blacks which were prepared at graphitization temperatures between 1000 and 3300°C. The higher the degree of perfection of structure (resulting from higher graphitization temperatures) the higher the physical expansion rate on pile exposure. Lampblacks prepared at graphitization temperatures of about 2200°C have the same physical expansion rate on pile exposure as Cleaves-Standard (CS) graphite.

Electrical resistance monitoring measurements indicate that the effective fast neutron flux at a point 4-inches radially beyond an edge tube is about one-third that in the flattened zone. This is surprisingly high, and may indicate that radiation damage is occurring in the side reflectors at an appreciable rate. Additional measurements have been planned to determine the effective flux in the reflector. It may be desirable to mine the reflector to determine the state of damage.

Additional in-pile controlled atmosphere gas tube experiments have been planned to obtain, as rapidly as possible, some indication of the reaction rates of the various pile gases with graphite. Carbon dioxide, carbon monoxide, oxygen, a mixture of carbon dioxide and monoxide, and actual pile gas, will be used with irradiated and unirradiated graphite in a common temperature and flux zone in a pile. These data are desirable before any increase in present pile graphite temperature is permitted.

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The thermal conductivity of graphite samples has reached a saturation value, which amounts to a decrease by a factor of about 2, at a pile exposure temperature of 340°C and an exposure of about 3 months. Radiation damage, as measured by other physical properties, has presumably also saturated during this time.

Work has continued on the twin calorimeter for the determination of stored energy spectra, on mechanical property tests, on surface area determinations, and on interferometer measurements of physical expansion.

An Interim Report on Pile Graphite Expansion, HW-19281, E. P. Warekois and P. H. Reinher, was issued on October 27, 1950. This report presents an analysis of the graphite expansion problem based on laboratory studies of pile graphite samples. Graphite considerations relative to a proposed increase in the power level of the H Pile were presented in HW-19218, P. H. Reinher, October 23, 1950. It was deemed preferable to add small amounts of helium for the purpose of obtaining higher power rather than to increase graphite temperatures at this time.

The design and procurement of equipment necessary for the in-pile controlled atmosphere experiment is proceeding. Equilibrium compositions for the system $H_2 + CO_2 \rightarrow H_2O + CO$ were calculated for the temperature range 0-900°C. If this reaction is rapid compared to other reactions, it follows that removal of water vapor from the pile gas increases the carbon monoxide concentration.

METALLURGY

Uranium Billet Casting and Rod Fabrication

The entire shipment of uranium rods received in October was rolled from Hanford cast billets. A spot check of the quality of these rods as received indicates a greater than average number of split, checked, and otherwise unsound rods, which will tend to reduce the slug yield as they are machined.

The 6 lots of slugs covered by Production Test 314-59-M, "Effect of Furnace Pressure on the Quality of Remelted Uranium" have been machined and are ready for canning. During machining, wafers were taken for technical analyses in an effort to detect differences among the 6 groups.

Uranium Canning

A comparison of the aluminum cans supplied by 3 different vendors has shown that, with respect to their effect on reactivity, Scovill cans are significantly inferior to those obtained from Alcoa and Victor. The reactivity loss attributable to the use of Scovill cans is sufficient to account for most of the reduced reactivity of canned slugs observed during the past several months. On the basis of this information the use of Scovill cans in regular production has been discontinued as of 10-17-50.

The unusually high incidence of non-seat rejects occurring in regular production during October has led to investigations into the causes of and remedial measures for this trouble. Information collected to date supports the theory that the

presence or absence of some ingredient in the Al-Si bath may be chiefly responsible. Some relief has been obtained through the use of Al-Si from a different vendor, although the significance of minor differences in chemical analyses of the Al-Si from the two vendors is not understood. There is also some slight evidence that the inside diameter of cans currently employed in canning may be approaching the minimum acceptable diameter, thus increasing the difficulty of inserting the slug. These studies are being continued.

Final Report of Production Test 313-114-M, "Fabrication of Slugs from Two Redox Rods" has been completed and issued as Document HW-19049. The canned slugs produced in this test are awaiting disposal.

Uranium Metallurgy

The first sample of swaged uranium rod received at Hanford was found to be relatively free of surface defects, with no laps or seams being observed. A section of this rod was beta heat treated at 725°C for two minutes, water quenched, and examined for grain structure. The microstructure and grain size were similar to those observed in normal triple-dipped metal.

Metallographic examination of the uranium -0.3 atomic percent chromium rod fabricated at Battelle showed the grain size to vary in the same manner as the chromium content reported last month, with regions of higher chromium content having a somewhat smaller grain size. A heat treatment simulating triple-dip canning produced the same fine grain size obtained by water quenching from the beta phase; this result is as expected since air cooled samples studied previously also had a fine grain size. By X-ray diffraction, it was found that the "as-rolled" bar had a preferred orientation which was randomized by the beta quench and triple-dip heat treatments.

The study of the effect of rolling temperature and amount of deformation on the orientation of uranium is about 95 percent complete. Most of the metallographic work for this study was finished during the month.

Dilatometry

Statistical analysis of the data from the three test methods being considered for determining the degree of slug transformation showed that the dilatometric data correlated best with the degree of transformation. Numerical values of the correlation were: comparator 1.37, dilatometric 0.39, and sonic 1.03 with 0 equivalent to 100 percent agreement. This confirms the previous conclusion made from visual inspection of the data. Work required to establish a statistical expansion versus degree of transformation relationship is continuing. Considerable time during the past month was spent in making alterations on the dilatometric unit installed in the 313 Building.

KAPL Assistance to Hanford

Preliminary checks to verify the ability of Metals Comparator to measure the percentage of transformation in bare slugs have been completed. There appears to be a straight line relationship between the readings obtained on the Metals Comparator and the degree of transformation observed. Statistical tests will

probably be required to determine what variations might be obtained on slugs that are almost or completely transformed. These tests may best be carried out at Hanford.

Work is continuing to determine the times required for remelting aluminum-lithium slugs in a matrix of 70-30 aluminum-magnesium alloy. Studies will soon be started on the uranium-chromium alloys to determine the degree of refinement that can be obtained by proper procedures.

Radiometallurgy

Process tube 4680-F, which had remained unused and dry at temperatures up to 210°C for two years, was received. Selected samples are now being examined to determine if similarly exposed tubes may be returned to normal process conditions. The rear and center sections were free from corrosion pits. The front section contained incipient pits that were 1/16 to 1/8 inch in diameter and the worst concentration was about four pits per square inch of the wall. One of the deepest pits was found to be two mils deep.

Examination of process tube 1569-B, which failed September 22, 1948, while being used for special request work revealed that the recrystallization temperature of aluminum was exceeded when the failure occurred. The microstructure in the affected area is that of annealed 2S aluminum and the hardness value is approximately R_{H50} .

Evaluation of the air flow characteristics of the model hot cell has provided a satisfactory substantiation of the previously requested 600 c.f.m. exhaust volume.

The existing prints, sketches, and design criteria of the proposed radiometallurgy building were completely reviewed and, with the cooperation of the Technical Services Division, a new criteria for the required special equipment has been issued to call attention to these changes and requirements so that our current operating philosophies are well known.

Document HW-18725 was issued to relate some of the physical properties that were observed on several irradiated process tubes.

P-10 Alloy

Distribution of the lithium in the rod extruded from experimental P-10-A heat No. 108 was checked using Analytical's new flame photometer. This heat contained approximately 4 percent lithium, slightly more than is used in normal production, but segregation, if present, should be similar to that in lower lithium content alloys. The percent lithium along the length and from center to surface varied only from 3.90 to 4.01. One sample from the lead end of the rod corresponding to the top center of the billet contained 4.54 percent lithium; this resulted from segregation in the billet. Thus, a rod of uniform composition would be obtained merely by discarding a portion of the lead end.

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The 300 Metallurgy analytical line has been altered in an attempt to minimize hydrogen pick-up by diffusion through the furnace tube wall at elevated temperatures. The extraction furnace and tube have been enclosed in a vacuum tight chamber so that either a vacuum or a controlled atmosphere can be used on the exterior of the extraction tube. Test runs of the revised apparatus are currently in progress.

In the study of the rate of corrosion of 347 stainless steel furnace tubes by molten P-10-A alloy, it was found that the alloy penetrated one-tenth the thickness of the tube wall in 6-hours at 800°C, while complete penetration occurred in 5-3/4 hours at 900°C and 20-minutes at 1000°C. This emphasizes the need for preventing overheating during P-10 extraction runs.

Corrosion

Corrosion tests on Borium (Stoody Co.) indicate that it is unsatisfactory in boiling 60% HNO₃. A corrosion rate of 306.2 mils per year was recorded after 48-hours exposure and the surfaces became coated with a brittle yellow scale. Borium exposed to RAW (concentrated, HW-5 Flowsheet) at 82°C exhibited no change in appearance and a corrosion rate of 3.80 mils per year was noted after 48-hours exposure.

Huey tests (ASTM:A262-44T) have been completed for T-347 CbTa specimens tested in the following conditions; (a) as received, (b) sensitized (1250°F, one hour, water quench), (c) welded-stress relieved (1600°F, 2 hours, air cooled). Huey tests have begun on this material in the as-welded condition. Early indications are that T-347 CbTa compares favorably with T-347 in the as-received and the sensitized conditions, and may better the performance of T-347 in the as-welded and the welded-stress relieved conditions. However, the columbium alone exceeded the amount of stabilizing materials required by the specification; hence, the results may not be representative of the behavior when minimum permissible quantities of columbium and tantalum are present.

Corrosion tests of T-347 CbTa in RAW (concentrated, TBP HW-5 Flowsheet) at boiling temperatures are nearing completion and although corrosion rates have not been calculated, weight changes indicate that corrosion rates will be of the order of 3 mils per year or less.

Installation of the gas corrosion testing equipment in room 6 is expected to be completed 10-25-50 and furnace trials are tentatively scheduled for that date.

Special Requests

The following special requests were processed and/or tested during the month:

2 pieces of NAWM 104	6 pieces of ORNL 118
1 piece of KAPL 103	1 piece of WAPD 104
2 pieces of SR 84	6 pieces of ORNL 80
4 pieces of SR 87	2 pieces of ORNL 100
6 pieces of SR 88	3 pieces of ORNL 110
2 pieces of SR 89	4 pieces of ORNL 135
1 piece of UCRL 122	

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Miscellaneous

In the Battelle creep tests, 2S aluminum at a stress of 300 psi. continues to be more resistant to creep at 500°C than at 450°C although the degree of superiority is not as great as at 350 and 400 psi. However, the ductility remains much lower at 500°C than at 450°C. Metallographic studies gave no clue as to the cause of the higher creep strength at 500°C. The initial attempt to run a creep test in a vacuum to determine if oxidation were responsible for the effect was unsuccessful.

An experiment was initiated to determine if the grain size of irradiated aluminum samples could be measured by X-ray diffraction techniques. It is hoped that such a method might be used on samples which cannot be readily examined metallographically.

A number of metals have been corrosion tested under conditions simulating those in the bronze pot of the canning line in an attempt to find a more suitable material for thermocouple wells. The present Type 347 stainless wells must be replaced every 24-hours. Tantalum, zirconium, titanium and nichrome corroded excessively in one to three hours. Type 316 stainless lasted approximately 27 hours, but this is no better than Type 347. Type 316 was originally specified for this application.

Equipment to test the reducing properties of calcium in a bomb reduction type of operation has been installed in Building 3730. The test is used as a routine check on the quality of the calcium.

Activity on the reports and design assistance required in connection with the Pile Technology Building is continuing.

P-10 OPERATIONS

Extraction Operations

During October, 1950,

The prime standard used during the month for product purity determination was the mass spectrometer operated by the Technical Services group analytical section. Product fraction purity was reported, for the record, on the basis of analyses of duplicate samples submitted from each run. The method previously used for this purpose, (Regnault), was out of service pending relocation by construction as a part of the P-10-D program.

The P-10-D construction activities resulted in a planned suspension of extraction work during the periods October 1 through October 7 and October 27 through October 31.

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Supplement

No P-10 personnel exceeded the working limit for body contamination this month. The level of body contamination at which a workman must be removed from further radiation was increased by the H. I. Divisions from a previous limit of ten to a current limit of 20 to 35 c/l. of body fluid, depending upon the frequency of sampling.

It was reported last month that air contaminated batches of product were being stored pending development of a reprocessing method for removal of the contaminant. This development was completed during the month, and the installation of the required equipment was begun on one line. This line will be in reprocessing service exclusively for the next several months.

Equipment designed for ventilation of extraction furnaces independently of the main building ventilation exhaust system was activated. An important component of this system is a water scrubbing tower. Radioactive gases which escape from the slug extraction furnace vacuum envelope are now directed to this column for scrubbing action. The column effluents, water and ventilation air, are respectively directed to an underground disposal crib and to the existing stack. This system was expected to eliminate one source of personnel contamination from the vicinity of the extraction work by solution of such product gases in the scrubbing liquid, and disposing of this contaminated liquid underground.

The first sampling of inlet vs. effluent ventilation air (across the scrubbing tower) indicated a factor of 10,000 reduction in product concentration in the ventilation air by the exchange, as indicated below:

(Inlet	6.17×10^{-4}	c/cc. air through the column.
:		
(effluent	4.16×10^{-8}	c/cc. air through the column.
:		
(Inlet	4.10×10^{-4}	c/cc. air through the column.
:		
(effluent	25.2×10^{-8}	c/cc. air through the column.

Such data are encouraging and indicate that the system may help solve some of the contamination problems previously encountered in the extraction work.

The 300 foot building ventilation exhaust stack was completed. It is planned to resume operations on November 13, 1950, utilizing this stack for venting of exhaust air to atmosphere. It is planned also to resume extraction operations on three shifts five days a week on that date.

Slug Manufacturing Operations

A total of 1,400 slugs were fabricated. All fabrication operations, including slug leak testing and inspection, are being conducted currently in Building 108-B.

DECLASSIFIEDTRITIUM DEVELOPMENTProject P-10-X (Production Facilities)

During October, a decision was made to consolidate development activities and future expanded tritium production facilities in Building 108-B. A potential saving exceeding \$1,000,000 will result from this consolidation and satisfactory production, development, and health hazard control features should be obtainable.

Within Building 108-B, few changes are contemplated in the layout of the first and third floors by Project P-10-X; major rearrangements are contemplated on the second floor but these should not interfere with production or development programs in 1951. Outside Building 108-B but within the 108-B exclusion area, it will be necessary to add a Storage Building and a Development Building which can house "hot" development activities, shipping container outgassing facilities, and possibly a stripping line for recovery of tritium from waste streams of the process. The two new buildings will be located to the west of Building 108-B and their exhaust ventilation will be routed to the existing 300 foot stack.

Projects P-10-A (Expansion of Slug Fabrication Facilities) and P-10-B (Cold Facilities)

Preliminary acceptance of Projects P-10-A and P-10-B has been made exclusive of a number of minor exceptions which will be completed when necessary material arrive at the plant.

Project P-10-D (Development Facilities)

The directive on Project P-10-D has been received from the Atomic Energy Commission. Authorization has been received to proceed with Project P-10-D, Part II (Additional Development Facilities) but authorization to spend additional funds has not been received. Both Parts I and II of Project P-10-D are to use the funds of Part I until the Part II Project Proposal can be submitted or until the expenditures plus commitments of both exceed the authorized amount of Part I.

During October, the 300 foot ventilation stack was completed; early in November, the ventilation supply and exhaust systems will be rerouted to utilize this stack.

Construction has started on the twelve room office building (Building 1703-B) by the special labor forces of the Atkinson and Jones Construction Company under a cost plus fixed fee contract. Partial occupancy of the building is expected by February 1, 1951.

G.E. and C.I. Supporting Activities

Preliminary testing of all major components of the metal extraction line has been completed. Barring unfortunate incidents during the final erection and acceptance testing, the unit will be ready for shipment to Hanford on December 1, 1950.

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It has been necessary to install a DC operated ~~valve in parallel~~ **WITH DELETIONS** to the existing AC operated valve between the furnace and the metal line proper so that emergency venting of furnace gas will be possible in the event of a power failure during the period of maximum gas evolution. No additional control switching needs be provided at the control desk for this service.

Extraction Furnace Testing

The basic furnace design that is to be used for outgassing furnace pots and for product extraction has been tested. A complete report will be issued separately. Principle results obtained are:

Metal Shipping and Storage Containers

Los Alamos desires Hanford to ship product in metal shipping containers at atmospheric pressure as soon as they complete the final design, fabrication, processing, and testing of proto-types.

Fabrication of the first shipping container will be completed about November 1, 1950. Discussion with Los Alamos to determine the feasibility of the General Electric Company assuming the responsibility for procurement of substantial quantities of containers is underway.

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**DECLASSIFIED
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Glass line # 5, the first line to be revised, was turned over to the Operations Group October 19, 1950; line # 4, the second line to be revised, was torn down the same day to begin revisions. Operation of line # 5 has turned up a few difficulties which were chiefly electrical and have been corrected.

The revisions to line # 4 will be more extensive than those to line # 5 as more developments have been completed. In addition to the use of mercury seals, two furnaces, furnace hoods and scrubber, stopcock-free product system, etc., line # 4 will be provided with stainless steel pots for Toeplers and manometers, stainless steel U's for manometers, flexible stainless steel bellows for strain relief, non-conducting Toepler controls, and magnetic Toepler by-pass checks. The lay-out of line # 4 will enable greater operational ease, for line # 5 has demonstrated some inconvenient aspects that can be circumvented.

Supporting Development Work to Glass Line Revisions

Metal Toepler and manometer pots for line # 4 revisions have been leak tested and inspected and are ready for installation, while the leak testing of the metal bellows for line # 4 is 30% complete.

The Project Engineering Divisions have designed a solenoid (for holding the magnetic Toepler check open for by-passing) that comes apart in halves, thus simplifying installation. Performance during a 30 hour life test indicates that it is satisfactory from all standpoints.

Experimental Work in Production Lines

Many experiments were conducted in the glass production lines which were available because of a slug shortage due to a schedule that affords maximum tritium production in 1950. The aims, procedures, and detailed results of these experiments are included in the weekly reports as "Production Tests".

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Analytical Developments

Nearly two hundred samples from tritium operations have been analyzed on the mass spectrometer. Anomalous results are being obtained such that additional information will be required before the analyses can be reported with full confidence. Analyses representative of the better results are shown below:

Sample Type	Per Cent							
	$(H^3)_2$	$(H^1)_2$	He^4	He^3	N_2	$H_2O^{(a)}$	O_2	CO_2

Product Fraction
 Duplicate of above

Gas Extracted from
 Slugs-no separation

By-Product Fraction
 after 3 hrs. and 52
 min. separation

Duplicate of above

Outgas Fraction

- (a) Water partially trapped out of extracted gas, by-product fraction, and outgas fraction before sampling.
- (b) Assumed absent.

Purity determinations for product gas as determined by ion chamber readings were checked by analyzing duplicate samples in the mass spectrometer. Agreement between the two analytical methods was within $\pm 3\%$ except for one case where an abnormally high amount of nitrogen was present.

A refined sampling technique has been tested and is being used on all lines. The gas to be sampled is circulated or otherwise thoroughly mixed and is then admitted to previously evacuated and leak tested sample containers whereupon it is sealed off for removal from the system. Two simultaneous samples are taken for each type of determination to ascertain the over-all precision. Traps are provided for the optional removal of water in cases where the analytical method is adversely affected by its presence.

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In an effort to compare the various methods of tritium and hydrogen determination in the by-product, an adequate number of simultaneous samples was taken for the various methods at Hanford and at KAPL. At Hanford, these include ion chamber, HIPPD (hydrogen isotope partial pressure determination, formerly known as the Pd window or Pd window-ion gage method), mass spectrometer, and mass balance methods; at KAPL, these include ion chambers, uranium, and HIPPD methods. The KAPL samples are now being shipped. To compare the effect of age on a sample, the Hanford determinations have been made and will be repeated on the same days that KAPL makes its determinations. The significance of sample container wall effects may be evaluated because three sizes of sample bulbs were used, 5 cc, 100 cc, and 500 cc.

The bulbs sent to KAPL were sealed by hot tip-offs; consequently, samples in similar bulbs were submitted to the Hanford Mass Spectrometer in addition to samples in the currently utilized stopcock - sealed 5 cc. sample bulbs.

Kanne Chamber Testing

Calibration of a Kanne Chamber with tritium has not yet been accomplished. This is to be done so that a fairly exact calculation can be made on the quantity of tritium being discharged up the stack in the by-product from each run, thus indicating separation completeness. If successful, provisions will be made so that gas flow and Kanne Chamber readings will be automatically recorded to simplify daily calculations.

A Kanne Chamber has been made available and plumbing alterations have been completed so that calibrating gases can be injected, circulated, and sampled for mass spectrometer analysis. While pressure testing this equipment, gross leaks were discovered in the Kanne chamber itself and in the circulating blower. These components are being re-built to make them gas tight. In the meantime, the critical area around the remaining Kanne Chambers has been made a danger zone during extraction line operations, and these chambers and blowers will be made gas tight as soon as the test chamber and blower are proven tight.

To avoid gas storage in the fore-pumps between the glass lines and the Kanne Chambers, the by-product will be removed from the glass line and injected directly into the Kanne Chamber by a portable metal Toepler pump moved from line to line. If such a by-product handling system is found satisfactory, it could be installed easily on each line.

KAPL Research and Development

The buoyancy balance, designed and built by KAPL, has been installed at Hanford and has been calibrated with helium. Tritium will be placed in the instrument for the first time after the ventilation revisions are completed. Unless troubles develop with the use of the balance, this completes KAPL's portion of the work.

The development of an analytical method, using the Leeds and Northrup emission spectrometer (on loan to Hanford on a field trial basis), for the determination of the H/T ratio in a product sample has progressed sufficiently so that the glass manifold system is now under construction at Hanford; at month end, the emission spectrometer had arrived at Hanford and is being assembled. Further

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experimental work is necessary to permit use of the system and method for the determination of impurities in product and to permit an absolute assay of product; to date, the instrument will determine only H/T ratios.

It is expected that the Bausch and Lomb emission spectrometer (being purchased by Hanford) will be available at KAPL on, or about, December 1, 1950. Component parts such as the electronic recorders, amplifiers, etc. and, excitation units must still be procured. A probable target date for the installation of this instrument and attendant method at Hanford is February 15, 1950.

The Hanford recommendations to KAPL on the tritium assistance to Hanford Program as discussed in September have been forwarded to KAPL for their concurrence (HW-19074).

Hanford Process Development

During November, a production glass line will be modified to permit processing of air contaminated tritium with return of the tritium to the normal production stream.

During October, this process was used at Hanford on synthetic mixtures containing hydrogen and air.

The buoyancy balance has shown good stability of operation and a sensitivity good to $\pm 1\%$ during tests. The balance has been calibrated with helium and will be used to analyze known binary mixtures of hydrogen and tritium.

The Instrument Development Room (IDR) has been designed primarily for the development, and practice, of analytical techniques for the determination of tritium in various gases. To obtain a known binary mixture for use with the buoyancy balance, mixtures of hydrogen and tritium will be taken up on uranium beds and the binary gas mixtures evolved as needed. Any impurities present in the original hydrogen-tritium mixture will either react permanently with the uranium, or be pumped away before the hydrogen-tritium mixture is evolved from the uranium bed. After the buoyancy balance has determined the percent tritium present in the binary gas, this same gas will be used to calibrate the ion chamber for one known percentage composition gas. By using three different compositions of gas, the ion chamber can be properly calibrated to use on a production line. In addition, it will be possible to use these same gas mixtures for analysis by the emission spectrometer whose excitation manifold is immediately adjacent to the buoyancy balance system. Provisions are also available to remove samples of a known binary gas for analysis on the mass spectrometer. Thus, it will be possible to correlate the various methods of analyses currently in use.

The Regnault Method for determining the purity of product will be used in the IDR until such time as one or more of the other methods of analyses prove satisfactory.

Arrangements are being made to employ a thermal conductivity method of analysis for tritium in the IDR; this technique is used currently at Los Alamos.

DECLASSIFIEDHW-19325 *Del*Liaison with the Argonne National Laboratory**WITH DELETIONS**

The Argonne National Laboratory's Tritium Group was visited on October 16 and 17. Work at Argonne indicates that irradiated Al-Li slug expansion during extraction will reach a tolerable maximum for exposures

The H₂ content of the 1% Li in Pb slugs prepared for "Special Request" irradiation at Hanford is as high as 100 ccs/slug. A HNO₃ dip has been developed that appears to reduce this and slugs so treated are now at Hanford for checking, final canning, and irradiation.

INVENTIONS

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

<u>Inventor</u>	<u>Title</u>
C. M. Harmack	Servo Dynamic Pulse Counter
C. M. Harmack	Armature for Dynamic Pulse Counter
R. B. Sacky	An Invention and Method/s for Metallurgical Analysis.

Signed

*W. K. Woods*W. K. Woods
Division Head

WKN:jr

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November 10, 1950

SEPARATIONS TECHNOLOGY DIVISION

MONTHLY REPORT
OCTOBER, 1950

VISITORS AND BUSINESS TRIPS

D. H. Gurinsky and W. E. Winsche of the Brookhaven National Laboratory were here October 2 and 3 to discuss separations problems.

A. C. Jealous of the Oak Ridge National Laboratory visited here October 11 for TBP consultations.

Visitors from the Knolls Atomic Power Laboratory included B. V. Coplan, L. W. Neidrach, and E. J. Feber from October 23 through 26, and L. B. Bragg on October 25 and 26 for SPRU consultations; and E. L. Zebroski from October 23 through 25 for discussions of separations process problems.

B. Weidenbaum visited the General Engineering & Consulting Laboratory and the Knolls Atomic Power Laboratory for 432 Project testing from October 9 through 12.

J. G. Bradley and A. R. Maguire visited the Knolls Atomic Power Laboratory on October 19 and 20 for SPRU consultations and Penn. State College on October 16, 17, and 18 for discussions on the installation of a stacked extractor.

R. H. Beaton visited the Los Alamos Scientific Laboratory from October 29 through November 2 to discuss 234-5 product specifications.

ORGANIZATION AND PERSONNEL

Personnel totals are as follows:

	<u>September</u>	<u>October</u>
Administration	2	2
Special Assignment	1	1
Research Section	37	38
Development Section	90	72
Process Section	28	29
	<u>158</u>	<u>142</u>

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Separations Technology Division

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Research Section: Two Chemists were added to the Section as new hires. One rotational training Technical Graduate was transferred to the Technical Services Division and one transferred from the Technical Services Division was killed in an off-duty private plane accident.

Development Section: One Chemical Engineer was added as a new hire and one was promoted to an Assistant Group Head. One rotational Technical Graduate and 15 Operators were transferred to the "S" Division. One rotational Technical Graduate was transferred to the Pile Technology Division, one to Design & Construction Divisions, and one was terminated. A Steno-typist B was terminated and a Steno-typist C was transferred from the Technical Services Division.

Process Section: An Assistant Group Head returned from a medical leave of absence.

200 AREAS PLANT ASSISTANCE

Canyon Buildings

Production Test 221-B-8, testing the use of a water flush instead of a 5% nitric acid flush following coating removal, has continued at B Plant. The average product losses have been 0.80% and 0.17% and the uranium losses 4.53 lbs. and 1.55 lbs. for the acid flushes and water flushes, respectively. Five batches have been observed with the acid flush and eight with the water flush. Decontamination and product losses have been unaffected.

The new calibration for the metal solution storage tank used for batch make-up (6-1) at B Plant was put in use starting with Run B-10-10-H-18. The corresponding new calibration at T Plant was initiated at an earlier date.

Bismuth phosphate cake removal by intermittent centrifuge operation at 400 rpm instead of 140 rpm was studied. It was found that the operation could be performed in slightly less time but that there was a greater tendency for the centrifuge to become over-heated.

The most recent acid wash at T Plant accumulated 53% of an average run in the Canyon Building. Approximately one-half of this appeared in Section 14, a first cycle product precipitation section. A later flush, however, indicated no difficulties in this section.

Concentration Buildings

Examination of the sprays in the T Plant lanthanum fluoride product precipitation centrifuges (B-2 and E-2) indicated corrosion failure of the nozzles. Following replacement and subsequent repositioning, the cake removal operation appeared to be improved. It is expected that this will also lead to improvement in the amount of recycle returned from the Isolation Building.

Isolation Building

Production testing of the thermal decomposition of peroxide in the supernatant solutions, under Production Test 231-11, has been completed through three items, each testing a more rapid rate of temperature elevation. At present, solutions are being heated to 70°C over a period of 40 minutes. The reaction has not appeared to be excessively vigorous in any case. Satisfactory time cycles are obtained with runs of average iron content.

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Separations Technology Division

A first peroxide cycle Nutsche Filter clean-out in Cell 2, processing T Plant runs, recovered 63% of an average run. This is approximately twice that expected from previous experience. No reason for the high accumulation has been apparent.

Purification and Fabrication Building

Work on Production Test 234-1 was temporarily stopped during September when solids formed during the latter stages of evaporation of X-10-9-Lot 5. A sample of these solids was submitted for analysis and identified as sodium nitrate with a very small amount of oxalate. This analysis indicated that the planned destruction of oxalate and iodide had nearly been accomplished and that the large amount of sodium nitrate present was responsible for the crystal formation during evaporation. It is assumed that the sodium came from the caustic scrubber; however, the reason for its entrance to the evaporator is not known. This first run will not be considered part of Production Test 234-1. It is expected that this production test will be started again during the month of November.

The average conversion for the month of October for Dry Chemistry (Hood 8) was 95.4%. Refluorinations were required on 9.6% of the batches processed. Reduction (Hood 10) yields during the month of October averaged 98.3%.

Button samples are being taken on every other button produced in the line at the present time. This procedure was started during the last week of October. In addition to reducing the button sampling frequency, the 40-8 analysis that has been made on buttons in the past will be discontinued.

Hood 8 (Dry Chemistry) loading station cleanings were processed through Hood 10 (Reduction) during October. Six hundred and forty units of material were charged to a Reduction unit and a normal Reduction procedure, with exceptions as noted below, was carried out. During the Reduction operation, the gasket on the Reduction bomb failed and some of the contents of the bomb escaped the hood. An investigation revealed the following conditions which may have been contributing factors to this incident:

1. The bomb lid was warped and might not have sealed properly against the gasket,
2. The evacuation and argon filling of the bomb was done in five minutes instead of the fifteen as prescribed by the runbook, and
3. The evacuation line contained a large quantity of iodine which may have partially or completely closed the line.

The Plant Assistance Group has recommended that (a) a more thorough inspection be made of the equipment before reduction to determine the degree of warpage, out-of-roundness of gaskets, and cleanliness of the gasket seating surface in the bomb, (b) that the equipment be changed to allow line-of-sight visibility between the bomb and the gauge, which should aid in detecting the presence of iodine in the line, and (c) that the prescribed evacuation procedures be followed more closely.

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The average c/q summation for the month of August, exclusive of the contributions of carbon and oxygen, was 0.52. Routine carbon analyses on the MC-1 and MC-2 samples were started during the latter part of October. It is expected that the November report will include the c/q summation for all of the elements, exclusive of oxygen.

Model 110 die drawings have been received from Los Alamos. These drawings have been altered to conform to the dimensions currently being used on the 090 dies on the RG Line and given to Maintenance for die construction work.

REDOX AND METAL WASTE RECOVERY DEVELOPMENT

Bldg. 321 Operations

Solvent extraction experimental operations were suspended on October 2, 1950 to permit revision to the Demonstration Unit Redox operating equipment, and to make manpower available for writing of technical manuals and start-up operating procedures. On October 2, 1950, all operators except seven (7) were transferred to the "S" Division. Prior to shut-down, all operating equipment within the building was flushed and drained, hexone was barreled out for storage, and various process waste solutions were disposed of, either to the crib or underground storage.

Activities of the monthly roll operations personnel have been devoted to writing of Technical Manuals and preparation of Start-Up Manual for the Redox and the TBP plants. Fair copy has been completed, edited and approved, except for reproduction of figures, on Chapters VIII and XIII of the Redox Technical Manual, and copy for Chapters XXI and XXIV is completed in the rough draft stage and is currently being edited. This makes the Redox Technical Manual about 30% complete. Rough draft copies of the Redox Start-Up Manual are about 40% complete and rough draft copies of the TBP Start-Up Manual are about 60% complete. Work is also progressing on the preparation of a 321 Bldg. Training Procedures Manual and on the preparation of operating log sheet forms to cover both Redox and TBP operations.

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Bldg. 321 Construction and Maintenance

There was no construction or fabrication of new solvent extraction equipment or facilities during the period. Following the shut-down of operations on October 2, both routine and non-routine maintenance have been carried on to put the operating facilities in stand-by condition until the February 1, 1951 "S" Division training program start-up date. Some restoration work on facilities and equipment has also been started, especially on items which could not be accomplished previously without disruption of operations. Among items of this nature are (1) repair of the leaks in the floor of the Aqueous Make-Up Room, (2) overhaul of the CCF and ACF pumps, (3) overhaul of agitators on AQ-1, 2, 3 and O-3, -4 tanks, and (4) flame-spraying the bases of agitator mounts on AQ-1, 2, 3, and 4 tanks with polyethylene to improve corrosion resistance.

Design work is approximately 90% completed for the proposed Demonstration Unit revisions to simulate the entire Redox first cycle in Demonstration Unit equipment. These facilities, which will be used for on-the-job training of "S" Division personnel in the principles of the Redox process, will include (a) simulated "head-end" equipment, (b) a solvent-extraction cascade including I₁, I₂, I₃, and I₄ Columns, (c) ICU stripping and concentration, and (d) IAW stripping, concentration, and neutralization.

Pump Development

Submerged Pump No. 2, a forerunner of the pumps for the Redox Production Plant, is in test to evaluate 60% carbon - 40% fluorothene "B" process fluid-lubricated bearings operating in RAX solution at 3450 rev./min. It has operated uneventfully for 43 days at a discharge pressure of 30 lbs./sq.in.ga. at a flow rate of 1.0 gal./min. The shut-off pressure has remained essentially constant at 35 - 37 lbs./sq.in.ga.

Submerged Pump No. 3, a submerged regenerative turbine, is under low priority test to evaluate Graphitar No. 2 bushings and Stellite No. 6 coated journals. It has completed 138 days of service in water under varying conditions and intermittent operation while generating flow to a hydraulic test stand. The shut-off head has remained constant at 175 feet.

Submerged Pump No. 4, a submerged regenerative turbine-type pump for evaluation of the water-flooded torque tube principle, has been in the shop for straightening of the shaft and replacement of the rotary seals. It will be reinstalled for test operation concurrently with the Fearless Redox Production Plant Pump.

Roth D-93 Prototype Redox Turbine Pump, which employs boron carbide and graphitar process-lubricated sleeve bearings and was in service to evaluate these bearing materials in hexone operation at 1750 rpm, was dismantled after 38 days of life test. Inspection of the pump after dismantling revealed that the fluorothene wearing rings had been seriously damaged. Deep gouges were found in both rings, particularly the lower (outboard) ring. The leading edge of the outboard dam was also scored and worn. It is not planned to restore this pump to test service, since a Redox Production Plant pump will become available before re-conditioning could be completed.

Peerless TD Prototype Redox Turbine Pump, employing process fluid-lubricated graphitar sleeve bearings and boron carbide seal faces, has operated 37 days pumping water-saturated hexone with the objective of evaluating the bearing material in Redox solvent. Over the test period, the seal leakage has averaged

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Peerless 4"-IA Transfer Pump, a deepwell-type turbine pump employing boron carbide bearings and a modified Peerless water-flooded dual seal with Stellite #12-to Graphitar 30A, has been in operation for 40 days pumping a concentrated, neutralized RAW solution at 82°C. The conditions of operation simulate one of the conditions which will be encountered in the TBP Plant. Test operation has been smooth and uneventful. The shut-off head has remained constant at 24 ft.

G.E. & C.L. Submerged Motor Pump Unit has been in life-test operation for 62 days to evaluate Graphitar as a thrust and radial bearing in RAX solutions. Wear has been minimal, as judged by the constancy of shut-off pressure at 7.8 lbs./sq.in.ga.

Peerless 8-IA, the six stage prototype TBP pump having a 14'6" drive shaft guided by graphitar sleeve bearings on either side of the six bowls and a middle steady bearing, has been installed in the Tank Farm O-3 storage tank. Initial operation on water has been smooth and vibration free.

Redox Production Pump Wearing Ring Material, consisting of 60% carbon hygrade flour - 40% fluorothene-B obtained from K-25, has been sampled at Hanford and reshipped to Peerless. The material has been compared and found to be less homogeneous than reputedly identical material obtained by the Technical Division from Oak Ridge in 1948.

The Foxboro D/P Cell has completed 46 days of testing with water as the test fluid. During this interval, it has shown a drift of +5.6% in the zero point and negative deviations from the initial calibration point of 14.7% at 12% of chart to 1.7% at 88.5% of chart. A second D/P cell is undergoing test with neutralized RAW solution (per TBP-FW No. 4 Flowsheet). The purpose of this program is to determine the path and effect of suspended iron oxide relative to the D/P cell.

Proportioneer's, Inc. Nitric Acid-Hexone Blender test equipment was 85% complete at the end of the month.

Erosion Studies

In order to evaluate the erosion condition which would prevail in the slurry-handling pipe line system of the Metal Recovery Plant, a series of comparative tests employing Filter Cel Slurry, Kaolin slurry, and metal extraction waste slurry in ratios of 1:3 and 1:8 solid-to-liquid ratio have been made, employing both movement of the slurries over static mild steel surfaces and the movement of mild steel surfaces through non-circulating pools of the slurries. All of the tests revealed only slight metal loss due to erosion under conditions designed to simulate plant flow conditions; i.e., flow rates of 12 to 15 ft./sec. The metal waste gave the least loss, which was about 20 to 30% of that observed with either of the reference slurries.

Single Long Tube Evaporator Studies

Studies on simulated composite uranium product streams from Redox and TBP (i.e., UNH containing TBP and $Al(NO_3)_3$) have demonstrated that scaling occurs when a UN concentration in excess of 74% is reached with a corresponding boiling point of 132 - 139°C. As a part of a study to locate any corrosive conditions and, more importantly, possible sources of product (UO_3) contamination with Fe, Ni, and Cr, a run was made in the unit to produce a concentrated (84% UN, 1.0% HNO_3)

feed for the metal conversion operation. The pickup of contamination was not detectable; both the feed and product gave 20 PPM Fe, 10 PPM Cr, and 10 PPM Ni.

Coil and Tank Evaporator

Two days of operation of the planned extended-duration run on composite Redox aqueous waste streams were completed at a liquid temperature of 115 - 117°C., temperature difference of 11 - 13°C. and a boil-up rate of 6 lbs./hr. (per flowsheet SK-2-5351 conditions) with an essentially constant heat transfer coefficient of 530 BTU/Hr./Sq.Ft./°F.

Materials of Construction

Corrosion tests on "Borium", a fused tungsten carbide, indicated satisfactory resistance to alkaline solutions, less than 5 mils/year, but unsatisfactory resistance to boiling 60% HNO₃ 300 mils/year.

The continuity of flame-sprayed polyethylene applied to a mild steel base has been demonstrated by measuring the resistance of an electrical circuit composed of a steel electrode - IAX solution - flame-sprayed polyethylene on mild steel electrode. The initial resistance of 2.4×10^7 ohms was unchanged after 15 days immersion. A deliberate pinhole puncture in the coating lowered the resistance to 10^3 ohms.

Process Chemistry

Studies on the decomposition of $UO_2(NO_3)_2$ to UO_3 under conditions approaching those predicted for a continuous process were continued on a laboratory scale, wherein a concentrated 80 - 85% UN solution was continuously added at a rate of 0.8 to 6.8 wt. % per minute of the initial amount of UO_3 charged to the agitated (60 - 140 rev./min.) and heated (190 to 250°C.) reactor. Of the four runs made this month, two resulted in a lump-free UO_3 product containing 0.20 to 0.48 wt. % NO_3^- and 0.004 to 0.02 % U_3O_8 .

Two batch-type decomposition runs, of essentially the type employed by Mallinckrodt, were carried out to compare the degree of UO_3 contamination with Fe, Ni, and Cr which results from decomposing a laboratory-prepared UN concentrate (feed to the decomposition pot) and a UN concentrate prepared in the semi-works long-tube evaporator. It was concluded that a contamination problem should not arise due to the presence of free HNO₃ in the feed to the decomposition pots.

Hot Semi-Works

The design of the Hot Semi-Works has been completed. All drawings were completed on October 14, and specifications were completed on October 20. Bid invitations were mailed to interested contractors on October 27, 1950.

An outline for the Hot Semi-Works Manual has been prepared. Approximately 7% of the Manual has been written; i.e., 14 of approximately 200 sub-sections.

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SEPARATIONS PROCESS RESEARCH

Removal of Iodine from Dissolver Solution

Removal of iodine, added in the zero oxidation state, from simulated dissolver solution by sparging was studied as a function of several variables. The results obtained indicate that the rate of iodine removal is: (a) markedly increased by increased spargant flow rate and solution temperature; (b) affected to a small degree by the spargant used (oxygen, air and nitrogen being of increasing effectiveness in the order given); (c) sensitive to the acidity (maximum removal being attained at 0.3 M HNO_3); (d) increased as UNH concentration increases; and (e) greater in the presence of metallic uranium than in its absence. The best result obtained, at a spargant flow rate comparable to that deemed practical in the plant (115 CFM), was 94% removal after three-hours air sparging from a 1.5 M UNH - 0.3 M HNO_3 solution at 95°C.

Greater than 95% of an active iodine spike has been removed from simulated dissolver solution by adding inactive iodide to 0.005 M and precipitating cuprous iodide by the addition of a cupric salt. The dissolver solution was made 0.133 M in sodium hydrogen sulfite before precipitation to assure holding the iodine as iodide. As predicted by the equilibrium expression for the overall reaction, the extent of iodine removal increases with increased cupric concentration and decreases with increased acidity. At 0.005 M I^- , 0.05 M Cu^{++} and 0.3 M HNO_3 , iodine removal was 97%.

Bismuth Phosphate Concentration Process Studies.

Plutonium losses obtained in the bismuth phosphate by-product precipitation step on recycling the lanthanum fluoride by-product cake rework solution were essentially the same as obtained when following the current concentration process whether (a) the rework solution was made 0.18 M in HF immediately prior to carrying out the precipitation to offset the possibility that some or all of the HF initially present had been destroyed by contact with the glass container in which it was stored or (b) the precipitation was done at 35°C. instead of at 75°C. as in the current process. Gross beta and gross gamma decontamination were very low (D.F. = 1-2) for both high and low temperature precipitation of bismuth phosphate.

Bismuth Phosphate Extraction Process Studies

Laboratory studies of plutonium loss as a function of bismuth-to-plutonium ratio in the bismuth phosphate extraction step are in progress. It is planned to establish plutonium losses versus MWD, holding the concentration of bismuth prior to precipitation constant at 2.5 grams per liter. Very preliminary results indicate the losses to be essentially constant over the range of 150 to 500 MWD/T.

Americium-Curium Contents of Pile Irradiated Uranium Metal

Americium and curium analyses have been obtained for a series of six 6-3 MR solutions derived from metal having average exposures ranging from 317 to 500 MWD/T. The observed americium and curium contents varied from 0.20% and 0.35%, respectively, for the 317 MWD/T metal to 0.45% and 1.5%, respectively, for the 500 MWD/T metal.

Separations Technology Division

The analytical data have been correlated by means of simplified theoretical equations expressing americium-curium content as a function of MWD/T, exposure time, and cooling time, with an average error of $\pm 10\%$ up to 500 MWD/T. This work has been summarized and will be issued as HW-19375.

"Electroless" Plating of Plutonium

An "electroless" nickel plating of a 440-gram plutonium button was attempted after pickling the metal in concentrated nitric acid. The plutonium surface appeared clean although dark grey in color. After immersion in an alkaline plating bath for two hours, the entire surface of the metal was covered with a nickel plate. After 2-1/2 hours, a fresh plating bath was introduced, and at this time a few black spots were noted on the metal's surface. After 5 hours, a large portion of the nickel plate had cracked off and the plutonium was covered with a black substance (presumably an oxide).

The failure of the coating experiment is believed to be due to improper metal surface preparation, since similar failures were obtained earlier with uranium. Such failures with uranium were overcome by an etching technique. The pickling procedure was used with plutonium in the hope that the chemical and physical differences between plutonium and uranium would permit this simplification. More drastic preparation of the plutonium surface is being investigated.

Plutonium Recovery from Slag and Crucible Material

It has been found that ca. 98% of the plutonium associated with slag and crucible material obtained from the 234-5 Building may be recovered using the following procedure: (1) removal of iodine by a sodium hydrosulfite wash, (2) three 15-minute 4 M nitric acid leaches at ca. 90°C. to remove the plutonium, (3) precipitation of plutonium hydroxide from an ammonium hydroxide - ammonium nitrate solution, (4) filtration with the help of a filter-aid, and (5) final dissolution of the hydroxide in concentrated nitric acid.

Due to the inherent difficulties encountered in the filtration of the plutonium hydroxide (viz., bulky nature of the hydroxide, slow filtration rates, etc.), a solvent extraction process for removing the plutonium from the nitric acid leaches is being investigated. Preliminary results using the hexone-aluminum nitrate system have shown excellent plutonium recoveries, suggesting that the solution resulting from the leaching process can be recycled to a Redox stream without further chemical separation.

Plutonium(IV) Arsenate Process Coupling Studies

Small-scale laboratory experiments (ca. 1 ml) have shown that the dense crystalline modification of Pu(IV) arsenate may be precipitated from undiluted F-10-P solutions at room temperature with low plutonium losses (ca. 1%). A chemically identical experiment on a much larger scale (ca. 0.5 l) behaved quite differently, in that the rate of precipitation was much slower and not all the Pu(IV) arsenate was of the dense crystalline type.

The large-scale experiment differed from the small-scale experiments in the type and rate of stirring, contact of the stirrer with the walls of the precipitation vessel, etc. These variables are now under investigation.

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TBP Decontamination Studies

Previously reported extraction and scrub studies (HW-19021-E) showed a marked decrease in decontamination factor obtained as the amount of dibutyl phosphate (DBP) present in a 12-1/2% TBP-CCl₄ extractant was increased from zero to one volume per cent. Recently completed analyses indicate that the activity in the organic phase responsible for the low D.F.'s was largely zirconium; the extraction and scrub behavior of ruthenium and cerium was unaffected by the DBP. Some niobium was extracted at 1% DBP.

Extraction versus contact time studies, with one volume per cent DBP in the organic phase, showed that gross beta gross gamma, niobium and zirconium extraction all reached a maximum at about one hour and thereafter decreased with time. Variation with time was greatest for niobium, suggesting that niobium in the organic phase undergoes change to become less organic-soluble. Consistent with this idea are the results of the following experiment. Extraction of 0.2 M UNH - 3 M HNO₃ (prepared from dissolver solution) with 12-1/2% TBP - 1% DBP-CCl₄ followed by exhaustive scrubbing with pre-equilibrated 3 M HNO₃ gave E_a^0 values for gross beta and gamma activities which went through a minimum after the fourth scrub (one hour total stirring time).

Addition of two grams of ammonium fluosilicate per liter to the aqueous phase and scrub appears to nullify completely the deleterious effects on decontamination observed when 0.1% of DBP is present in the organic phase.

Presence of a "synthetic red oil", prepared by heating 15% TBP-AMSCO-149 in contact with nitrite and HNO₃, in the organic phase reduced beta decontamination slightly and gamma by a factor of about fifteen. Treatment of the extractant by a sequence of caustic, carbonate and water washes restored it to its original state with respect to both beta and gamma decontamination.

Distribution of UNH Between Water and 15% TBP-Deo Base

The distribution of uranyl nitrate was measured between water and 15 volume per cent TBP in Deo-Base. At this zero free acidity the distribution ratio, E_a^0 , was found proportional to the aqueous uranyl nitrate concentration raised to the 1.1 power over the range 0.2 to 125 g/l UNH. Carefully purified U²³³ tracer as UNH was used in evaluating the dilute region (0.2 g/l UNH).

Photolysis of TBP in the Presence of Uranyl Nitrate

In the course of the uranium distribution studies, it was noted that in the presence of light the uranium content of the organic phase in the dilute region increased during prolonged contact. An aqueous phase containing 0.76 g/l UNH and 1.04 g/l HNO₃ in equilibrium with 15% TBP-Deo Base gave an E_a^0 of 0.0357 after four hours of exposure in 5-10 foot-candle of fluorescent light as compared to the E_a^0 value of 0.0048 obtained in the dark.

To check this photochemical effect at higher UNH concentration, a sample of distilled 100% TBP was contacted with 10 g/l UNH for 18 hours while exposed to fluorescent light and air. An intense yellow color developed in the TBP phase, and the distribution of uranium increased. With 15% TBP-AMSCO 125-90W contacted with 10 g/l UNH, the E_a^0 of UNH was 0.0615 after 40 hours light exposure as compared to 0.0166 after the same contacting time in the dark.

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Further work is being done in an attempt to identify the yellow compound and elucidate the photolysis mechanism.

Pulse Column Studies

Previously reported (HW-18203) pulse column data compared the throughput and uranium recovery in the metal recovery process using TBF diluted with carbon tetrachloride, Shell Spray Base and AMSCO 125-90W. In the RC system using compound plates having 0.046" holes, carbon tetrachloride gave higher throughputs than the other diluents due to its high Stokes factor ($\frac{4}{3}$) but also gave appreciably higher uranium losses. In recent studies, substitution of simple plates with 0.027" holes gave comparably high losses using the previous pulsing conditions, but this loss was reduced three-fold on increasing the pulse frequency.

Distribution of Plutonium(IV) in Redox

The distribution data for Pu(IV) between hexone and aqueous -0.2 to 1.0 M nitric acid and 0.5 to 2.0 M aluminum nitrate were correlated with the help of the Statistical Group giving

$$\log E_a^\circ [\text{Pu(IV)}] = 1.5967 + 3.6650 \log (\text{NO}_3) - 0.5020 \text{ pH}.$$

The distribution of Pu(IV) in the Redox IIA and IIIA columns can be calculated from this equation with an uncertainty in E_a° of a factor of 1.32.

In the Redox columns containing uranyl nitrate, the distribution of Pu(IV) may be calculated from the equation

$$\log E_a^\circ [\text{Pu(IV)}] = -0.9956 + 2.5287 \log (\text{NO}_3) - 0.6206 \text{ pH} - 1.2565(\text{UNH})^{1/2}$$

derived from data covering aqueous solutions 0 to 1.0 M in uranyl nitrate and 0 to 2.0 M in aluminum nitrate. This equation, based on 56 experimental points, gives E_a° with an uncertainty of a factor of 1.79, which indicates a reasonably good fit of equation to experimental data considering that E_a° varies over a factor of 70,000.

234-5 PROCESS DEVELOPMENT

A dissolver for skull dissolution studies was fabricated of Cb-stabilized Type 347 stainless steel tubing 6-in. O.D. by 9-in. long. Flates were welded to the ends of the pipe to serve as the top and bottom; the top plate was provided with a 2-in. plug for charging materials and a water-jacketed condenser consisting of 16-in. of 1/4-in. pipe, jacketed for a length of 12 inches. After a suitable pickling period with concentrated nitric acid, corrosion tests showed that the addition of HF to give a concentration of 0.04 M HF in concentrated nitric acid increased the corrosion rate ten-fold over the rate when boiling concentrated nitric acid alone was used.

Corrosion tests with coupons of different stainless steels indicated that Cb-stabilized Type 309 was the best stainless for use with a boiling 16 M HNO_3 - 0.04 M HF mixture. It was found that Hastelloy C was very badly attacked by

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this mixture. Platinum and tantalum, however, showed no measurable corrosion in the boiling mixed acids. The corrosion rates of the various stainless steels were larger when exposed to boiling HI than when exposed to the HNO_3 - HF mixture.

Skull dissolution occurred at about the same rate in the Type 347 stainless dissolver as it did in glass apparatus. In both instances, the corrosion rates of the dissolver assembly was reduced by the presence of the skull material.

If hydroxylamine is used to reduce Pu(VI) and Pu(IV) to Pu(III), a pink precipitate can be obtained by the addition of 47% HF to the solution. If HI is used as the reductant instead of hydroxylamine, a precipitate again can be obtained by the addition of 47% HF. In these cases, as well as the precipitation of Pu(IV) with 47% HF, the losses of Pu to the supernatant solution are very high.

A series of runs at different acid concentrations, in which hydroxylamine was substituted for HI as the reducing agent prior to the precipitation of Pu(III) oxalate, was extended to include a solution 2 M in nitric acid. The concentration of Pu in the supernatant in this instance was approximately ten times greater than when the starting solution was 1 M in nitric acid. On the basis of the limited experiments performed, the minimum solubility of Pu(III) oxalate in the presence of hydroxylamine hydrochloride appeared to occur when the starting solution was approximately 1 M in nitric acid.

During the skull dissolution studies, it had been observed that the green powdery material associated with skulls, probably the hydroxide or the hydrated oxide, is more readily dissolved than the skull proper. The "green powder" is known to form during storage. It was, therefore, thought desirable to determine if skull material could be readily transformed into "green powder" and thereby facilitate the recovery of skulls. After boiling a piece of skull material in water for twelve hours, only a small portion (less than 5%) had been converted to the powder. Treatment with steam at 100°C. for two hours gave a negligible amount of powder.

The small Pu buttons stored at room temperature and constant relative humidity have not shown very significant weight gain after 78 days storage. The button stored under bone-dry conditions has shown no weight increase. The other buttons stored at 10%, 20%, and 35% relative humidity show a weight gain of 1.2, 1.6, and 1.6 mg, respectively, for an original button weight of approximately 6.5 grams.

A memorandum which outlines the nitric-hydrofluoric acid process for recovery of skull material was issued and will serve as the basis for process design. Approximately 500 grams of skull material have been dissolved in the laboratory by this procedure. This solution will be recycled to the 231 Bldg. as Production Test 234-2. This production test will determine the suitability of this point in Hanford processing operations for recycling the dissolved skull material.

An ionization chamber received from Los Alamos to measure the integrated alpha count of the 235 Bldg. product has been tested. Curves were obtained for counting rate as a function of discriminator setting with the argon pressure, amplifier gain, and impressed voltage kept constant. A satisfactory check of

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the discriminator setting can also be obtained rapidly by connecting an oscilloscope to the amplifier. The discriminator can then be set so that all pulses greater than amplifier noise are counted.

Tests with alpha-emitting foils placed at different places on a dummy indicated that all emissions are counted from all surfaces except the central one. Approximately 90% of the emissions were counted from this surface with the foil used. It is likely that the counting efficiency from this surface will vary considerably with the location of the source of the alpha-emission.

Ten plutonium pieces, on which integrated alpha counts were obtained with the ionization chamber, were stored for periods from eight to fourteen days before a second count was made. The second count gave higher values in five cases; in four cases the count was unchanged, and in one instance the second count was lower than the first.

The integrated alpha count of the 235 Bldg. product is being obtained routinely with the ionization chamber in addition to the count obtained with the scintillation counter.

STACK GAS DISPOSAL

A full plant-scale Silver Reactor and Fiberglas filter unit were installed in the 4-5L Dissolver off-gas line at B Plant. The temperature-controlling system operated well and provided good thermal stability throughout the silver reactor column. The pressure drop across the Fiberglas filter, with the entire gas stream directed through the unit, was in agreement with previous data. However, with the filter valves positioned to by-pass the filter (during coating removal) the pressure drop across the filter packing indicated that 10 to 12% of the gas stream was leaking through the valve in the inlet plenum chamber and passing through the Fiberglas bed. A leak in the upstream Silver Reactor sampling line and contamination hold-up in the stack pit sampling system, employed as the Fiberglas filter downstream monitor, prevented the obtaining of definitive efficiencies of the two units. An indication of the performance of the equipment was obtained from the monitors located at the downstream sand filter and snifter positions. These monitors were operated during the first metal dissolution and revealed that there was no recontamination of the ventilation air from the treated Dissolver off-gas stream. It has been determined that the stems of the underground valves leading to the condensate catch tanks on the sampling lines upstream to the Silver Reactor and upstream to the Fiberglas filter are broken. These will be replaced and the stack pit sampling piping decontaminated or replaced to permit efficiency evaluations of the two components.

The Berl saddle packing for the remaining three Silver Reactors was coated with silver nitrate, dried, and loaded into the units. The concentration of the silver nitrate solution used in the coating procedure was 20 M for two of the units and varied from 20 to 26 M for the third. The third dissolver off-gas Fiberglas filter was packed. The filter formulation was the same as that described in the previous month's report.

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KAPL ASSISTANCE TO HANFORD

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KAPL-1 - SFRU Redox Studies

During the month, three additional Redox runs were carried out at SFRU, all designed to study head-end ruthenium volatilization and zirconium-niobium scavenging. From 96 - 99% ruthenium removal has been obtained within two to four hours with ozone or nitrogen sparging or straight unsparged distillation, with KMnO_4 present in all cases. The slow strike precipitation and centrifugation of MnO_2 as the scavenger in place of Super Filtrol has also given excellent zirconium-niobium removal. Over-all head-end and first Redox cycle decontamination factors (logarithmic) averaging 5.9 and 5.1 for beta and gamma, respectively, have been obtained in these runs. In addition, the ORNL solvent extraction flowsheet used gave IAW losses averaging 0.3% for uranium and 0.04% for plutonium, respectively.

KAPL-2 - ANN Recovery Studies at SFRU

A fifth and final run was carried out in the one-gallon scale ANN Recovery Unit. This run involved the carrying out of a third crystallization cycle after the equipment had been extensively cleaned out and decontaminated with HNO_3 , NaOH, sodium citrate, and Versene. Third cycle factors of 78 and 52 for beta and gamma, respectively, were obtained, resulting in over-all three-cycle factors of 1.8×10^5 and 2.7×10^3 for beta and gamma, respectively. This concludes this study at SFRU and a final report is being written.

INVENTION AND DISCOVERY STATEMENT

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report. 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.

R. H. Beaton

R. H. Beaton
Separations Technology Division

Date: November 1, 1950

TECHNICAL SERVICES DIVISION

OCTOBER 1950

VISITORS & BUSINESS TRIPS

G. E. Turnquist of the International Business Machines Corp., Seattle, Wash., spent October 2-13 with the Statistics Group installing the new IBM equipment in Bldg. 101. D. W. Pendrey of the IBM, Los Angeles office, visited Hanford October 2-6 to instruct Statistics Group personnel in the operation and use of this equipment.

Business trips of Technical Services Division personnel were as follows:

G. J. Rogers and R. D. Fletcher spent October 2-3 at Berkeley, Calif., visiting the Radio Isotope Apparatus Company and the Radiation Laboratory at the University of California, where they reviewed the design and usage of gloved boxes, caves, and remote handling facilities.

E. F. Gates spent October 16-17 at Chicago, Ill., interviewing glass blower applicants for possible Hanford employment. While there, he visited the H. S. Martin Co. where he discussed glass shop techniques. On October 18-20 he visited the Knolls Atomic Power Laboratory to review the progress being made by the three glass blowers being trained for Hanford, and to inspect glass shop facilities and practices.

R. J. Hale and J. M. Fouts spent October 16 at the Willamette Iron & Steel Co. in Portland, Oreg., to inspect a prototype of the turntable hoods to be constructed for Hanford.

J. M. Fouts spent October 17-20 at the Leland S. Rosener Co., San Francisco, outlining the scope of work involved in the Plot Plan and Utilities, and the Waste Disposal facilities, both as required for the new Hanford Works Laboratory Area.

F. B. Quinlan spent October 16-20 at the Rosener Company offices to acquaint this prospective architect-engineer with the latest designs for the special equipment to be used in the Radiometallurgy Bldg.

C. G. Stevenson spent October 23-25 attending a meeting of the A.E.C. Technical Information Panel at New York City. October 26 was spent at the Kellogg Corporation, also in that city. He visited the Technical Information Branch of the A.E.C. at Oak Ridge on October 27, and on October 30 he inspected the new library of the Abbott Laboratories at Chicago, and discussed classified information problems with the Chicago Patent Group (F. W. Test).

F. W. Albaugh spent October 30 and 31 at Los Alamos, N. Mex., attending a meeting on Bldg. 234-5 product specifications.

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ORGANIZATION AND PERSONNEL

Personnel totals in the several subdivisions are summarized below:

	<u>September 30</u>	<u>October 31</u>
Analytical Section	303	297
Engineering Section*	69	72
Information Group	73	71
Statistics Group	18	18
Administrative	<u>3</u>	<u>3</u>
Division Totals*	466	461

* Not included are two Fluor Corp. engineers on loan to the Equipment Design Unit.

The Analytical Section employed two Technical Graduates. Two shift supervisors and two exempt chemists were transferred to the S Division, and two laboratory assistants went on leaves of absence. One Technical Graduate was removed from the payroll because of death in a private plane crash.

The Engineering Section employed two instrument maker machinists for the Technical Shops, and added one sheet metal journeyman by transfer from the Maintenance Division. The Information Group employed three general clerks and transferred two out (one to the Separations Technology Division and one to the Accountability Section); three went on leaves of absence.

Three Technical Graduates from the rotational training program were assigned to the Analytical Section, and four previously assigned were transferred to other divisions. A total of five rotational trainees are now assigned to this Division; all are in the Analytical laboratories.

ANALYTICAL CONTROL
Work Volume Statistics

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

	<u>September</u>		<u>October</u>	
	<u>Samples</u>	<u>Determinations</u>	<u>Samples</u>	<u>Determinations</u>
Process Control - 200	4,419	13,334	4,644	14,927
Process Control - 300	545	1,147	582	1,081
Water Control - 100, 700	715	2,903	768	3,029
Redox & TBP Programs	3,704	5,207	2,971	4,320
Process Reagents	1,952	2,344	2,107	2,475
Essential Materials	180	653	153	704
Special Samples	2,052	12,966	1,584	13,219
Stack Gas Filters	<u>20</u>	<u>36</u>	<u>3</u>	<u>9</u>
Totals	13,587	38,590	12,812	39,764

DECLASSIFIED100 Areas Water Control

The collection and routine analysis of composite samples of process water from the DR pile was begun on October 2. The additional work load was carried without added help by the further application of mass production methods. Other operations continued on a routine basis.

200 Areas Control

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

<u>Samples</u>	<u>Precision (+ %)</u>		
	<u>Expected</u>	<u>September Average</u>	<u>October Average</u>
6-3-MR	1.58	1.49	1.25
P-1	2.39	1.81	2.00
AT	1.98	2.21	1.77
P-4	2.51	2.79	2.04

Installation of laboratory furniture in the 271-B and T Laboratories, under Project M-766, has been completed and the Project was accepted from the Maintenance Division on October 13. Stocking of these laboratories with supplies is in process and they will be occupied for control work as soon as possible. The resulting free space (Room 6) in 222-T and 222-B will be assigned to the Analytical Research Group and Counting Standards Unit, respectively.

The product purity determination (Method PSP-6a) was discontinued on October 16 for approximately 85% of the runs processed in the Isolation Bldg. This analysis will continue to be performed on material destined for off-site shipment, as well as for spot-checking the process. It is estimated that a total of 155 man-hours/month will be saved by this step. One of the purity panel units was removed from service, and the resulting laboratory working space was assigned to members of the Chemical Research Section of the Separations Technology Division on October 23.

As a result of high recycle wastes in the T Plant material processed in the Isolation Bldg., ten consecutive P-1 samples from both T and B plant material were analyzed spectrochemically in the 234-5 Bldg. Laboratory. No abnormal impurity concentrations were detected. This work was performed at the request of the Plant Assistance Group of the Separations Technology Division.

Plutonium metal button sampling was reduced to every-other run in the 234-5 Bldg. on October 16, and the Chemical 40-8 analysis on the remaining samples was eliminated on October 26. No estimate of savings resulting from this step will be made until the proposed production test involving the use of Chemical 40-8 has been completed and the results evaluated.

The gasometric method for the determination of carbon in plutonium metal

samples was instituted on October 23 in the 234-5 Bldg. Laboratory. All cast metal samples received after September 30 will be analyzed for carbon.

300 Area Control

The Project Engineering Division submitted several samples of AP-10 and AP-20 lubricating oils from the Standard Oil Co. for freezing point determinations. Results, which were later verified by an off-site laboratory, showed these oils to be below specifications in that they solidified at 0°C. rather than at -10 to -20°C.

Recently many of the bronze samples from the 300 Area Canning Operation have been contaminated with the flux and uranium oxide on top of the bath. The method of casting the sample has been changed to eliminate cross contamination with the slag. This step is yielding samples which give consistent results.

The "non seat" problem in the Canning Operation has necessitated a study of the silicon content of the aluminum-silicon baths. Samples of this bath mixture are now being analyzed routinely to crosscheck thermal analysis data so that more rigid control may be maintained on the silicon content.

Chemical Research Service Laboratory

The problem of determining bismuth in the presence of large amounts of phosphate was solved by precipitating and weighing the bismuth as the sulfide. It was necessary to remove nitrates prior to the precipitation, because of their oxidizing effect upon the sulfide precipitate. A recovery of 101% was obtained on a standard sample.

Chemical Development Service Laboratory

Operations in this laboratory continued on a routine basis.

The analytical load from the Chemical Development Section was reduced, thereby freeing four Laboratory Assistants for reassignment to other laboratories. It is expected that the work load will increase next February, necessitating the return of these people. There are now only three people assigned to the analytical control work for the Redox and TBP Programs.

Counting Standards

The data and conclusions concerning coincidence loss studies are presented in the Analytical Research section of this report.

Mica window tubes submitted on specification bids by Tracer Lab, Nuclear Instruments of Kansas City, and Nuclear Instruments of Brooklyn, have been tested. Of these, the tube submitted by Nuclear Instruments of Brooklyn has been found to be satisfactory in every respect except for a slightly high background (20-22 c/m). This company was therefore awarded the prime bid on the basis of their specifications and the fact that a large number of their tubes are available for immediate delivery.

DECLASSIFIEDMiscellaneous Service Analyses

The analysis of Lithium-Aluminum alloys for hydrogen content, in support of the Metallurgy Section studies for the P-10 Project, is at a standstill until consistent blank values are obtained or until the source of hydrogen pick-up is determined. A vacuum chamber to surround the heating unit has been constructed and will be tested shortly. It is the current belief that the hydrogen pick-up is from diffusion through the stainless steel heating tube.

Plans have been made to test the effectiveness of calcium metal as a reductant for plutonium salts by using uranium as a stand-in. The Metallurgy Section is currently assisting in the fabrication of the heating equipment, and will instruct the laboratory personnel in the details of the test. The determination of impurities by spectrochemical analysis will continue as usual.

Methods Adaptation

In the 234-5 Bldg. process, plutonium is precipitated from a nitrate solution as an oxalate after first being reduced with HI.

It is believed that the presence of trace amounts of solid plutonium oxalate in the supernate from this precipitation (SN-samples) has been the source of analytical difficulties in the determination of plutonium content. Treating the sample with nitric acid and hydrogen peroxide and heating gently to remove the resulting iodine was found to be a means of dissolving the precipitate. Using this procedure, the average of four discs on a plant sample gave a precision of $\pm 1.4\%$. To eliminate this problem at the source, a proposed revision to the sampling procedure has been submitted to the "S" Division supervisor in the 234-5 Bldg.

In the preparation of a synthetic plutonium solution containing an accurately known amount of Chemical 40-8, 2.5 grams of plutonium were dissolved in hydrochloric acid and residual Chemical 40-8 removed by hexone extraction. An accurately known amount of Chemical 40-8 was added to a portion of this purified plutonium. The sample prepared in this manner and the remaining portion of the purified plutonium solution will be used to determine the precision and accuracy of the ferrocyanide titration method for determination of Chemical 40-8.

In cooperation with the Analytical Research Group and the 222-T and 222-B Control Laboratory personnel, a study was made of the feasibility of using a direct evaporation procedure (Method CA-6b) to replace the lanthanum fluoride radiochemical method (CA-2a) for analysis of plutonium in the canyon starting solution (6-3-MR). A synthetic 6-3-MR standard was prepared without the addition of fission products, and was analyzed using both methods. Results of this test indicated excellent agreement between the two methods in both laboratories. In the analysis of plant samples, however, the direct mount (Method CA-6b) averaged 2.7% lower than the lanthanum fluoride carrying technique. The cause of this discrepancy on plant samples is being investigated.

Uranium in water samples from the Naval Reactor Project (P-13) is being

determined by the fluorimetric procedure. Preliminary studies using a synthetic solution containing one part per billion uranium indicated the results to have a precision of $\pm 50\%$ and a bias of $\pm 25\%$.

Special Hazards Control

An Informal Approval Request covering the hood enclosure of decontamination sink facilities in Room 7 of the B and T Plant laboratories was approved by the A & B Subcommittee, and was forwarded by them to the A.E.C. This proposal is expected to correct the radioactive particle hazard existent in the atmosphere of these laboratories. The new hood enclosures, estimated to cost a total of \$10,000, are unusual with respect to division of the work involved; Technical has done the design, Maintenance is to do the construction; and Project Engineering is to administer the costs.

Three permanent air-sampling heads (banjo type) were installed in Room 7 of Bldg. 222-B on October 13. The heads are connected by saran tubing to the Motoair samplers now located in Room 11, and the noise associated with this type of sampling in the laboratory has been greatly reduced. A similar set-up is being installed in Bldg. 222-T.

Routine surveys by the HI Divisions in the 231 Bldg. Laboratory detected product contamination on lint and dust found around the laboratory hoods and under benches. Analysis of this material in the 222-U Laboratory revealed 2,000 d/m/gm in the material taken from the hoods, and 13,000 d/m/gm in the material taken from under the benches. An extensive clean-up of dust and lint has been initiated and the problem will continue to be investigated.

ANALYTICAL RESEARCH

P-10 Analytical Studies

A charcoal sorption unit has been attached to the sample manifold of the P-10 mass spectrometer at Bldg. 108-B. This unit allows separation of hydrogen isotopes from other gases so that each fraction may be separately analyzed, thereby eliminating uncertainty due to overlapping of the two mass 4 peaks, HT and He⁴. In general, the separation is necessary only when H, T, and He⁴ are present in appreciable quantities, such as in by-product samples of less than two hours separation.

Approximately 175 mass spectrometric analyses were made during the month of October. The samples consisted of product, by-product, extraction mixture, and outgas samples. Little difficulty was experienced from water and organic compound contamination. This apparently resulted from the installation of cold traps in the production line sampling systems, and from the fact that sample bulbs are segregated for use with a particular type of sample and are kept free from air and moisture between uses. It was observed that the tritium content of by-product after four hours separation averaged about 0.4%, and after six hours averaged approximately 0.2%.

Because of the many mass spectrometric analyses required, consideration is

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being given to the purchase of another such instrument.

The Leeds and Northrup emission spectrometer and gas sampling line have been received from KAPL, and are being installed at Bldg. 108-B with the assistance of J. W. Moyer of KAPL and H. P. Broida of the Bureau of Standards. This instrument is for use in making P-10 product analyses.

Density determinations of P-10 product have been discontinued temporarily while the balance is relocated. It is expected that the newly installed buoyancy balance and/or the mass spectrometer will replace this unit as a means of calibrating ion gauges.

During the month 32 analyses of non-irradiated lithium-aluminum slugs were made for hydrogen and non-hydrogen gas. There was a great deal of down time on the apparatus due to breakage, leaks, and delay in construction of new palladium valves. Currently, an average of five sample slugs per week are being submitted for analysis.

Radiochemical Methods (RDA #TC-1)

Final results have been obtained from the study of coincidence loss in alpha counting on A.S.P. counters. At the 15,000 c/m level the newly established loss figure is 0.2% instead of the previously used 0.0%. At the 50,000 c/m level the new and old figures are 0.65% and 0.3%, respectively. The new figures were determined by mathematical study of the data from experiments using the paired disc technique. These data indicated a resolution time on the various alpha counting instruments of 0.13×10^{-6} minutes. An independent check was obtained from measurements made with the Berkeley double pulse generator which showed an approximate resolution time of 0.09×10^{-6} minutes. This newly developed instrument promises to provide a convenient and rapid means for testing the sensitivity and coincidence factors of routine counting instruments.

The newly installed fission counter in Bldg. 222-T is being tested in preparation for making determinations of Pu^{240} content in process and research samples. Tests made with 1.3 mg. samples of plutonium (93×10^6 alpha counts per minute at 50.5% geometry) have served to determine the minimum discriminator bias necessary to eliminate counts from alpha pile-up. Spontaneous fission counts obtained over two separate 18 hour periods were 31.3 and 32.2 per hour, respectively. It was observed that no spurious counts were obtained during 60 hours continuous operation. The minimum discriminator bias necessary to eliminate alpha pile-up counts during induced fission counting was also established. Induced fission counting involves the use of a radium-beryllium neutron source which excites fission in Pu^{239} , and thus allows determination of the quantity of that isotope in the sample; in effect, this provides a method of weighing the sample.

Further tests on the substitution of stainless steel counting discs for platinum ones have shown that small quantities of phosphoric acid in waste solutions tend to cause low results. The cause of this effect is apparently due to incomplete evaporation of the acid from the counting disc, or to splattering. An attempt is being made to eliminate this error.

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The direct count procedure for determination of plutonium in dissolver solution has been examined through the use of standard samples and through testing in the control laboratories. Details are given in the Analytical Control section of this report.

Spectrochemical Methods (RDA #TC-2)

A program is continuing in an effort to prepare, and have available, standard spectrographic plates for the determination of all elements determinable by spectrographic means. Currently, attention is being given to a group of 28 elements for which semi-quantitative analyses may be required in Naval Reactor Test water samples.

Continued study on the use of infrared absorption for the determination of carbon monoxide to support Pile Technology Division studies of graphite burn-out has shown good precision in measurement of pure carbon monoxide samples at pressures greater than 200 mm. Measurements of carbon dioxide-carbon monoxide synthetic samples have shown poor precision, and have indicated the necessity of very thorough mixing.

Formal reports being issued at month-end include "Spectrochemical Analysis of Water for the Naval Reactor Test," Doc. HW-19297, "The X-Ray Photometric Determination of Uranium in Metal Oxides," Doc. HW-19300, and "Analytical Procedures for the Metal Fabrication Process - Summary of Analytical Requirements and Methods," Doc. HW-19174.

Electrochemical Methods (RDA #TC-3)

The transfer of several research chemists to the P-10 analytical development effort has limited the work on this RDA during October.

Conventional Chemical Methods (RDA #TC-4)

Work is nearing completion on the establishment of a rapid and direct volumetric procedure that will permit the determination of lithium in lithium-aluminum alloy. This unique procedure involves precipitation of lithium as a complex periodate, which subsequently is titrated. Samples containing 3 and 6 mg. of lithium were each analyzed eight times, and yielded average recoveries of 100.9 and 101.8%, respectively. The method is sensitive to the extent that it will determine 1 mg. of lithium in 125 ml. of solution.

Continued work on the development of the distillation-methylene blue procedure that will allow the determination of sulfur in plutonium metal has shown the method to be sensitive to ug. of sulfur; thus 10 p.p.m. of sulfur may be determined in a 100 mg. sample.

As previously reported, a group of 14 samples were brought from Los Alamos for reanalysis at Hanford. Careful examination of all pertinent analyses and data shows the test to be quite inconclusive. In the light of the excellent overall agreement between Hanford and Los Alamos analysis of product shipments over the past several months, this problem is now regarded as of historical interest only. Consequently, no further efforts to resolve past discrepancies are planned.

A continuing program designed to evaluate and standardize the work of the control laboratories, through submission of standard samples, is summarized as follows:

<u>RAFS</u>	<u>Conc.</u>	<u>Method</u>	<u>N</u>	<u>Found</u>
UNH	90.0 g./l.	X-ray	20	91.0 $\pm$ 2.2 g./l.
UNH	90.0 "	Potentiometric	20	90.4 $\pm$ 3.4 "
PO ₄	15.0 "	Volumetric	20	15.7 $\pm$ 0.5 "
SO ₄	16.0 "	Gravimetric	20	16.0 $\pm$ 1.0 "
SO ₄	16.0 "	Iodometric	20	15.7 $\pm$ 0.8 "
Na	66.0 "	Photometric	20	65.0 $\pm$ 2.8 "
NO ₃	303.9 "	Vac. Dist.	20	299.6 $\pm$ 6.9 "
HNO ₃	157.6 "	Potentiometric	20	150.3 $\pm$ 2.5 "

PU SOLN

Pu	Standardization	A.S.V.P.	19	2.096x10 ⁸ d/m/ml
	"	A.S.P.	16	2.113x10 ⁸ "
	"	A.S.P.	16	2.199x10 ⁸ "

6-3-MR

Pu	4.193x10 ⁶ d/m/ml			
222-B	"	CA-2a	20	4.160x10 ⁶ d/m/ml
222-T	"	CA-2a	24	4.160x10 ⁶ d/m/ml
222-B	"	CA-6b	25	4.164x10 ⁶ "
222-T	"	CA-6b	25	4.147x10 ⁶ "

6-3-MR

Pu	6.268x10 ⁶ d/m/ml	In progress
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RCU

TBP	0.20 g./l.	In progress
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Chemical 40-8 in Pu

40-8	2.11 g/l.	In progress
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In the RAFS study, precision values for PO₄, SO₄ (grav.), and Na determinations show definite improvement over that obtained from previous studies. Measurable improvement is observed in the case of HNO₃ and UNH (potentiometric) precision values. UNH (x-ray) should give better precision than this study shows. This study is approximately two-thirds complete.

Two standard samples containing 2 and 10%, respectively, of CO in CO₂ have been prepared to evaluate the Orsat procedure for analysis of pile atmosphere, and of special samples obtained in Pile Technology Division studies of graphite burn-out.

DECLASSIFIEDMiscellaneousEnriched-uranium, Aluminum Slug Analysis

Four U^{235} -Al slugs have been analyzed to provide basic data for calibration of the 305 Test Pile. These slugs were analyzed with extreme care. To avoid segregations during sampling, the entire 500 gram slug was dissolved in each case and aliquots of the solution so obtained were analyzed. Coulometric, gravimetric, and polarographic procedures were used to provide complementary analyses. The results obtained and the calculated precisions are as follows:

Slug No.	% Uranium				Estimated Overall Variance*
	<u>243</u>	<u>244</u>	<u>250</u>	<u>251</u>	
Coulometric	1.78	4.53	8.54	11.57	± 0.39
Polarographic	1.98	4.46	8.56	11.35	± 1.48
Gravimetric	--	4.74	8.37	11.36	± 0.88
Weighted Means*	1.81	4.54	8.53	11.54	
	±0.18	±0.13	±0.11	± 0.14	

* 99% Confidence Limits

The uranium contents, when plotted against the Test Pile results, yielded a smooth, continuous curve. Three separate standard solutions were prepared for calibration of the analyses. Two of these were prepared from spectrographically pure U_3O_8 and one was prepared from spectrographically pure UNH. In each case check analyses were made by a gravimetric and a volumetric procedure.

Analysis of 2S Aluminum Dummy Slugs

The high activity developed in aluminum dummy slugs in the 100 Area piles has required excessive storage time between successive uses. In order to avoid this undesirable activity, consideration is being given to the use of higher purity aluminum in the preparation of these slugs. As a first step in this program, it is necessary to determine what elements are responsible for the activity, and to learn the contents of these elements in the aluminum. A radioassay of an irradiated slug yielded the following results; all activities are calculated back to time of removal of the slug from the pile:

<u>c/m/mg (7.5% geometry)</u>		<u>Half-Life</u>
Mn	237,000	2.59 hr.
Cu	314,000	12.9 hr.
Fe	2,200	46 days
Re	1,500	--
Na	108,700	14.9 hr.
Si	1,100	170 min.
Zn	1,100	14 hr., 250 days

DECLASSIFIEDRejuvenation of Ion Gauges.

Ion gauges of the Phillips type are used in certain vacuum operations by the "S" Division in the 234-5 Process. Experience showed a high frequency of replacement of these gauges. Gauges which had failed showed a deposit on the inner surfaces, which upon analysis proved to be iron, the material of which the electrodes are composed. This led to the observation that excessive use was being made of a "by-pass switch" for measuring pressures above the recommended range, and that the failure rate could be materially reduced by installation of a spring switch which would not allow the unit to remain unattended in the "by-pass" condition. It was found further that the gauges could be rejuvenated by treatment with 6 N hydrochloric acid. It is expected that these observations will essentially eliminate the 6 to 10 failures per month, and will effect a monthly savings of several hundred dollars.

ENGINEERING SERVICESTechnical ShopsMechanical Shops (Bldgs. 101 and 3706)

Work volume statistics for the Mechanical Shops are as follows:

	Customer Division or Project	September		October	
		No. of Jobs	Man- Hours	No. of Jobs	Man- Hours
<u>Work Done on Jobs Com- pleted</u>	P-10			23	703.5
	Pile Tech. (Incl. P-12)*			38	699.0
	Separations Tech.			39	344.0
	Technical Services			20	217.5
	Other Divisions			2	18.0
	Subtotal	142	1,874	122	1,982.0

* P-12, the Exponential Pile Project

<u>Work Done on Jobs Not Completed</u>	P-10			5	984.5
	Pile Tech. (Incl. P-12)			10	627.0
	Separations Tech.			6	130.5
	Technical Services			4	45.0
	Subtotal	17	342	25	1,787.0

Total Work Done

2,216

3,769

Work Backlog:

				Man-Hours To Complete
<u>Jobs Started</u>	P-10			5
	Pile Tech. (Incl. P-12)			10
	Separations Tech.			6
	Technical Services			4
	Subtotal	18	8,578**	25

** Included 5,127 man-hours for P-12 and 3,212 man-hours for P-10

<u>Jobs Not Yet Started</u>	P-10		0	0
	Pile Tech. (Incl. P-12)		13	5,028
	Separations Tech.		9	148
	Technical Services		21	624
	Other Divisions			422
	Subtotal	40	1,037	46 6,222
	<u>Total Backlog</u>	59	10,415	71 9,254
<u>Preliminary Estimates on New Jobs</u>		1	80	0 0

Work was completed on six mercury manometer pots and five Toepler pots for P-10. These pots were fabricated from stainless steel, using the heliarc welder. The welds were ground and machine finished. Pots were also fabricated for the mercury supply on large glass manometers and for the Toepler pumps. A valve was provided in each individual pot, and mercury sealed to eliminate any possible chance of air leakage. Upon completion of machine work, the pots were vacuum tested and accepted for use in P-10. Work for P-10 forced the 101 Shops onto a 6-day week, eff. 10/2.

The shop is still awaiting receipt from the vendor of a special bronze casting in order to complete the magnetic spectrometer for the Pile Physics Section.

Fabrication was completed on the underwater weighing device which was designed by the joint efforts of the Pile Engineering Section and the Equipment Design Unit for the purpose of weighing slugs in air. The new weighing device consists of a water-tight cylinder and a 3½" O.D. stainless steel standpipe. The slug is placed in a vertical weighing position by a pair of tongs controlled by a cable through the standpipe. After the slug is placed in the cylinder, the standpipe is fastened by a twist-lock arrangement making a water-tight seal. Air pressure is then provided at the top of the standpipe which is above the water level of the basin, forcing the water from the standpipe and cylinder through a small pipe outlet located in the bottom of the cylinder. The slug is then weighed and the process reversed in order to remove the slug.

Fabrication work was begun on the nine-foot gloved box which is being made of 3/4" plywood for use in Room 95 of Bldg. 3706 by the Chemical Research Section. This is the first box of this size or type fabricated for use on the project.

A special cone dolly was also fabricated for the Chemical Research Section for use in transferring casks between Junior Caves and shielded hoods. This dolly features a flat steel scooter with swivel casters, allowing a heavy shield to be rolled freely by hand in any direction over any smooth, hard surface.

The usual number of small jobs were completed by the one-man machine shop in Bldg. 3706, mostly for the Chemical Research, Analytical, and Metallurgy

Section occupants of that building. The four-place multiple stirrer for gloved box use was completed, and a number of parts were fabricated for use in connection with the Junior Cave for the Chemical Research Section. Progress was made on additional equipment for Junior Cave work, and on special remote-control apparatus for hoods for this Section.

This Bldg. 3706 shop has a backlog of approximately 300 hours of work on small jobs. Since most of this work is being done on verbal instruction, without drawings, and with major dependence on the machinist's knowledge and familiarity with the requirements of the Section being served, it has not been practical to achieve a major reduction in this backlog by transfer to the Bldg. 101 Shops or to the Instrument Division.

Glass Shop

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

	<u>September</u>	<u>October</u>
<u>Jobs Completed</u>		
New	40	51
Repairs	7	5
Revisions	<u>12</u>	<u>12</u>
Total	59	68
<u>Job Backlog</u>	10	15

Installation work on Line 5 for P-10 was completed at Bldg. 108-B, and glass fabrication was in progress on other P-10 lines. It is anticipated that all schedules for P-10 glass fabrication will be met if the required glass is received on the project sufficiently ahead of the scheduled completion dates. The P-10 glass blowers are working 6 days a week.

Several shifts of personnel between the Glass Shop and Bldg. 108-B were made in order to keep some employees isolated from active lines. These men were assigned to other P-10 work and were replaced by members of the Bldg. 3706 Glass Shop force.

The P-10 production lines were shut down at month-end, but sufficient glass fabrication work exists to keep all glass blowers occupied.

Maintenance Division work on the enlargement of the Glass Shop was continued. Partitions and work benches were installed. The job could not be completed because of procurement difficulties on additional gas equipment.

Equipment Design

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

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	September		October	
	<u>Engineering</u>	<u>Drafting</u>	<u>Engineering</u>	<u>Drafting</u>
<u>Laboratory Equipment Development (RDA #TC-5)</u>	196	284	192	240
<u>Pile Technology</u>				
Engineering Section	228	168	160	104
Physics Section	26	16	4	20
Metallurgy Section	290	376	348	308
<u>Separations Technology</u>				
Chemical Research Section	534	140	452	166
Chemical Development Section	-	-	12	24
<u>Technical Services</u>				
Engineering Sect. (Tech. Shops)	-	-	8	-
Analytical Section	<u>198</u>	<u>54</u>	<u>112</u>	<u>86</u>
Totals	1,472	1,038	1,288	948

Laboratory Equipment Development (RDA #TC-5)

The following work was done under this RDA:

1. Scoping continued on the airborne contamination detector for use in the multi curie wing of the Bldg. 222-S. A scintillation counter tube is favored as the sensing element, because of its mechanical and electrical stability.
2. Development of a simpler manipulator gauntlet for Junior Caves continued. Several models were built and tested.
3. Developments were underway for a simple system of radioactive-waste disposal for use with the proposed Radiochemistry Bldg. This system is based on the use of 55-gal. steel drums. Tests were being made to determine the ability of cement, Bentonite clay, pumice, etc., to occlude and fix aqueous and organic solutions.
4. A way was devised for conversion of the Lucoflex downdraft hood into a gloved hood with air lock and exhaust filter. Designs were completed.

Design Services

The following work was done for the Engineering Section of the Pile Technology Division:

1. Design was completed for apparatus to test thermal conductivity of graphite. The apparatus was ready for starting assembly.
2. The apparatus for weighing slugs in air under water was completed in the Bldg. 101 Shops. However, tests showed the slug-

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Technical Services Division

carrying basket to be unsatisfactory, so a working model tong was devised and is being revised. Tests and additions are being continued.

3. Development of the power-driven underwater slug scrubber continued. A hydraulic drive unit has been assembled and tested.
4. Development continued on a method for removal and disposal of experimental pressure tubes from 100-H pile. Tests were being prepared for experimental cutoff of tubing in a 75-ton press in the Technical Shops.
5. The design of the Reciver Safe was completed, and that of the Transfer Carriage nearly completed.
6. The design of the Core-Borer was nearly completed.
7. Revisions were made in the architectural scope drawings for the Pile Technology Bldg.

The following work was done for the Metallurgy Section:

1. The assembly of the oil bath agitator for slug elongation tests was completed.
2. Scoping studies continued on a device for graphic recording of tensile specimen elongation.
3. The design of a slug wafer cutoff box was completed and this device is awaiting shop fabrication.
4. Adaptation of an Elgin optical polisher was being scoped for metallurgical use.
5. Design was in progress on facilities for conducting an aluminum tensile test within a tube furnace.
6. Design continued on the model of the intermediate level cell, the airflow service plug, the decontamination cell, the slicer #3, and the hot sample mold.
7. The X-ray tube rack built by the Technical Shops was being revised.
8. Studies were made of the ventilation of the proposed intermediate level cell.
9. Specifications were completed for the special laboratory equipment to be used in the proposed Radiometallurgy Bldg.

The following work was done for the Chemical Research Section of the Separations Technology Division:

1. The apparatus for ozonization and scavenging tests was being revised because of difficulties with the lead gasket seals on reaction

vessels.

2. An apparatus for taking 35 cc. samples of dissolver solution from a large cask in a hood was designed and was awaiting fabrication in the Technical Shops.
3. A transfer dolly for transfer of a 200-pound dissolver solution shield between the sampling hood and Junior Caves was designed. Fabrication was completed in the Technical Shops. An interesting accessory is a small, flat steel scooter mounted on ball casters which allows the heavy shield to be rolled freely by hand over any smooth, hard surface.
4. Assembly of the metal recovery apparatus continued. Unexpected difficulties in fabrication of the stainless steel tubing and connections have delayed completion of the unit.
5. Fabrication of the nine-foot gloved box for Bldg. 3706, room 95, was being followed through in the Technical Shops. It was nearly complete, but was being delayed because the necessary lucite for the front panel has been out of stock in stores.
6. The gloved box to be joined to hoods in Bldg. 3706, room 4-A, was designed and ready for fabrication.
7. The Lucoflex downdraft hood was ready for installation in Bldg. 3706, room 95. The ductwork and filter box were designed, but had not yet been fabricated by the 300 Area Maintenance Shop.
8. Three gloved boxes were outfitted.
9. A compact, remote, fifteen-stage, counter-current, batch extractor was being designed.
10. A new design of wobble-type sealed stirrer was in progress, based on stainless steel bellows.
11. Two multiple stirrer assemblies were equipped with individual voltage controls.
12. Two DC power supply units were provided and revised for operation of miniature 3-volt motors.
13. A voltage divider control was provided for operation of a miniature 3-volt motor.
14. A conventional alpha "poppy" probe was installed inside a gloved box for in-box monitoring.
15. The valve operation cycle timer was revised and tested.
16. Scoping of equipment for the Bldg. 222-S multicure wing continued. Requisitions were originated for a four-location con-

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tinuous recording beta-gamma radiation monitor and a portable in-cell alpha radiation surface monitor based on a scintillation counter tube. A work order was issued to the 300 Area Instrument Shop for two portable in-cell beta-gamma radiation meters.

The following work was done for the Chemical Development Section of the Separations Technology Division.

1. Gloved boxes for Bldg. 222-S were scoped for procurement.
2. One draftsman was on loan to this Section, in Bldg. 3702, for the preparation of charts and graphs for Redox reports.

The following work was done for the Analytical Section of the Technical Services Division:

1. Scoping of procurement of gloved boxes for Bldg. 222-S was completed and requisitions were prepared for the entire lot. Delivery was requested as follows: 20 boxes on January 1, 1951; 25 boxes on February 1; 25 boxes on March 1; and 25 boxes on April 1. This total of 95 boxes includes those for the Chemical Research and Chemical Development Sections.
2. A gloved box for trial use for routine radio assays in the Bldgs. 222-B & T laboratories was being outfitted.
3. Final reassembly of the chromium assay panel was started.
4. An electro-titration apparatus was devised and was being prepared for assembly.
5. A hood bench drawing was revised for the proposed Radiochemistry Bldg.

New Laboratory Planning

General

On October 13, the Technical Divisions wrote the A.E.C. noting the urgent need for the proposed Hanford Works Laboratory buildings, and requesting confirmation of the indicated importance of committing all approved funds for this program before the end of Fiscal 1951. By reply dated October 23, the A.E.C. confirmed this position and asked G. E. to submit an accelerated design schedule. This was obtained from D & C (letter W. E. Johnson to A. B. Greninger, Oct. 27), and forwarded to the A.E.C. on October 30.

Redox Analytical and Plant Assistance Laboratory, Project C-187-E

As of October 27, this new laboratory (Bldg. 222-S) was estimated to be 59.7% complete based on the value of work in place. Construction is proceeding on schedule, and no delays are anticipated except in the procurement of stainless steel. Shop drawings of several items of

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installed equipment, including laboratory furniture, were reviewed and commented upon.

Radiochemistry Bldg., Project C-381

According to the latest available report from Leland S. Rosener, dated October 13, design of the Radiochemistry Bldg. was 55% complete. This work is substantially ahead of schedule and should be completed in advance of the contract date (March 15, 1951). Design of custom equipment was proceeding satisfactorily.

Plot Plan and Utilities, Project C-394

D & C conducted preliminary architect-engineer negotiations for the design of these facilities with Rosener. The scope of this work was outlined to Rosener at San Francisco, and it was agreed verbally that he would undertake the work.

Relocation of the burial ground, water lines and fence construction was completed at the 300 Area site during the month, and Health Instrument Divisions' approval was received on the burial ground job. The barricade fence around the relocated burial ground also was completed. An extension of the Directive completion date on this Part II of C-394, from November 1 to December 1, was requested of the A.E.C.

Discussions were held with the Security Office regarding the question of whether the new Works Laboratory Area should have "Exclusion" or "Limited" status. Present indications are that the latter will suffice. Plans include a new Badge House and gate in the South Fence of the new area, with adjacent parking lot.

Radiometallurgy Bldg., Project C-385

Contact engineer liaison with Rosener, the architect-engineer selected for the Radiometallurgy Bldg., was required in order to acquaint him with the latest design on the special equipment which will be required in this building. A number of other questions arose concerning the design of this building and its equipment. Most of these have been answered and transmitted to Rosener through the D & C Divisions. D & C is expected to complete the subcontract negotiations with Rosener in the near future.

Mechanical Development Bldg., Project C-406

The project proposal for this building was rejected by the A & B Committee on October 10, due to an inadequate Reason Sheet. After revision, it was resubmitted and approved on October 20. At month-end it was awaiting A.E.C. approval.

Pile Technology Bldg. (Study GET-17)

When first D & C estimates indicated the preliminary design of the Pile Technology Bldg. to represent a cost of \$3,250,000, the design was

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revised to eliminate the third story, and reduce the number of offices from 79 to 64. These changes lowered the gross floor area from 54,700 sq. ft. to 51,272 sq. ft. This design modification, coupled with a reduced allowance for installed laboratory equipment, yielded a total cost estimate of \$2,850,000. Preparation of the design project proposal on this basis was begun.

Bldg. 3730 Addition

A work order to prepare a project proposal covering the design and construction of the addition to Bldg. 3730, the experimental metallurgy facility, was submitted to the Project Engineering Divisions. Contact engineer definition of the scope of this facility was in progress at month-end.

Library and Files Bldg.

Preliminary planning for the Library and Files Bldg. was begun. This facility is expected to house the Classified Files, the Plant Library, the Statistics Group (including its IBM Computing Laboratory), and certain Technical Divisions administrative offices. A survey of Technical office space was initiated to determine the adequacy of existing scope plans. A preliminary draft of the Reason Sheet was prepared, and composition of the project proposal supplement was begun.

300 Area Services

Normal Bldg. 3706 services continued routinely. Stockroom and work order activity is summarized as follows:

	<u>September</u>	<u>October</u>
<u>Purchase Requisitions</u>		
Total number processed	67	96
Number requiring special expediting	14	23
Number requiring emergency handling	1	2
<u>Stores Stock Requests Processed</u>	0	0
<u>Store Orders</u>		
Total number processed	757	967
Number requiring emergency pick-ups and deliveries	8	3
<u>Work Orders Processed</u>	38	61

Conversion of Room 95 (in Bldg. 3706) for use by the Chemical Research Section was completed except for installation of the large double gloved box and the Lucoflex plastic hood. The south side of the room was being used by Chemical Research at month-end.

The subdivision of several Analytical Section offices in Bldg. 3706 was completed with the exception of telephone changes; these have been requested of the Electrical Division.

A work order was issued to the Maintenance Division, 300 Area, for the installation of heating facilities for the propane storage tank (as

required for adequate gas supply pressure in winter). The propane will be electrically heated outside of the tank, with a pressure switch on the tank to control the heating unit. This installation is a modification of one designed and approved for the same purpose in the 200-W Area. Initially, no insulation of the storage tank will be applied; if this step proves necessary, insulation that can be removed during the summer months will be used.

The installation of louvres in the Bldg. 3706 exhaust fan ports was completed, and the changing of faulty steam coils in the air supply units was nearing completion.

STATISTICAL & COMPUTING SERVICES

Statistical Studies

Services rendered to the Metallurgy Section of the Pile Technology Division included the following:

Crystallographic calculations for a stereographic projection.

Assistance in the design of an experiment to determine the structural transformation operating limits on the dilatometric testing of canned uranium slugs.

Completion of a correlation of X-ray diffraction data obtained from 52 uranium sample wafers with dilatometric expansion data obtained from uranium slugs adjacent to the wafers.

Comparison of the index of orientation of previous alpha rolled uranium with the average index of the 52 wafers referred to above.

Preparation of a list of the best estimates of variations that could be obtained to date from orientation studies (see Doc. HW-19193 for details of these analyses).

For the 300 Area Plant Assistance Group of the Metallurgy Section, a study was made of the relationship between the Test Pile reactivity of canned uranium slugs and (1) months during which the slugs were canned, (2) shipments from the rolling mills, and (3) suppliers who furnished the billets to the rolling mills. The non-orthogonal analysis of variance of these data eliminated metal suppliers and rolling mills as the cause for decreases in Test Pile dih reactivity results. As a result of this statistically derived conclusion, attention was turned to the comparative Test Pile reactivity of aluminum cans supplied by different vendors. A statistically designed experiment demonstrated clearly that the cans have been responsible for the recent decrease in canned slug reactivity.

Studies begun for the P Division involve comparison of canned uranium slug reactivity by canning lines, comparison of the number of non-seats obtained from one- and two-day use of the canning baths, and investigation of sampling inspection of aluminum cans.

Daily, weekly, and monthly statistical controls were reported on P Division operational results at Machining, Pickling, Canning, Test Pile, Autoclave, and Melt Plant (for monthly report see Doc. HW-19279). Beginning with October's report, all autoclave failures will be identified as to lot number, canning date, line, truck, and cause of failure.

At the request of the Pile Engineering Section, further analysis was made of D-pile bowing data. An analysis was made of the dimensions of one tube of Group V metal exposed to 254 MWD/ton for corrosion and slug dimension stability studies. Further analysis of slug dimensions of Group V metal discharged at 600 MWD/ton also was made.

Cosine and Bessel functions were fitted to data furnished by the Experimental Physics Group. A numerical integration of an average of a velocity distribution was performed for the Theoretical Physics Group.

Final results from the study of the relationship of the distribution coefficient of Pu(IV) with aqueous solution variables were reported to the Chemical Research Section (see Doc. HW-19069). The calculated distribution coefficients corresponding to a set of selected values for solution variables were computed.

Results of the study for the Process Section of the Separations Technology Division, estimating the variation in starting solution total plutonium count per ton of uranium, were reported in Document HW-19164.

The regular semi-monthly reports of certain Kr-85 computations for the A.E.C. were completed and forwarded.

The application of an improved counting procedure for investigating alpha coincidence losses provided more consistent data than any previous results. Work is continuing in cooperation with the Analytical Section to reduce further the uncertainties of the results. Estimates of the precision of plutonium and specific gravity determinations on seventeen P-11 samples were evaluated for the Analytical Section.

Comparison of gravimetric, coulometric and polarographic analytical methods is being made for the Analytical Research Group in conjunction with the analysis of our P-10 fuel slugs of different uranium enrichments. These slugs have been analyzed chemically at the request of the Experimental Physics Group to provide precise and absolute information for calibration of the Test Pile.

Weekly and monthly statistical controls were reported on the precision and accuracy of analyses made on uranium solutions, plutonium solutions, and process wastes by the control laboratories in Bldgs. 222-B, 222-T, 231, and 234-5. The monthly report (Doc. HW-19280) also includes AT and P-4 Specific Gravity Relationships; 231-234 plutonium assay differences; and Hanford - Los Alamos Plutonium assay differences.

Assistance was given the H. I. Biology Division in the statistical design of an experiment to study the internal retention of plutonium by rats. Forecast of the precision to be expected from the results of an experiment to determine ^{89}Sr and ^{90}Y intake of various plants is under way.

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At the request of J. W. Jolders, who represents Booz, Allen & Hamilton, considerable statistical assistance was rendered in conjunction with his study of professional and supervisory salary rates.

Computing Laboratory

The I.B.M. equipment for the new technical computing laboratory was received and installed in Bldg. 101. This facility has as its principal tool the IBM Card Programmed Electronic Calculator. Full supporting auxiliary equipment is included in the installation.

After several days of testing and adjusting, computing was begun on a backlog of high priority Technical Divisions problems estimated to take six months to complete. An extensive program of numerical integration was in progress at month end to evaluate xenon equation constants.

LIBRARY AND FILES

Library work volume and book statistics were as follows:

	<u>September</u>	<u>October</u>
Number of books on order received	261	417
Number of books fully cataloged	223	247
Number of bound periodicals processed but not fully cataloged	160	61
Pamphlets added to the pamphlet file	229	25
Miscellaneous material received, processed, and routed (Including maps, photostats, patents, etc.)	92	11
Books and periodicals circulated	2,823	2,723
Unclassified reports processed	414	260
Unclassified reports circulated	217	241
Reference services rendered	1,317	1,283

	<u>Main Library</u>	<u>W-10 Branch</u>	<u>Total</u>
Number of books	6,576	2,565	9,141
Number of bound periodicals	6,503	100	4,603

Routine work in the Plant Library proceeded as usual, with the total volume of activity approximately equal to that of the previous month, but again reflecting a considerable increase in the number of books received and cataloged for circulation. The AEC supplied the Library with sufficient copies of an excellent compilation of "Nuclear Data" prepared by the National Bureau of Standards, and the much publicized "Effects of Atomic Weapons" prepared by the technical staff at Los Alamos. Both items were distributed widely within the Plant.

The most valuable periodical acquisition was a substantial run of the early volumes of "Physical Review," which will substantially complete the file of this important reference periodical. Continuing requests for reference material from this and other pre-1930 periodical volumes illustrate again

the impracticality of attempting to set a specific year as a bench-mark from which to purchase periodical runs.

The reference services handled, of which a sampling is listed below, continued to reflect the use of the Library's facilities by all Divisions at Hanford:

- Freezing point curve for Prestone-water.
- Firing boilers with dual fuels.
- Special use of automatic screw machines.
- Principles of real estate management.
- Free energy of magnesium perchlorate.
- Adsorption of vapors on silica gel.
- Flue gas analysis.
- Length of life cycle of clothes moth.
- Design of open-type laboratory hoods.
- B.T.U. value of U. S. No. 3 diesel oil.

The position of Reference Aide (General Clerk A) was developed to assist the Reference Librarian in handling the increased volume of reference work.

A new study was completed of the library's clerical positions, and more accurate and adequate job descriptions were developed. Review of these by the Wage Rates Group resulted in upward evaluation of a number of the jobs, with improved employee morale.

In addition, the basis for liquidation of the Library's operating expenses was again reviewed, and new percentages, based on the books purchased, books circulated, and reference services rendered each Division, were supplied to the Accounting Division for approval. Inasmuch as it has been agreed that a similar study should be made semi-annually, plans are underway to simplify the periodic accumulation of this information.

The first field branch of the Plant Library was opened in Bldg. 108-F, in the 100-F Area, on October 9. This branch library will house reference material in the health and biology fields, serving the activities of the H. I. Biology Division. Although in general experience indicates that the establishment of small branch libraries is unwise, it was felt that special circumstances in this instance (i. e., that the Biology Division is permanently established on this site, and that their work is of such a specialized nature that the references which they require are unlikely to have Plantwide interest) justified the establishment of this special library unit.

Classified Files

Work volume statistics for the Classified Files and the Central Report Publications Unit were as follows:

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	September	October
Documents routed	11,921	12,054
Documents issued	5,008	5,969
Reference services rendered	3,454	4,364
Reports abstracted	205	411
Registered packages prepared for offsite	242	204
Inter-area mail sent via transmittal	24,526	25,076
Holdings of classified documents whose files were inventoried:		
(a) Because of normal perpetual inventory procedure	67	82
(b) Because of transfer of work assignment	5	1
(c) Because of termination	1	3
Inventory reductions:		
Copies of documents destroyed	1,211	380
Copies of documents downgraded	135	13
Copies of reports declassified	128	1
Classified documents located which were unaccounted for in previous inventory	27	32
Volume of unclassified mail handled by 300 Area Mail Room	30,388	31,863

Central Report Publications Unit

Ditto masters run	753	656
Mimeograph stencils run	749	768
Ditto masters prepared	19,226	20,697
Mimeograph copies prepared	35,059	48,697
Formal Research and Development Reports issued	6	6

The 86 personal files holdings inventoried by the Audit and Inventory Unit represented a new high. The month was also noteworthy because of the fact that for the first time the number of missing documents located (32) exceeded the number reported missing (25) in the Monthly Report to the Security Division.

As anticipated in the Monthly Report for September 1950, a basic change in the reporting period on missing classified documents was effected on October 25 per instructions from the Security Division. In addition to the monthly report, which will be retained, a daily report will be made to the Security Division on all documents discovered missing in the field inventories. This list will go to the Security Division for follow-up by a Security Inspector. Inspectors are currently making field trips with the Audit and Inventory Unit to acquaint themselves with the work of this Unit, and to get background information on the problems of inventorying classified documents. It is planned that the Security Inspectors will call upon individuals with missing classified documents, and will give any needed assistance short of actual search in location of the subject documents. This assistance will consist of a review of the loss, an outline of suggestions as to how the

document might be located, an outline of suggested steps in the search, and inquiry as to possible locations. However, the actual searching is to be done by the man responsible and not by the Security Inspector unless, after making several calls, the situation warrants it.

The problem of accountability for Hanford Works classified documents transmitted to the Chicago Patent Group was finally resolved. As pointed out in previous reports, the fact that the Chicago Patent Group was not a recognized classified document transfer and accountability station meant that Hanford has continued to retain accountability for classified documents transmitted to it. We were reluctant to do this on a continuing basis, since it would be impractical to make periodic physical inventories of the Chicago Patent Group files.

At the meeting of the Technical Information Panel at Hanford in June 1950, it was agreed to transmit all classified documents for the Chicago Patent Group through the Argonne National Laboratory, which would then undertake accountability for them. This procedure has proven a considerable burden for Argonne, and a change was sought.

At the meeting of the Technical Information Panel in New York, October 23, 24, and 25, the matter was discussed fully with Washington representative of the AEC Materials and Information Branch. It was agreed that establishing the Chicago Patent Branch as a classified document transfer and accountability station appeared the best solution, although the Patent Group had in the past taken the position that they did not wish this. However, at a meeting in Chicago on Monday, October 30, attended by Dr. Hoylande D. Young, Messrs Test and York of the Chicago Patent Group, representatives of the Argonne Security Division, and the Chief Librarian, Hanford Works, unanimous approval was given this decision. A supplement will add the Chicago Patent Group to the Standard Distribution List (M-3679), and formally establish them as a classified document transfer and accountability station. Effective immediately, Hanford Works will transmit documents directly to the Chicago Patent Group with a clear cut transfer of document accountability.

A second complete file of the Bi-Weekly List of Additions to the 300, 700, and D & C Classified Files was transmitted to the Chicago Patent Group, and two copies of each issue will continue to be sent in future. The first copy will be used by the Group as a check list, and the second copy for certification of patent coverage to the Washington, D. C. Patent Group.

Studies were continued on reduction of Files classified document holdings through quantity declassification. Two procedures look promising: (1) Utilization of Paragraph 6 of GM-160, which apparently established a streamlined method for the declassification of early Project technical reports falling within the current unclassified areas of research as defined in GM-93, and (2) the setting up of a local board empowered to declassify administrative non-technical classified documents. Clarification of a number of apparent inconsistencies in the GM bulletins on declassification procedures is being sought by the site C.O.D. In the meantime, sampling studies are continuing to determine the probable volume in the Classified Files of material declassifiable under either of the above procedures.

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Technical Services Division

In New York on October 26, the Chief Librarian discussed with H. B. Lytz of the Kellex Corporation, the accountability for Kellex classified Job 11 records, which the Hanford Works Sub-Committee of the Nucleonics Records Committee had agreed on July 27, 1950, could reasonably be transferred to Hanford. A formal request asking us to undertake this accountability subsequently was received from the local AEC on October 11. H. B. Lytz pointed out that the inventory of Job 11 classified documents previously supplied was in need of review, and that the Kellex Corporation was preparing a more current inventory. It was agreed that when the new listing was completed, the Hanford Works Audit and Inventory Unit would use this as a basis for making a physical inventory of these classified records before our acceptance of accountability.

Discussions were held with the staff of the Technical Information Branch in Oak Ridge on October 27, regarding the Fourth Revision of CA-1927 (Standard Distribution Lists for United States Atomic Energy Commission Research and Development Reports) which is nearing final form. The proposed reactor subject headings were reviewed in detail, and changes suggested by Hanford Works technical personnel effected. A large number of new subject headings required in our indexing program were submitted for inclusion, including a complete subject breakdown of the metal conversion process. A basic and improved rearrangement of the subject material on slugs, slug canning, and preparation was worked out. Cooperative plans for the re-organization of the index in accordance with the expanded subject headings, and the substitution of an alphabetic arrangement for the present numerical one (a change approved at the Technical Information Panel Meeting) were worked out.

The final draft of a proposed arrangement of Hanford Works periodic and series reports was prepared and distributed to the staff for review. After final revision, it will be used as a basis for the re-organization of all periodic and series reports in the Classified Files, and as an index key to this reference material.

A new basis for the liquidation of Classified Files operating costs was developed and submitted to the Accounting Division for approval. On the new basis, costs will be apportioned in accordance with the number of individuals in each cost code group having authorized access to classified information. It is felt that this method will supply a clean cut and defensible basis for the allocation of Files costs, and will be more readily and accurately determined than the previous "use" studies. New percentages will be developed quarterly.

INVENTIONS

All Technical Services Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during October 1950. 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

T. W. Hauff
T. W. Hauff, Division Head

TWH:mcs

MEDICAL DIVISIONS

OCTOBER 1950

General

Personnel Changes

The roll increased from 279 to 281.

Visits

Dr. D. H. Eckles attended the annual meeting of the American Public Health Association in St. Louis.

Dr. R. R. Sachs attended a civil defense meeting of physicians in Seattle, and a public health nurse attended a similar meeting.

Miss Fariss, chief hospital dietitian, attended the American Dietetic Association national meeting in Washington, D. C.

Dr. Alfred Lazarus visited us in connection with virus disease diagnosis and control.

L. O. Tucker, state milk sanitarian, visited us in connection with milk inspection work.

Miss R. Haller, from the Spokane office of the Washington State Dairy Council, visited us in connection with her education work in nutrition.

Industrial

Employee physical examinations declined slightly from 2130 to 2006.

Dispensary treatments increased from 7722 to 8367.

Eleven major and eleven sub-major injuries were treated, as compared to four major and four sub-major injuries for the previous month. Two major and three sub-major injuries were sustained by G. E. employees.

First aid service was discontinued in 100-DF area and the station moved to the MJ-4 construction area. This station has not been put in operation since being moved.

"Aches and Pains" was the health topic for the month.

Sickness absenteeism increased by .46% to 1.86%, while total absenteeism increased by .49% to 2.64%.

Communities

Kadlec Hospital average daily census increased from 84.8 to 85.7 (75.2 adults, 10.5 infants). The census was 59.5 a year ago.

Nursing hours per patient day were 3.41 for the mixed services and 5.06 for obstetrics.

Public Health

There was an increase in contagious disease from 42 to 52, the change being due to an increase in scarlet fever. Five of the scarlet fever cases developed complications.

A survey of the milk control program was made by a representative of the U. S. Public Health Service, the purpose being to determine the status of the local supply in comparison with other areas and the effectiveness of local departmental control and inspectional programs.

The project for improving lighting facilities in the schools to meet school and public health standards is nearing completion.

MEDICAL DIVISIONS

OCTOBER 1950

Costs (September)

Medical Divisions' operating costs before assessments to other divisions and Workmens' Compensation were as follows:

	August	September	Sept. Budget
Industrial Medical (Oper. Div.)	\$ 38,353	35,796	39,630
Public Health (Oper.)	11,092	11,572	12,420
Kadlec Hospital (net)	24,552	21,946	29,252
Hosp. assessments to other divisions and workmen's compensation	1,627	1,905	2,800
Sub-total - Oper. Medical Divisions	75,624	71,219	
Construction Medical (Ind. & P.H.)	11,872	11,091	21,630
Total (Operations & Construction)	87,496	82,310	105,732

The net cost of operating the Medical Divisions (before assessments to other divisions and Workmen's Compensation) was \$82,310., a decrease of \$5186., and \$23,422. below the budget figure.

The decreased cost was due to decreased salaries (six fewer employees) and increased revenue.

The net cost of operating Kadlec Hospital was \$21,946., a reduction of \$2606., due largely to increased revenue.

Public Health costs changed little while Industrial Medical (Operations) expense decreased by \$2557. due to a reduction in personnel and reduced supply and other costs.

MEDICAL DIVISIONS

OCTOBER 1950

Industrial Medical Division

General

The number of examinations decreased from 2130 in September to 2006 in October. The number of dispensary treatments increased from 7722 in September to 8367. The higher figure was accounted for by the increase in non-occupational cases. General Electric employees sustained two major injuries and three sub-major injuries. Sub-contractor employees sustained nine major injuries and eight sub-major injuries. First aid service was discontinued in 100-DR area on 10-9-50. The station has been moved to MJ-4 area but is not yet in operation.

Dr. H. O. Pope was added to the staff of industrial physicians, and replaces Dr. Dewey Reps.

The industrial physicians' scientific meeting dealt with a report of the recent meeting at Los Alamos of medical and laboratory directors of A. E. C. installations. Dr. W. D. Norwood attended this meeting and reviewed the papers presented there.

Dr. D. H. Eckles went to the American Public Health Association meeting at St. Louis, and attended the sectional meetings dealing with industrial hygiene.

The Health Activities Committee met on Oct. 19th, and the health topic on "Aches & Pains" was presented. Material on this subject was prepared for distribution to all employees.

Absenteeism due to sickness was 1.86%, and absenteeism due to all causes was 2.64%.

There were no findings attributable to radiation exposure of any employee during the month.

The total reduction in costs over the previous month was \$2,590., due to decreased administration expense, decreased personnel and laboratory expense, and lowered transferred charges from other divisions. The net cost of operations was \$4,601. under budget. The net cost per employee was \$4.30, based on G. E. and A. E. C. employees totalling 8,137.

	Increase or Decrease over Previous Month	Sept.	August	Sept. Budget
Administration	\$ (899)	\$ 7,227	\$ 8,126	\$ 7,460
Household & Property	114	1,449	1,335	1,300
Professional Services	(1891)	23,505	25,396	26,020
Total Direct Expense	(2676)	32,181	34,857	34,780
Transferred Charges	(974)	4,495	5,469	5,000
Revenues	(1093)	880	1,973	150
Net Cost Operations	(2590)	35,029	37,619	39,630

MEDICAL DIVISIONS

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<u>Physical Examinations</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
<u>Operations</u>			
Pre-employment.....	159	144	1316
Rehire.....	51	40	506
Annual.....	327	140	3780
Interval.....	278	405	4317
Visitors.....	0	1	1
A. E. C.	7	29	126
Recheck.....	124	161	1339
Termination.....	181	95	857
Sub-total.....	1127	1015	12242
<u>Sub-contractors</u>			
Pre-employment.....	190	186	3152
Rehire.....	327	339	3165
Recheck.....	86	70	982
Termination.....	400	396	2250
Sub-total.....	1003	991	9549
Total Physical Examinations.....	2130	2006	21791
<u>Laboratory Examinations</u>			
<u>Clinical Laboratory</u>			
Government.....	36	97	1044
Pre-employment, termination, transfer.....	4991	3671	50470
Annual.....	1689	741	19691
Rechecks (Area).....	1500	1985	22462
First Aid.....	8	6	140
Clinic.....	2597	2594	27160
Hospital.....	2941	3311	29359
Public Health.....	58	86	585
Total.....	13820	12916	151336
<u>X-Ray</u>			
Government.....	4	20	178
Pre-employment, termination, transfer.....	742	688	8353
Annual.....	341	159	3914
First Aid.....	173	170	1339
Clinic.....	321	254	2262
Hospital.....	177	254	1816
Public Health.....	5	6	55
Total.....	1763	1551	17917
<u>Electrocardiographs</u>			
Industrial.....	17	17	277
Clinic.....	4	1	39
Hospital.....	19	31	223
Total.....	40	49	539
<u>Allergy</u>			
Skin Tests.....	3	6	191

MEDICAL DIVISIONS

OCTOBER 1950

<u>First Aid Treatments</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
<u>Operations</u>			
New occupational cases.....	354	345	3590
Occupational case retreatments.....	1115	1185	12029
Non-occupational treatments.....	2726	3281	31121
Sub-total.....	<u>4195</u>	<u>4811</u>	<u>46740</u>
<u>Construction</u>			
New occupational cases.....	647	587	4327
Occupational case retreatments.....	2328	2311	14135
Non-occupational treatments.....	552	658	3275
Sub-total.....	<u>3527</u>	<u>3556</u>	<u>21737</u>
Total First Aid Treatments.....	7722	8367	68477

<u>Major Injuries</u>			
General Electric.....	0	2	4
Sub-contractors.....	4	9	56
Total.....	<u>4</u>	<u>11</u>	<u>60</u>

<u>Sub-major Injuries</u>			
General Electric.....	1	3	22
Sub-contractors.....	3	8	63
Total.....	<u>4</u>	<u>11</u>	<u>85</u>

<u>Absenteeism Report</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Percent Absenteeism</u>	<u>Comparison with Previous Month</u>
No. days absent due to all causes	2014	1118	3132	2.64%	.49% more
No. days absent due to sickness only	1367	840	2207	1.86%	.46% more
Avg. days absent due to sickness by each male employee					.30 day or 300 days/1,000 employees
Avg. days absent due to sickness by each female employee					.58 day or 580 days/1,000 employees
Avg. days absent due to sickness by all employees					.37 day or 370 days/1,000 employees

Comparison of present year to date total absenteeism figure with the 1949 figure shows a decrease of .02%.

Absenteeism all causes by Divisions:

Plant Security & Service	2.32%
Manufacturing	2.33%
Employee & Community Relations	2.49%
Design & Construction	2.86%
Municipal, Real Estate & General Services	2.87%
Health Instrument	3.03%
Medical	3.19%
Technical	3.19%
Purchasing & Stores	3.32%
General Accounting	3.49%

MEDICAL DIVISIONS

OCTOBER 1950

<u>Absenteeism Investigation</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
Total No. calls requested.....	11	11	142
Total No. calls made.....	11	10	141
No. absent due to illness in family.....	0	1	3
No. not at home when call was made.....	0	1	15

Community Medical Division

General

Medical Divisions' roll increased during the month from 279 to 281.

The average daily adult hospital census increased from 73.2 to 75.2, as compared to 45.3 a year ago. The average daily infant census decreased from 11.6 to 10.5, as compared with 14.2 a year ago. It is interesting to note that our average daily adult hospital census for the first ten months of the calendar year 1950 is running approximately 16.8% higher than for the year 1949. We have been experiencing an unseasonably high patient census this summer and fall as evidenced by the fact that during the period July 1, 1950 - October 31, 1950, we have been averaging an adult census approximately 40.9% higher than for the same period in 1949. If this trend continues with high utilization of health insurance coverage, the currently expected increase in population, and the normal seasonal patient increase during the winter, we may find it necessary to temporarily control the admission of elective cases (elective cases being those in which no urgency exists and treatment can be postponed with no untoward effects). With the completion of the new wing on the Medical-Dental Clinic Building and the subsequent move of our surgeons' offices out of the hospital and into the clinic building, it will be possible to move our chief nurse and her secretary into the vacated space. This will make an additional two patient rooms available with a capacity of two beds in each.

Nursing hours per patient day:

Medical, Surgical, Pediatrics	3.41
Obsteurical	5.06

The ratio of hospital employees to patients (excluding newborn) for the month of September was 1.93. When newborn infants are included, the ratio is 1.66. This represents another decrease from the months of July and August, due primarily to a continued increase in patient census.

The net expense of the Richland community medical program for September, 1950 was \$21,946., as compared to \$24,552. for August. Breakdown is as follows:

Kadlec Hospital net expense \$21,251.

This is a decrease of approximately \$2500. as compared to August. It is due primarily to increased revenue as a result of increased patient census. This revenue more than offset the normal increase of expenses from the additional census as well as the expenses from a new account, "Accrual - Public Liability Claims".

Clinic net expense \$695.

This represents a reduction of \$79. from August due to a reduction in salary costs.

MEDICAL DIVISIONS

OCTOBER 1950

Miss Eunice Fariss, Chief Dietitian at Kadlec Hospital, attended the American Dietetic Association national meeting in Washington, D. C., October 16-20.

Our periodic hospital fire drill was held this month in conjunction with Fire Prevention Week. This was the first drill at which fire trucks were dispatched to the hospital, fire hose laid into the building, and several patrolmen reported to assist in the mock evacuation of patients.

The Medical Divisions attained 118.2% of their assigned community chest quota in the recent drive for funds.

<u>Kadlec Hospital</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
<u>Census</u>			
Admissions: Adults.....	393	425	4168
Patient Days: Adults.....	2198	2332	22004
Infants.....	347	326	3334
Total.....	2545	2658	25338
Average Stay: Adults.....	6.3	5.5	5.3
Infants.....	5.6	5.5	5.2
Average Daily Census: Adults.....	73.2	75.2	72.3
Infants.....	11.6	10.5	10.9
Total.....	84.8	85.7	83.2
Discharged against advice.....	1	0	13
One-day cases.....	59	63	654
Occupancy Percentage: Adults.....	82.3%	84.5%	81.1%
Infants.....	143.7%	131.2%	134.1%
Admission Source: Richland.....	77.6%	75.1%	80.3%
North Richland.....	10.1%	9.9%	7.9%
Other.....	12.3%	15.0%	11.6%
Admissions by employment: General Electric	74.3%	72.3%	
Government.....	2.6%	3.1%	
Facility.....	5.3%	4.9%	
Sub-contractor.....	9.4%	14.1%	
Schools.....	0.5%	0.7%	
Military.....	4.1%	2.6%	
Others.....	3.8%	2.3%	
<u>Surgery</u>			
Majors.....	66	54	630
Minors.....	92	64	743
Eye, Ear, Nose, Throat.....	35	41	473
Transfusions.....	50	55	519
Dental.....	2	1	17
<u>Vital Statistics</u>			
Deaths.....	2	3	29
Live Births.....	62	59	627
Still Births.....	2	2	11

MEDICAL DIVISIONS

OCTOBER 1950

<u>Physiotherapy Treatments</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
Clinic.....	48	69	724
Hospital.....	47	118	631
Industrial: Plant.....	128	156	1658
Personal.....	18	44	203
Total.....	<u>241</u>	<u>387</u>	<u>3216</u>

<u>Pharmacy</u>			
No. of prescriptions filled.....	2688	2846	26331

<u>Patient Meals</u>			
Regulars.....	3602	3648	32357
Specials.....	931	1202	10078
Lights.....	164	177	1540
Softs.....	1232	1261	14892
Tonsils & Adenoids.....	81	100	1087
Liquids.....	172	187	1988
Surgical Liquids.....	80	61	679
Total.....	<u>6262</u>	<u>6636</u>	<u>59621</u>

<u>Cafeteria Meals</u>			
Noon.....	1093	1204	13790
Night.....	170	171	2254
Total.....	<u>1263</u>	<u>1375</u>	<u>16044</u>

Public Health Division

General

There was a definite trend upward in morbidity. Of the communicable diseases, scarlet fever is the most serious, since five cases developed complications.

The status of poliomyelitis remains the same. Blood samples have been taken and sent to the University of Washington Virus Laboratory where studies will be made to investigate, if possible, the strain of poliomyelitis that is present.

A special clinic was held for the handicapped children attending the orthopedic room at Marcus Whitman School. These children were placed under medical supervision of an orthopedist. Physical therapy will be performed in the physical therapy section of Kadlec Hospital.

A meeting was attended by the health officer in Seattle in regard to civil defense. A staff nurse who is chairman of the district nurses' association also attended a meeting on civil defense.

The school lighting project is progressing satisfactorily following a delayed start due to contractual difficulties. It is anticipated that the project will be completed by the first of the year, thus providing all the schools with lighting standards recommended by school and health authorities.

A survey of the milk control program was made by a representative of the U. S. Public Health Service, the purpose being to determine the status of the local supply in comparison to other areas and the effectiveness of local departmental control and inspectional program.

MEDICAL DIVISIONS

OCTOBER 1950

Three individuals were cited before the local justice court for violation of regulations prohibiting disposal of wastes in public areas. In general, however, compliance with village regulations is showing improvement.

Recent changes in management of food service establishments have resulted in some improvement. As of this date, only one operation has failed to meet "A" grade specifications.

The dog ordinance passed in February is up for amendment to provide a definite authority for enforcement. Heretofore, there has been no specific group or agency so delegated, resulting in little or no control of the dogs. Through the month of October, ninety-eight cases of dog bites were reported to this department.

Social service counselors gave service to 81 families during October. Many of the situations handled involved parent-child relationships where guidance was needed to prevent more serious personality breakdown in the child.

The preventive value of counseling was also stressed in the beginning work done toward interesting the schools in including Human Relations Courses at various grade levels.

Analysis of Public Health and Welfare costs for the month of September revealed an increase of \$480. This was due chiefly to Total Direct Expenses increase of \$238. and Transferred Charges increase of \$234. Further breakdown shows the major increase to be under nursing which reflects the 3% increase in salaries and the return of one social service counselor from leave of absence. The increase in transferred charges was due to our pro-rated part of the total increase for the Medical Divisions.

<u>Education</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
Pamphlets distributed.....	12656	19968	79311
News Releases.....	0	2	46
Classes.....	7	7	45
Staff Meetings.....	3	2	39
Lectures & Talks.....	11	8	73
Attendance.....	447	539	2977
Conferences (among section members).....	122	50	570
Films shown.....	2	6	34
Attendance.....	55	456	1281
Radio Broadcasts.....	3	4	8
 <u>Immunizations</u>			
Diphtheria.....	21	22	1962
Influenza.....	0	0	1
Rocky Mt. Spotted Fever.....	0	0	13
Smallpox.....	9	3	1479
Tetanus.....	22	23	192
Typhoid.....	1	0	20
Whooping Cough.....	21	22	108
Tuberculin Test.....	13	0	31
Total.....	87	70	3806

MEDICAL DIVISIONS

OCTOBER 1950

<u>Social Service</u>	<u>September</u>	<u>October</u>	<u>Year to date</u>
Cases carried over.....	89	97	896
Cases admitted.....	22	13	158
Total.....	<u>111</u>	<u>110</u>	<u>1054</u>
Cases closed.....	14	26	162
Remaining case load.....	<u>97</u>	<u>84</u>	<u>892</u>
Sources of referral:			
Public Health.....	4	3	31
Doctors.....	4	3	53
Interested Person.....	2	0	14
School.....	0	2	8
Personnel Office.....	0	0	2
Personal Application.....	8	3	27
Other Agency.....	1	2	12
Miscellaneous.....	3	0	11
Total.....	<u>22</u>	<u>13</u>	<u>158</u>
<u>Sanitation</u>			
Inspections made.....	194	110	1574
<u>Bacteriological Laboratory</u>			
Treated water samples.....	186	202	1929
Milk Samples (Inc. cream & ice cream).....	12	11	493
Other bacteriological tests.....	177	189	2162
Total.....	<u>375</u>	<u>402</u>	<u>4584</u>
<u>Communicable Diseases</u>			
Amoebic dysentery.....	0	0	1
Chickenpox.....	2	9	158
Erysipelas.....	0	0	1
German Measles.....	9	5	168
Gonorrhea.....	0	0	2
Impetigo.....	9	6	17
Influenza.....	2	0	8
Measles.....	0	0	12
Meningitis.....	0	0	1
Mumps.....	3	1	12
Pharyngeal Infection.....	0	0	6
Pinkeye.....	0	4	17
Poliomyelitis.....	2	2	7
Ringworm.....	6	4	19
Roseola.....	1	0	4
Scabies.....	3	2	13
Scarlet Fever.....	1	12	62
Syphilis.....	0	7	31
Tuberculosis.....	1	0	5
Whooping Cough.....	3	0	19
Total.....	<u>42</u>	<u>52</u>	<u>563</u>
Total No. Nursing Field Visits.....	930	655	9107

MEDICAL DIVISIONS: PERSONNEL SUMMARY

Oct. 31, 1950

	Physicians	Nurses	Anesthetists	Nurse Aides	Orderly & Amb. Dr.	Technician - Clin. Laboratory	Tech. - X-Ray	Tech. - Bact. Lab.	Tech. - Phys. Ther.	Secretary	Cler. Work. Leader	Steno. & Typist	Office Mach. Oper.	Telephone Oper.	General Clerk	Pharmacist	Dietitian	Cook	Kitchen Worker	Soc. Serv. Couns.	Sanitarian	Health Educator	Janitors	Records Supv.	Accounting Supv.	Adm'n. & Assistant	Others	TOTAL	
Inlying Areas	Division Admin.	2	2							2	1	2.5	2	3	10.4									2	3	2	1	32.9	
	Industrial	3.8	9		1							15	1		7								4.6					27.9	
	Hospital	2	51**	3	24	6	9.6	3	1	2		2			11*	3	2	6	9				8.8				7	150.4	
	Public Health	1	8		1							2			1					3	2	1	.6					19.6	
Inlying Areas	Industrial	2	1			1.4	2								9								.7					16.1	
	Public Health		2																				.3					2.3	
	100-DR		2																									2.0	
	100-B	.2	1												.3													1.5	
Inlying Areas	100-D	.2	4												.3														4.5
	100-F	.1	4			.4									.5													5.0	
	100-H	.1	1												.5													1.6	
	241-S (M.U.)		1																									1.0	
Outlying Areas	200-E	.1	4												.2														4.3
	200-W	.2	5			.8									.4													6.4	
	300	.3	1			.8									.4													2.5	
	MJ-1		1												1													2.0	
White Bluffs		1																										1.0	
	TOTAL	12	98	3	26	6	13	5	1	2	2	1	8	3	3	42	3	2	6	9	3	2	1	15	2	3	2	8	281

* (1) General Clerk in Clinic Record Room.

** (4) Nurses working part time.

Note: T. W. Galbraith (Bacteriologist) carried on H. I. roll; working part time in Medical Division.

Number of employees on roll:

Beginning of month 279

End of month 281

Net increase 2

DECLASSIFIEDHEALTH INSTRUMENT DIVISIONSOCTOBER 1950Summary

Seventeen employees were added to the force. Two Class I Special Hazard Incident Investigations were reported.

Control of radiation hazards in process areas in general was satisfactory as shown by Operational Division surveys. No exposure to personnel in excess of the weekly permissible limit of 0.3 roentgen occurred.

Control functions of the Biology and Development Divisions showed no appreciable or unexpected changes in the activity found in samples of air, drinking water, sanitary water, test wells, and biological specimens over that reported last month. The activity of vegetation in a plot previously contaminated by a rupture of a waste disposal line increased tremendously, possibly indicating a new break. Thyroid activity of ring-neck pheasants (contributed by hunters in this locality) in some cases showed concentrations in excess of the permissible limit. Analyses for Pu, U, fission products, and tritium oxide in urine samples from plant workers showed negative results for Pu and fission products. A maximum result of 250 μg U/liter was believed a result of sample contamination. Twenty four of fifty four positive tritium oxide results were obtained from one individual who had a maximum reading of 25 μc /liter on September 27, 1950.

Research and Development programs progressed satisfactorily. Continued emphasis was placed on tritium and tritium oxide hazard investigations.

DECLASSIFIEDHEALTH INSTRUMENT DIVISIONSOCTOBER, 1950Organization

The composition and distribution of the force as of 10/31/50 was as follows:

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>200-E</u>	<u>200-W</u>	<u>300</u>	<u>700</u>	<u>P.G.</u>	<u>Total</u>
Supervisors	1	1	8	2	3	12	12	6	0	45
Engineers *	4	8	27	4	7	19	13	5	0	87
Clerical	0	0	3	1	1	3	3	4	0	15
Others	16	17	49	10	32	63	57	11	6	261
Total	21	26	87	17	43	97	85	26	6	408

* includes chemists, biologists, etc.

Number of Employees on PayrollOctober 1950

Beginning of month	391
End of month	<u>408</u>
Net increase	17

Added to the roll were 2 engineers, a biochemist, 9 technical graduates, 5 inspectors, 4 laboratory assistants, 3 badge workers, and 3 clerks.

Removed were 5 technical graduates, an inspector, 2 laboratory assistants, and 2 clerks.

General

Two Class I Special Hazard Incident Investigations were reported. One involved face contamination in the P10 operation, and the other, contamination encountered during excavation by a subcontractor. There were, additionally, 5 informal investigations. In none of these seven incidents was there actual overexposure of personnel.

The following trips were reported:

J.J. Davis - CIBS meetings in Columbus, Ohio.
 M.L. Barad - Stanford University
 K.E. Herde - Livestock conference, Washington State College
 W.A. McAdams - Water Works Conference, Washington State College (Civil defense)
 W.A. McAdams and H.M. Parker - Washington State Medical Assoc., Seattle, Wn.
 (Civil defense)
 H.M. Parker - AIEEE-IRE conference, Memorial Hospital, Columbia Univ. New York.
 A.A. Selders - ASA Meeting, Cincinnati; Botanical investigation, Iowa State College
 D.G. Warner - Special training, Washington State College

Health Instrument Divisions

Visitors included Dr. W. Claus - AEC, Washington, D.C.; and Dr. L.T. Alexander U.S. Department of Agriculture.

Dr. Alexander's visit materially helped to firm up the soil science program, and to confirm that substantial economies in required laboratories could be made over the original highly tentative reservation of funds. Some changes of scope in the agricultural field station program will also be made, as a result of this consultation.

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

<u>Inventor</u>	<u>Title</u>
None	None

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Health Instrument Divisions

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OPERATIONAL DIVISION

100 Areas

General Statistics *

	<u>September</u>					<u>October</u>					<u>1950</u>
	<u>B</u>	<u>D</u>	<u>F</u>	<u>H</u>	<u>Total</u>	<u>B</u>	<u>D</u>	<u>F</u>	<u>H</u>	<u>Total</u>	<u>To Date</u>
Special Work Permits	473	930	338	839	2580	1042	1329	373	713	3457	27,242
Routine & Spec. Surveys	367	705	426	468	1966	384	685	501	525	2095	18,765
Retention Basin	81	52	93	87	313	41	139	91	91	362	4,118
Air Monitoring Samples	360	110	133	157	760	213	223	121	137	694	5,963

Retention Basin Effluent

The activity of the water leaving the retention basin was as follows:

	<u>100-B</u>	<u>100-D</u>	<u>100-DR</u>	<u>100-F</u>	<u>100-H</u>
Power Level (MW)	335	330	350	305	400
Average beta dosage-rate (mrep/hr)	0.8	1.0	1.4	1.7	0.8
Average gamma dosage-rate (mr/hr)	1.4	2.5	3.0	3.3	2.3
Average total dosage-rate (mrep/hr)	2.2	3.5	4.4	5.0	3.2
Average integrated dose in 24 hrs. (mrep)	52	84	106	120	77
Maximum integrated dose in 24 hrs. (mrep)	110	125	144	173	98
Maximum integrated dose in 24 hrs. (mrep) 1950	120	139	144	173	194

100-B Area

Pile and Associated Buildings

Nozzle replacement and associated Van Stone flange work was completed without incident. Contaminated algae and dirt was removed from the center flume and north side of the retention basin. A leak in the effluent water line from the 1904 spillway to the river was repaired with concrete. Three cases of personnel contamination were reported following work in the discharge area; one case could not be reduced immediately by the prescribed methods. No contamination was detectable in this case on the following day.

* For brevity, general statistics previously listed separately for P-10, DR, P-11, Metallurgy Building, and Biology Laboratory, are now included in the appropriate area total.

Health Instrument Divisions

P-10 Operations - 108 Building

Urine analyses all read below 10 μ c/liter except for resamples on the two glassblowers who showed high samples last month. About 10 mc of the active gas was released to the atmosphere in the spectrometer room when a glass sample flask dropped and broke. A line operator was splashed in the face with contaminated carbon tetrachloride. The contamination was easily removed.

Metallurgical Laboratory - 111 Building

The manipulation of process tube sections and irradiated metal pieces was carried out without incident, although high dosage-rates were observed.

100-D Area

105-D Pile and Associated Buildings

High contamination levels in the discharge area continued despite attempts to improve the conditions by rinsing tip-offs in solvent. Condensate from the driers in the gas purification building amounting to about 8-1/2 gallons/day resulted from a process water leak which could not be isolated. The condensate showed the usual level of beta contamination.

High gamma and neutron fluxes were observed at the "B" experimental hole water line which now contains no cooling water. Low level contamination in the form of finely-divided solid was discovered on the concrete pad at the south side of the pile building. The source of the contamination could not be determined. Leaks observed around the north side of the retention basin resulted in some ground contamination in that area.

105-DR Pile and Associated Buildings

Surveys during startup indicated a void in the shielding between the near discharge riser and the corridor to the 40-ft. level at a point near the discharge area viewer. The dosage-rate at 350 MW was 70 mr/hr. Low intensity beams of gamma radiation were observed at several of the experimental holes. "Breathing" effects at some holes resulted in dosage-rates up to 600 mrep/hr due to escaping gas. Fast neutrons were found to be escaping at the T-seams on top of the pile.

In an attempt to drain water from the "B" and "D" experimental holes into a floor drain, water overflowed the drain and contaminated a section of floor to 5 roentgens per hour. Repeated washings reduced the contamination to a low level.

High neutron fluxes were observed at the "B" and "D" experimental holes while the water was off, and at the "Y" experimental hole following the installation of a neutron spectrometer. Additional shielding for the latter is contemplated.

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Health Instrument Divisions

DECLASSIFIED100-F AreaPile and Associated Buildings

An average of about 15 gallons of condensate/day was collected from the driers in the gas purification building following a process water leak. The activity of the condensate was 8.3 $\mu\text{c/cc}$. The leak has not been located.

Removal of samples from the experimental hole resulted in high exposure rates due to the difficulty in manipulating the equipment. Alignment of casks supported by chain hoists is difficult and usually results in high exposure to personnel. This plus the risk of breaking samples indicates that a redesign of this equipment is in order.

During the loading of special request casks, contaminated water spilled on to the floor of a railroad car, necessitating the removal of part of the flooring. Eleven cases of skin contamination occurred, and were all satisfactorily reduced.

Biology Laboratories

Exposure rates up to 1.5 roentgens per hour were encountered during the preparation of I^{131} solutions, and while taking blood samples from sheep fed with I^{131} . Urine and feces samples from sheep showed surface dosage-rates up to 2.2 rep/hr. Contamination found in the sink in the isotope preparation room was successfully removed.

P-11 Operations

Air samples were normal with a maximum of 2×10^{-9} $\mu\text{g Pu/cc}$ obtained during repairs to equipment. A leak in the product solution line resulted in the spread of 10 grams of plutonium to the floor and test equipment. Decontamination efforts consisted of swabbing up the liquid, removing the cocoon coating, and recovering the spots where contamination had penetrated cracks in the concrete. Another process leak resulted in contamination, which was successfully removed.

100-H Area

Thimble replacement and experimental hole manipulations were carried out without incident. Following the draining of the east side of the retention basin, gross leaks in both sides of the basin were apparent. Several springs developed along the river bank as a result of these leaks, but the activity of the water at these points was low.

P-11 Operations

Large amounts of contamination were encountered during changes and repairs in equipment but were well controlled.

DECLASSIFIED200 Areas - T and B PlantsGeneral Statistics

	<u>September</u>					<u>October</u>					<u>1950</u>
	234-					234-					<u>To</u>
	<u>T</u>	<u>231</u>	<u>235</u>	<u>B</u>	<u>Total</u>	<u>T</u>	<u>231</u>	<u>235</u>	<u>B</u>	<u>Total</u>	<u>Date</u>
Special Work Permits	326	44	206	229	805	318	42	248	327	935	8629
Routine & Spec. Surveys	510	367	485	456	1818	550	392	548	560	2050	19453
Air Monitoring Samples	604	463	1216	860	3143	744	573	1386	786	3489	32029
Thyroid Checks	35	--	--	77	112	117	--	--	46	163	1499

Canyon Buildings

In the T plant, 144 of 439 air samples showed results above 10^{-12} $\mu\text{g Pu/cc}$, with a maximum of 1.1×10^{-8} $\mu\text{g Pu/cc}$; 110 were above 10^{-10} $\mu\text{c f.p./cc}$, with a maximum of 3.7×10^{-8} $\mu\text{c f.p./cc}$. Seventeen scrubber samples for I^{131} showed only two above 10^{-9} $\mu\text{c I}^{131}/\text{cc}$, with a maximum of 1.7×10^{-9} $\mu\text{c I}^{131}/\text{cc}$.

In the B plant, 122 of 454 air samples showed results above 10^{-12} $\mu\text{g Pu/cc}$, with a maximum of 6×10^{-10} $\mu\text{g Pu/cc}$; 107 were above 10^{-10} $\mu\text{c f.p./cc}$, with a maximum of 5.6×10^{-7} $\mu\text{c f.p./cc}$. After installation of the silver reactor and filter in 4L cell, the operation of the dissolver occurred without incident.

Concentration Buildings

Normal maintenance work was completed in both T and B plants without incident. Discharge of plutonium from cell vents averaged 208 $\mu\text{g}/24$ hours in A cell at T plant, and 51 $\mu\text{g}/24$ hours in D cell at B plant.

Stack Areas

In the B plant, the south-east port-hole at the stack base showed a decrease in dosage-rate to 2.5 rep/hr.

Plant Laundry

Twenty of 59 air samples showed positive results, with a maximum of 1.6×10^{-6} $\mu\text{g U/cc}$ indicated while processing 300 Area clothing.

General

All thyroid checks were below the warning level.

The Isolation BuildingAir Sample Results

One hundred and two of 573 air samples were above 10^{-12} $\mu\text{g Pu/cc}$; the maximum

Health Instrument Divisions

of 1.6×10^{-8} $\mu\text{g Pu/cc}$ was obtained from the 903 duct system.

Operating Cells

Thirty-three regulated items and three floor locations were reported contaminated. There was no case of skin contamination. The installation of a new filter in the E leg effected further reduction in the plutonium contamination in the 903 system. The maximum level of gamma radiation encountered was 82 mr/hr on PR containers.

Development Laboratory

Fifteen micrograms of plutonium were spread to the floor in room 41 due to a leak in the glove box floor. The contamination was localized and successfully cleaned.

Purification Building

Air Sample Results

Two-hundred and seventy of 1386 air samples were above 10^{-12} $\mu\text{g Pu/cc}$. The maximum sample of 3.9×10^{-8} $\mu\text{g Pu/cc}$ was obtained inside the "greenhouse" in hood #5 during maintenance work.

234 Building - Operating Section

One incident of contamination spread involving 3 μg plutonium occurred at hood 8 in room 229 as the result of a ruptured glove. Four cases of skin contamination were effectively cleaned. Substantial improvement in the contamination status of rooms 222 and 223 was noted, but the status of room 228 remained unchanged, the average air concentration being 6.4×10^{-11} $\mu\text{g Pu/cc}$.

235 Building - Operating Section

Two cases of contamination spread, involving 40 μg plutonium, resulted from waste removal at hood 23 and a glove rupture at hood 22. Four cases of skin contamination occurred during glove ruptures at hood 22. Another small bomb explosion occurred in hood 10, and resulted in localized low-level contamination.

General Building

Two incidents of contamination spread occurred in room 170 where contaminated waste is stored, and involved an estimated 25 μg plutonium. The process transfer vacuum system showed increased air contamination, with a maximum of 1.3×10^{-10} $\mu\text{g Pu/cc}$ reported. The exhaust air from hoods 2 and 4 through 27 continued to average 10^{-10} $\mu\text{g Pu/cc}$. Confirmed positive air samples were obtained for the first time in the stack exhaust.

[Redacted]

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200 Areas Control Laboratories

	<u>T</u>	<u>B</u>	<u>231</u>	<u>234-5</u>
Items contaminated - not regulated	190	130	209	312
Skin contamination - alpha	1	4	3	2
Skin contamination - beta	1	2	-	-
Contaminated floor locations	22	91	14	207

A small fire in one of the hoods in room 34 of the Isolation Building resulted in skin contamination amounting to 100,000 d/m on the cheek of one employee. The contamination was removed at the Kadlec Hospital.

In the Purification building, an unexplained spread of 6 μg Pu was discovered in room 134. Contamination above 40,000 d/m was reported around the P-4 dry box in this room.

Particle contamination in particles per 1000 cubic meters was as follows:

<u>Location</u>		<u>September</u>	<u>October</u>
222 T	Outside	82.3	62.1
	Hallway	89.3	83.9
	Room 7	361.0	382.0
222 B	Outside	27.9	17.9
	Hallway	79.5	29.7
	Room 7	347.0	223.0

The 300 Area

General Statistics

	<u>September</u>	<u>October</u>	<u>1950 To Date</u>
Special Work Permits	88	73	1,223
Routine & Spec. Surveys	174	181	1,770
Air Samples	136	113	1,490

Metal Fabrication Plant

Twenty-five of 52 air samples were above 5×10^{-5} μg U/cc; the maximum being 2.7×10^{-3} μg U/cc during the unloading of rods. A close study of the unloading of uranium rods proved that the present time limits for the workers on this job are satisfactory.

During excavation for a new building, a contaminated area was uncovered and

Health Instrument Divisions

showed a maximum dosage-rate of 50 mrep/hr. The contaminated area was not posted before excavation, and records had not revealed the site as potentially contaminated.

Technical Building

Incidental operations involving radiation and contamination were carried out without difficulty. None of the 45 air samples taken was above 10^{-11} $\mu\text{g Pu/cc}$, or 10^{-10} $\mu\text{c f.p./cc}$.

Hand Score Summary

There were 43,668 alpha and 45,639 beta scores recorded. About 0.07% of the alpha and about 0.07% of the beta scores were high. No attempted reduction was indicated for 2 high beta scores at 100-D Area. Where decontamination was attempted, it was successful.

PERSONNEL METERS

Pencils

	100-B	100-D	100-F	100-H	E&N 200	200-W	300	Total	1950 To Date
Pencils read:	18363	16320	13897	9681	19628	33397	35066	146352	1,305,732
Single readings: (100 to 280 mr)	23	22	8	8	9	38	24	132	1,786
Paired readings: (100 to 280 mr)	1	0	0	0	0	0	0	1	24
Single readings: (Over 280 mr)	46	30	48	15	47	74	46	306	2,528
Paired readings: (Over 280 mr)	0	0	0	0	0	0	0	0	22
Lost readings:	3	1	1	1	0	1	0	7	47

One significant pencil reading reported for 100-B Area was confirmed by badge results, but did not constitute an overexposure.

Investigation of 7 lost readings indicated no possibility of an overexposure.

Badges

	100-B	100-D	P11-101P 100-F	100-H	200-E	R.R.T. 200-N	200-W	300	Total	1950 To Date
Badges processed:	2281	3596	3344	1838	1843	339	3563	6046	22850	220,395
Number readings: (100 to 300 mrep)	60	24	24	26	41	0	78	150	403	2,769
Number readings: (Over 300 mrep)	37	0	0	0	0	0	5	4	46	253
Lost readings:	4	1	0	1	1	0	2	4	13	94

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Lost readings were accounted for as follows:

Lost in processing	3
Packet lost in area	2
Wet film	2
Film not packaged	5
Damaged film	1
Total	13

Investigation of the above lost readings indicated no possibility of an over-exposure.

Badge Resume, Construction Areas

	<u>200-W</u>	<u>100-DR</u>	<u>Total</u>	<u>1950 To Date</u>
Badges processed:	1,637	2,831	4,468	27,058
Number readings: (100 to 300 mrep)	1	1	2	52
Number readings: (Over 300 mrep)	0	1	1	8
Lost readings:	0	2	2	13

Total badges processed 1950:	Operations	220,395
	Construction	27,058
	Total	247,453

In addition to the badge program, a total of 1,753 items of non-routine nature was processed during the month.

Slow Neutron Pencil Summary

	<u>100-B</u>	<u>100-D</u>	<u>100-DR</u>	<u>100-F</u>	<u>100-H</u>	<u>Total</u>	<u>1950 To Date</u>
Number of pairs issued	21	89	222	78	544	954	7,945
Number of significant readings	0	3	51	78	24	156	722
Number of significant readings (Above 50 mrem)	0	0	0	0	1	1	8

Investigation attributed the result above 50 mrem to faulty equipment.

Neutron Film

<u>Badges Processed</u>	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>200-W</u>	<u>Total</u>	<u>1950 To Date</u>
Personnel	17	129	75	203	40	464	2,530
Special	2	9	11	2	25	49	261

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CONTROL AND DEVELOPMENT DIVISIONCONTROL GROUPSSite Survey

Samples of drinking water, sanitary water, and tests wells indicated normal readings. The average activity densities of beta emitters in samples of backwash material from the Pasco filter plant was 5×10^{-7} $\mu\text{c/cc}$. Slight increases in the activity in the Columbia River were noted due to decreased dilution at this time of the year.

Measurements of the activity in the air were consistent with previous values. The average I^{131} concentration varied from 3×10^{-13} $\mu\text{c/cc}$ at Benton City to 2.6×10^{-11} $\mu\text{c/cc}$ at the east guard tower in 200-East.

The I^{131} activity in vegetation remained essentially constant in locations distant from the areas. Close to the areas, a slight decrease was noted due to an overall decrease in the amount of I^{131} in the dissolvers. Off-area surveys were made in the region of Eltopia, Connell, Pendleton, and Lewiston, with traces of activity in regions within 60 to 100 miles of stack.

The average activity density of the pile effluent water ranged from 4×10^{-4} to 8×10^{-4} $\mu\text{c/cc}$ with the maximum value at the 100-F Area. Analyses of the stack gas in the 200-West Area indicated about 18 curies/day liberation of I^{131} , or about 20% of the theoretical value in the metal. Analyses of the filters for plutonium indicate that about 0.5 to 2.0 mg/day are disposed of from this stack.

Bioassay

Six-hundred and thirty one samples were analyzed for plutonium, along with ninety samples for process control. The samples averaged 0.03 d/m, and the blanks averaged 0.05 d/m. The yield for spiked samples was 88%. One sample was greater than the resample limit of 0.33 d/m, and two sets of samples were rejected because of low recovery yields. Some difficulty has been encountered with poor quality stainless steel in the plates giving a residue on the final sample.

There were six-hundred and twenty two samples analyzed for fission products, along with ninety-six samples for process control. No sample read more than the arbitrary resample limit of 10 c/m.

One-hundred and eighty samples were analyzed on the fluorophotometer for uranium. The maximum result excluding one value of 250 $\mu\text{g/liter}$ believed to be due to sample contamination was 30 $\mu\text{g/liter}$.

There were five-hundred and eight measurements made on three-hundred and eight urine samples for tritium oxide content in the 222-U Laboratory. In

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addition, two-hundred and three samples were analyzed as process checks. There were fifty four values greater than 2 $\mu\text{c}/\text{liter}$, with twenty four of these due to one man who had a maximum reading of 25 $\mu\text{c}/\text{liter}$, on 9/27/50.

Control Laboratory

Operational tests on the Spinlab sample changer have been stopped with the conclusion that the mechanical difficulties encountered are too great to warrant further time or effort on the equipment. Difficulties have been encountered with erratic backgrounds during an individual day with the low background alpha counters and with erratic results from the standard alpha counters.

The extraction procedure for Pu and U in 50 gm vegetation samples following a combination dry ashing and wet ashing have given low yields. A revised procedure for analyzing for calcium, particularly in the presence of iron, has given satisfactory chemical yields of greater than 90%. Analyses of the retention basin samples continued with indications that the apparent calcium activity, previously reported, may have been augmented by carrying of other activities on this precipitate. A large part of the longer-lived activities appears to be in Group 2, with a major portion of this activity having a half-life of about three days.

A summation of the work performed is given below:

Laboratory:

<u>Type sample or Analysis</u>	<u>Number of Analyses</u>
Vegetation	1,662
Water	2,174
Solids	389
Fluorophotometer	489
P-10 (other than urine)	70
Miscellaneous	50
Total	4,834

Counting Room

Beta measurements	4,915
Alpha measurements	4,192
Control points	2,193
Decay curves (points)	1,844
Absorption curves (points)	476
Total	13,620

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	<u>Number of Routine Calibrations</u>		
	<u>September</u>	<u>October</u>	<u>1950 to Date</u>
<u>Radium Calibrations</u>			
Fixed Instruments			
Gamma	339	372	3,688
Portable Instruments			
Alpha	279	307	2,861
Beta	637	694	6,061
Gamma (Radium)	945	1,000	9,602
X-ray Scanning	4	2	22
Neutron	5	6	1,481
Total	1,870	2,009	20,027
Personnel Meters			
Beta	616	896	6,893
Gamma (Radium)	8,159	8,092	72,790
X-ray	8,514	8,138	66,703
Neutron	30	30	160
Total	17,319	17,156	146,546
GRAND TOTAL	19,528	19,537	170,261

Meteorology

<u>Forecasts</u>	<u>Number made</u>	<u>Percent Reliability</u>
Production	93	76.8
24-hour	62	76.0
Special	20	75.0

The total precipitation for the month of October was 2.46 inches, which is a new record for the month. There were sixteen rainy days during this period. The windstorm on the 27th was the outstanding feature of the weather. Peak average velocities of 40 mph at the 50-foot level, and 62 mph at the 400-foot level, were recorded between 0400 and 0500. Peak gusts at these levels were 63 mph and 80 mph, respectively. Temperatures during the month averaged 51.1° or 1.9° below normal. The lowest temperature was 34° on 10/23/50.

DEVELOPMENT GROUPSExperimental Meteorology

The work of this group is still in the planning stages with some theoretical aspects receiving consideration. Specifications have been drawn up for the

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construction of equipment for the study of the particle pickup problem.

Industrial Hygiene

Some measurements were made on the equipment for testing the various masks being used in the P-10 program. This preliminary work is being done with carbon-monoxide as the contaminating gas. After some characteristics of the equipment have been determined, it will be moved to the Biology building for tests under simulated operating conditions.

Work is continuing on the investigation of atmospheric contamination in the 314 Building in the 300 Area. These studies of individual sources of contamination are being studied in considerable detail to provide a backlog of information which will be useful for promoting improvements in operating procedures.

Geology

The activity densities of beta emitters in wells 361-T-12 and 241-T-361 increased significantly during the month for reasons as yet unknown. The maximum observed was 8×10^{-7} $\mu\text{c/cc}$.

Samples taken from well 321-1 during September, but which were not reported last month, and other samples taken during October indicate an increase in the alpha activity in the ground water by a factor of about four. About 230 pounds of uranium were discharged to the crib in this area during the month of October, making the total to date of about 770 pounds.

The other wells in the contaminated ground water zones gave results following the previously established trends.

Temperature measurements in well 303-3 near the new 300 Area waste pond indicated a stratification which was confirmed also for the activity levels in the water. Surface water had an alpha activity of about 80 dis/min/liter, while a sample from the bottom had only 16 dis/min/liter.

Beta activity density in a soil sample from beneath the 241-T second-cycle crib increased to 9×10^{-7} $\mu\text{c/gm}$, which is 50% over the level observed in September.

Soil Science

No experimental progress. Equipment is being obtained.

Methods Development

Studies of the electrostatic ozonizer used in the electrodeposition of plutonium have indicated increased yields of ozone by precooling the oxygen with dry ice. A new apparatus for the production of ozone by electrolysis of a 40% perchloric acid solution at a low temperature has been obtained on loan from

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the Technical Division for test. Yields of ozone have not been as high as anticipated, but the product was effective in oxidizing the plutonium. An apparent effect of the KOH used in the electrodeposition on the yield has been attributed to possible reduction of the plutonium.

Equipment has been designed and is now on order to study the collection of tritiated water from the air in a quantitative manner. A study is also being made of possible methods for the collection of tritium gas.

Physics

It has been found possible to reproduce the background level to within about 15% in a Landsverk electrometer unit when it is filled with the breath of an uncontaminated individual, if suitable precautions are taken to keep the chamber warm and to keep the instrument charged between runs. The sensitivity is calculated to be sufficient to test persons in the P-10 program, but at the present time none of these is contaminated to the extent necessary to make the test. Air saturated with water vapor works as a usable counter gas at reduced pressures. A special quenching circuit is being built to aid in obtaining data by this method.

The number of usable recoil proton tracks among those measured by the observers determining the neutron spectra has been increased by a factor of two by eliminating those tracks which differ from the horizontal by more than an easily observed amount in passing across one field diameter. Some of the tracks shorter than one field diameter must be rejected later.

The step wedges previously used to determine the energies of the gamma components in the radiations encountered in the 234-5 process have been used again to help determine the relative intensities of these components.

Instrument Development

A proportional counting air sampler for the P-10 program was completed, and field tested, with encouraging results. Twenty percent air in methane is drawn through a counting chamber at an intake rate of about 1 liter/minute, and pulses are counted with a NICO 162 scaler. The instrument is rather clumsy, and difficult to operate, but it is a usable method of measuring atmospheric contamination and obtaining results immediately without resorting to chemical manipulation. Further, no distinction between the element and its oxide is made. No controlled humidity experiments have been run, but results seem to be consistent within a fairly wide range of ordinary atmospheric humidities.

The study of proportional counting gases for use at atmospheric pressure is getting underway. Two purposes must be accomplished: to find non-inflammable mixtures for (a) transporting ions in a hand counter, and (b) mixing with air for atmospheric monitoring.

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Kanne chambers have been studied thoroughly, redesigned, and one design tested. Contemporary "standard" design is clearly intended for use at chamber pressures slightly less than atmospheric. In the present P-10 installation, it was found by pressure and the aforementioned air sampler measurements that there is considerable leakage. Two designs have been evolved; one for economical modification of existing chambers, the other for all new construction. The second design has two subdivisions, different only in material thickness; one for use up to two atmospheres, the other up to ten.

A scintillation alpha counting system for routine monitoring was finished and found satisfactory in laboratory tests. A zinc-sulfide phosphor and 5819 photomultiplier drive a modified "Coltman" amplifier which triggers a counting rate multivibrator and finally a variable pitch oscillator and loudspeaker. Operating controls consist of off-on switches, rate meter range selector, and speaker volume control. Oscillator pitch is to be pre-set by an instrument man so that the sound from one instrument may be easily distinguished from others in the near vicinity.

Field tests on the portable BF_3 counter were satisfactory, and the instrument was removed from the field to determine what engineering changes are needed in a production model instrument.

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BIOLOGY DIVISION

Analyses Group

1. Radioactivity in Carcasses

Nineteen aliquots of bone ash from cadavers used at the University of Oregon Medical School were received this month. Previously reported methods of solubilizing the sample for analyses were tested and improved. Trial runs in Ra determinations were completed using two methods: one involving the counting of Rn gas produced and the other the chemical separation of a Ra salt. It is hoped the two methods will give independent checks. Both are currently being checked with a standard Ra solution from the Bureau of Standards.

2. Alpha and Beta Analyses of Organic Material

A method for Sr^{90} analysis in vegetation was developed for future use.

A method for determining three groups of radioelements (Na, P, and others - Fe, Co, Zn, rare earths, and traces of Cu and As) in aquatic organisms was developed. This was done in attempts to establish correlations between activities in various organisms with changing environment.

A method for the separation of carrier-free radioisotopes using ionic migration in an appropriate media was successfully applied to a Sr^{90} - Y^{90} mixture, and is currently being tested for the possibility of separating Pm^{147} and Eu^{155} . Other applications are planned.

3. Radioelements in Organisms in Pile Effluent

Algae samples from the 107-F basin were analyzed for radio-titanium with negative results.

Three algae samples from the 107-F basin were analyzed for total alpha emitters using an ether extraction. Two samples were collected on 4/1/48 and 7/26/50, and were found to contain 62.5 d/m/g and 34 d/m/g, respectively. The third sample, collected on 10/4/50, gave positive indication of alpha emitters.

Analysis of a fresh sample of algae from the 107 pond revealed the presence of some short-lived Cu or As isotopes.

4. Physical Processes Affecting Methods for Isotope Use

Equipment for the standardization of I^{131} by gamma counting was constructed and put into use. Results have been satisfactory as to consistency, accuracy and man-hours saved.

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5. Waste Disposal Methods for Biological Specimens

No progress.

6. Physical Chemical Methods for Dosimetry due to Deposited Isotopes

No progress.

Services

Analytical services to other biology groups consisted of calibrating ORNL shipments of I^{131} , C^{14} , and $Sr^{90} - Y^{90}$, and a shipment of Pu^{238} from Berkeley; preparation of spike solution for animal and plant feeding; and the analysis of about 1400 samples. These are in addition to 2700 beta counts and to 600 decay and absorption curve determinations. This represents approximately a 20% increase in work load.

Aquatic Biology Group

1. Effect of Pile Effluent Water on Aquatic Organisms

The limited monitoring studies carried out during the summer with rainbow trout were concluded on October 25. The fish held in the most severe condition, a 5% concentration of uncooled area effluent water, were slightly smaller and suffered a slightly greater mortality than the controls. Statistical treatment will be necessary to determine any significance.

Full-scale monitoring was resumed with 45,000 chinook salmon eggs. Document HW-19016 describes these new studies in which 1% to 10% concentration of area effluent, cooled area effluent, pile influent, and pile effluent water are used.

2. Biological Chains

Activity density of the scales of yearling trout being held in 5% pile effluent water ($2.3 \times 10^{-5} \mu\text{c/cc}$) and fed a diet containing algae from the 107 basin is currently about $5 \times 10^{-3} \mu\text{c/g}$. This is approximately 5 times that of trout held in like water conditions but not feeding on contaminated algae, and 100 times that of controls held in river water ($10^{-6} \mu\text{c/cc}$).

This level of activity in the fish is the same as observed during August. Difficulties encountered with disease and prophylactic treatments during August and September did not recur during October, and the desired experimental conditions were maintained.

3. Radiobiological-Ecological Survey of the Columbia River

Collection of organisms from the 13 established shore stations was accomplished on a scheduled basis. Small fish are leaving the shallow water and be-

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coming increasingly difficult to obtain, and rising river levels resulting from heavy rains interfered with the collection of some bottom forms. Summer hatching of aquatic insects is completed, and the fauna of the river bottom is now assuming the winter composition.

Activity density of plankton and sponge in the river has shown a two-fold increase over last month, accompanying an increase of about 50% in activity of the water. Most organisms, including the juvenile fish, are only about half as radioactive as during September, however, due to colder water temperatures. The highest average activity density occurred in the plankton (10^{-2} $\mu\text{c/g}$) at Hanford. For large fish, a maximum activity density of 5.6×10^{-3} $\mu\text{c/g}$ was found in the scales of a chiselmouth captured at Hanford; with 1.6×10^{-3} $\mu\text{c/g}$ being the maximum value observed for flesh. An average of 16,000 planktonic organisms per liter was found in the river water at 100-F, showing a continued decline toward the winter minimum.

Aerial observations indicate that the number of chinook salmon now spawning in the Columbia River within the Hanford reservation is not quite as large as observed in October 1949.

4. Control of Algae in 107 Retention Basins

This new problem is being set up to assist in the development of a program for eliminating the growth of algae in the 107 retention basin by effective and inexpensive methods which will not be deleterious to aquatic life in the river. Tests with anti-fouling paints have been in progress for nearly a year (Dec. #HW-17933). They are to be extended to include larger painted areas and to establish the toxicity of the paints to fish. Applicability of specific algicides will also be investigated.

Biochemistry Group

1. Relative Biological Effects via Biochemical Systems

In order to determine the effects of X-radiation on riboflavin, as evidenced by microbiological assay, several standard curves have been run. Low actinic glassware for preserving riboflavin solutions has been obtained, and suitable quantities of bacterial media are being prepared.

2. Absorption of Pu from the G.I. Tract

The chronic oral administration of plutonium to 160 rats is about to be initiated. Dosing apparatus is ready and necessary solutions are being prepared. Experimental animals have been divided into 4 groups of 40 rats each. Each group will receive daily via stomach tubes 1 ml volumes of Pu^{238} (± 4) as the nitrate at the following dosage-levels: 1×10^{-6} $\mu\text{g/ml}$, 3×10^{-6} $\mu\text{g/ml}$, 1×10^{-5} $\mu\text{g/ml}$, and 3×10^{-5} $\mu\text{g/ml}$. In addition, 40 control rats will similarly receive daily 1 ml volumes of water. All solutions fed to the rats will be adjusted to pH 2.

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3. P-10 Hazards Biological Investigations

Body water of carcasses of 30 rats which have been exposed for 42 days in 108-B were analyzed for a composite biological half-life determination. Data indicates that the first biological half-life was from 4.7 to 5.6 days. It then gradually lengthened until it increased to about 10 days. This points to the probable existence of metabolic pools in addition to body water.

Following failure of a previous experiment, another attempt was made to determine the percutaneous absorption of tritium in a young swine using 0.2 curies of tritium gas. Periodic blood samples were taken, but analytical data are as yet unavailable.

The mouse experiment to determine the retention of tritium oxide intraperitoneally injected is virtually complete, except for analytical data. Preliminary results indicate that the initial biological half-life is about 1 day, increasing to 2 days or longer after several half-lives.

4. Possible Therapeutic Agents for Radiation Damage

No progress.

5. Percutaneous Absorption of Radioelements

Work not started.

Services

Project to set up a routine procedure for the determination of protein-bound iodine in plasma continues.

In the Biological Services Laboratory, 758 chemical, 996 hematological, and 105 bacteriological determinations, were carried out during the past month.

Botany Group

1. Separations Area Control Plot

Activity densities of alfalfa from the R-3 Danger Zone were 1 to 2 times as high as any previously reported from this area. Russian thistles were slightly lower than those of the previous month.

A Russian thistle plant growing at a location where plants have shown background readings in previous year ($< 7.6 \times 10^{-5}$ $\mu\text{c/g}$) had on 10/4/50 activity densities of 2.2 and 3.0 $\mu\text{c/g}$ of dry matter in leaves and stems. On 10/25/50 the activity densities were 1.9 and 2.7 $\mu\text{c/g}$, respectively. These results may be interpreted as indicating a new break or leak in this area. Arrangements to sample the soil in this area are now in progress.

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2. Agricultural Field Station

Similar to the previous month, routine sampling of vegetation and soil showed no significant differences between treatment and control plots.

Control water (from above 100-B), Botany Field Station irrigation water, and pile effluent water was added to columns (1½" x 3') of Botany Field Station soil. Uptake of activity by the soil is being observed, and comparisons will be made between equivalent amounts of waters added during short and prolonged periods. All filtrates thus far collected had activities of less than 0.1 count/m/ml above background.

3. Translocation of Radioelements in Plants

A study of the effect of several factors on the translocation of Y^{91} by the bean plant has been completed. A phloem injection technique was used in this study. From a nutrient medium at pH 4.0 Y was translocated to other leaflets on the same stem location as the leaf into which the Y was introduced. At pH 7.0, and in the presence of varying borate and phosphate concentrations, Y was not translocated. Varying the level of Y in the medium did not result in translocation of the element.

These results indicate that when Y is taken up by a root system and deposited in a plant organ, it probably remains and is not retranslocated. Yttrium is not absorbed in appreciable quantities by bean roots growing in a nutrient solution. The ratio of Y accumulation in roots to tops is very great, but the exact range of values is not known, largely because the present experiment did not result in radioactivity values significantly above background for the bean tops. Nutrient mediums of higher activity densities of Y will be used in the future.

Results of previous experiments on the absorption of Sr^{89} and Y^{90} by several plant species are being analyzed statistically.

4. P-10 Botanical Investigations

Apparatus was designed and built for exposing plants to tritium oxide and to tritium gas. A micro-organism known to contain a hydrogenase enzyme has been ordered and work on the purification of a compound suspected of being very important in hydrogen transfer is proceeding.

5. Effects of Radiation on Plant Life

A C^{14} tracer method was initiated and will be used in attempts to identify biological compounds that are susceptible to damage by ionizing radiations in in vivo experiments and to correlate susceptibility of specific compounds to damage with levels of ionizing radiations.

Physiology Group

1. Biological Effects of Active Particles - No progress
2. Bone Metabolism of Radioclements - No progress
3. Techniques in Autoradiography - No progress
4. Services

Preparation of the experimental animal and the collection of fluid samples during the course of an experiment on percutaneous absorption of tritium gas was accomplished in cooperation with the responsible investigator of the Biochemistry Group.

At the suggestion of those in biochemistry interested in the inhalation of tritium gas, a preliminary investigation was made to determine the tidal air volumes of the rat and mouse. The anesthetized animal was fitted with a tracheal cannula and a 3-way metal stopcock, equipped with small rubber flapper valves. Measurement of collected air per time interval was obtained from a spirometer coupled to a kymograph. For rats, a tidal volume of 2.2 cc, and a rate of 1.1 cc/sec., was observed. One mouse (30 g) had a tidal volume of 0.53 cc, and a rate of 0.26 cc/sec.

Animal rooms have been prepared with proper facilities for use with isotopes; most of the equipment has been received, and animal work on a more satisfactory scale can be started by several groups.

Zoology Group

1. Biological Monitoring

Waterfowl

Bone samples of four birds taken from the duck colony at 100-F all exhibited activity densities greater than the MPC for P^{32} , with mallards being higher than pekings. Maximum density detected was $0.004 \mu\text{c/g}$.

Wild waterfowl exhibited slightly higher activity in bone. Maximum value found was $0.005 \mu\text{c/g}$ in an American merganser, taken on the river above 100-F.

All waterfowl showed thyroid activity below the MPC for I^{131} ; with the exception of a Canada goose taken near 100-F, which exhibited a level of $0.05 \mu\text{c/g}$ in the thyroid. This density exceeds the MPC for I^{131} by a factor of 12.

Upland Wildlife

Thyroid samples from 28 ring-necked pheasants, taken at various localities in Eastern Washington during the hunting season, were assayed for beta activity density. The highest value found was $0.013 \mu\text{c/g}$ in a specimen taken at

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Twin Bridges, west of Richland. Four other samples from the same area showed detectable amounts.

Three samples from Benton City exhibited activity density greater than the MPC. The maximum value found was 0.01 $\mu\text{c/g}$; the minimum value was 0.006 $\mu\text{c/g}$. Specimens taken in the vicinity of Dayton, Pullman, Washtucna, Touchet, and Okanogan were below the MPC for I^{131} .

Upland forms taken within the environs of the Hanford Works were found to have thyroid activity density in excess of the MPC in over 50% of the cases. The maximum value found was 0.02 $\mu\text{c/g}$ in a northwestern horned owl taken at Rattlesnake Springs. Specimens from the vicinities of 100-F, 100-H, and Coyote Rapids exhibited thyroid activity densities about double the MPC level.

2. Toxicology of I^{131} in Stock Animals

All lambs are now weaned. Weight gains for lambs during the suckling period are as follows:

I^{131} Feeding Level in mothers	Number of Lambs	Weight gain in kg from birth to weaning
240 $\mu\text{c/day}$	16	24.2
5 $\mu\text{c/day}$	14	25.7
0.15 $\mu\text{c/day}$	22	30.8
0.005 $\mu\text{c/day}$	24	28.5
Control	24	27.8

It must be pointed out that generally the early lambs gained better than those lambing late in the season. The lambs in the 240 μc level and 0.15 μc level were the earliest lambs. Many in the 5 μc , 0.005 μc , and control groups were lambing late in the season; hence the apparent inconsistencies in the weight gain noted.

Necropsies on weaned lambs have also been completed. Autopsies of lambs from ewes receiving 5 μc or less of I^{131} per day were grossly negative. Visible lesions ascribable to radiation damage were noted only in the lambs whose mothers were receiving 240 μc of I^{131} daily. Gross damage was restricted to the thyroid and surrounding tissue where outstanding findings were a gross diminution in thyroid glandular tissue together with periglandular edema that extended to surrounding tissue. Hemorrhage in and around the thyroid was inconsistent. The report on histopathology observed will wait upon the completion of microscopic inspection of tissues of sacrificed lambs.

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One ewe that had been receiving 1800 μc of I^{131} for 5 months, and previously reported as prostrate, has expired. Abscessation was noted in the lungs and upper respiratory tract to include lymph nodes and one lobe of the thyroid. The thyroid gland consisted essentially of a shrunken fibrous band. One of her lambs that had been "grafted" to a ewe receiving 1800 $\mu\text{c}/\text{day}$ was sacrificed at weaning age. At that time this animal was unable to micturate and exhibited severe ventral edema.

Thirteen lambs (3 males, 10 females) weaned from mothers receiving 240 $\mu\text{c}/\text{day}$, and then placed on the same level of I^{131} as their mothers, have shown a wide variation in thyroid activity. Three lambs, including one set of twins, have displayed no detectable uptake; three others have less than 10% of daily feeding increment deposited; while yet another three have between 10% and 50% uptake. Four lambs (2 males and 2 females), including one set of twins, have shown a nearly typical deposition of between 100% to 120% of the daily increment. All thyroid activities have declined since reaching a maximum.

One ram lamb, from the control group, was fed 280 mc I^{131} on September 27, 1950. By the 15th hour after feeding, the thyroid of this lamb appeared to have reached a maximum concentration of about 200 mc. After this, the animal eliminated 95% of the deposited I^{131} from the thyroid during the next three days at a rate indicating a 16-hour effective half-life. After the third day, the rate of elimination from the gland approximated that of a 5-day effective half-life. The decay-elimination pattern was not typical of that expected by a normal animal. * This may indicate partial thyroid destruction.

Off-project control and replacement animals have now been transferred from the Irrigation Experiment Station at Prosser, Washington, to the Vocational Agriculture Department farm of the Columbia High School, Richland, Washington.

* Previous single tracer-dose studies of mature ewes revealed a maximum concentration is usually not attained until the 20th hour, at which time a fairly stable activity is maintained for about three days. The radioactive decay, translocation, and excretion then result in an effective half-life of 4.5 to 7 days.

26
UNCLASSIFIED

GENERAL ACCOUNTING DIVISION

October 1950

GENERAL

Payment of increased salary rates to weekly paid employees not represented by unions was included in salary checks distributed on October 13, 1950, as a result of General Salary Adjustment, effective September 18, 1950, announced on October 2, 1950. Payment of the retroactive portion of the adjustment was included in weekly salary checks distributed on October 27, 1950. Increased salary rates for monthly paid employees as a result of the adjustment, and the retroactive portion of the adjustment, were paid to monthly paid employees in salary checks covering the month of October.

Arrangements were completed in October for check-off of Union Dues for Medical Division employees who are represented by the Building Service Employees International Union, Local No. 201.

During October, assistance was rendered to the Employee and Community Relations Division in connection with plans for presentation of the new Insurance Plan which, if accepted by 75% of eligible employees, will become effective December 1, 1950.

H.W. Instructions Letter No. 53 covering company benefits for employees entering the Armed Forces was revised on October 19, 1950, to conform to certain changes made by the Company on a company-wide basis with respect to such benefits. The Atomic Energy Commission indicated their verbal approval of the changes covered by the revised instructions letter and formal Request for Reimbursement Authorization covering these changes was transmitted to the Commission on October 19, 1950.

Work is progressing in connection with quarterly budget reviews in accordance with the recent request received from A.E.C. Schedules are in the process of being completed which will include detailed statistical information as to estimated operating personnel and related costs. The budget estimates are being prepared by the General Accounting Division using personnel forecasts prepared by the General Divisions. Work is also progressing on the narrative justifications. These justifications will point out significant changes as compared with the prior submittal dated April 24, 1950.

Instructions were prepared and distributed to each Division Accountant relative to the handling of uncollectible accounts receivable in compliance with A.E.C. Bulletin GM-159, "Transfer to A.E.C. of Uncollectible Accounts of A.E.C. Cost-Type Contractors". These instructions outlined a procedure to be followed in processing the assignment of uncollectible accounts to A.E.C. on a uniform basis at the end of each calendar quarter.

As a result of recent increased purchasing activity, volume of work in Accounts Payable has increased proportionately. Number of accounts payable vouchers booked and number of checks issued increased 20% and 30% respectively.

General Accounting Division

In the recently completed Community Chest Campaign, General Accounting Division employees contributed \$683.50, which is 37% in excess of our quota. Participation was 98.8%. The average contribution of participating employees amounted to \$3.84.

Hanford Works cash disbursements and cash receipts, excluding advances from Atomic Energy Commission for the month of October as compared with September may be summarized as follows:

<u>Disbursements</u>	<u>September</u>	<u>October</u>
Material and Freight - GE	\$1 063 856	\$1 419 222
Payrolls - GE (Net)	2 214 615	1 918 808
Payments to Subcontractors	2 509 282	3 038 775
Other	<u>861 842</u>	<u>1 107 500</u>
Total	<u>\$6 649 595</u>	<u>\$7 484 305</u>
<u>Receipts</u>		
Rents	\$ 109 477	\$ 125 853
Hospital	39 810	50 785
Telephone	14 400	15 812
Bus Fares	8 078	10 299
Other	<u>32 697</u>	<u>130 951</u>
Total	<u>\$ 204 462</u>	<u>\$ 333 705</u>
Net Disbursements	<u>\$6 445 133</u>	<u>\$7 150 600</u>

Advances from A.E.C. were reduced from \$4,500,000 as of the end of last month to \$4,000,000 on October 31, 1950.

STATISTICS

Employees and Payroll

	Total	Monthly Payroll	Weekly Payroll
Employees on Payroll at beginning of month	7 770	1 846	5 924
Additions and transfers in	168	28	140
Removals and transfers out	(107)	(10)	(97)
Transfers from Weekly to Monthly Payroll	---	25	(25)
Transfers from Monthly to Weekly Payroll	---	(3)	3
Employees on Payroll at end of month	<u>7 831</u>	<u>1 886</u>	<u>5 945</u>

Employees on Payroll at end of month

	September	October
Manufacturing	3 325	3 349
Design and Construction	640	664
Municipal, Real Estate and General Services	674	671
Others	3 131	3 147
Total	<u>7 770</u>	<u>7 831</u>

Overtime Payments

Weekly Paid Employees	\$ 64 562	\$ 61 891
Monthly Paid Employees	11 282 (1)	22 190 (2)
Total	<u>\$ 75 844</u>	<u>\$ 84 081</u>

Number of Changes in Salary Rates and Job Classifications

759 921

Gross Amount of Payroll

Manufacturing	\$ 1 410 721	\$ 1 230 426
Design and Construction	256 853	254 557
Municipal, Real Estate and General Services	258 822	224 705
Others	1 168 939	1 039 238
Total	<u>\$ 3 095 335 (3)</u>	<u>\$ 2 748 926 (4)</u>

Annual Going Rate of Payrolls

Manufacturing	\$15 602 430	\$15 802 295
Design and Construction	2 915 908	3 127 113
Municipal, Real Estate and General Services	2 747 047	2 815 211
Others	12 732 192	13 251 232
Total	<u>\$33 997 577 (6)</u>	<u>\$34 995 851 (5)</u>

Average Salary Rate Per Hour (7)

	September			October		
	Weekly	Monthly	Total	Weekly	Monthly	Total
Manufacturing	\$2.062	\$2.727	\$2.182	\$2.073	\$2.803	\$2.206
Design and Construction	1.585	2.804	2.047	1.610	2.872	2.099
Municipal, Real Estate and General Services	1.801	2.252	1.940	1.834	2.317	1.987
Others	1.679	2.561	1.888	1.711	2.626	1.931
Total	<u>\$1.856</u>	<u>\$2.615</u>	<u>\$2.032</u>	<u>\$1.878</u>	<u>\$2.684</u>	<u>\$2.067</u>

- (1) Payments cover period from 16th of previous month to 15th of current month, except that in the case of Design and Construction Divisions, payments cover period August 1, 1950 to August 31, 1950.
- (2) Payments cover period from 16th of previous month to 15th of current month, except that in the case of Design and Construction Divisions, payments cover period September 1, 1950 to September 30, 1950.
- (3) Includes payment for the five (5) week period ended September 24, 1950 in the case of weekly paid employees.
- (4) Includes payments for the four (4) week period ended October 22, 1950 in the case of weekly paid employees. Also includes \$22,625.33 retroactive payment applicable to the month of September as a result of the General Wage and Salary Adjustment made effective September 18, 1950.
- (5) Includes new rates after giving effect to General Salary Adjustment effective September 18, 1950 for 4,636 employees not represented by Unions.
- (6) Does not include new rates resulting from General Salary Adjustment effective September 18, 1950 which was announced October 2, 1950.
- (7) Includes shift differential and isolation pay. Excludes overtime premiums, commissions, suggestion awards, etc.

General Accounting Division

Employee Benefit Plans

Pension Plan

	September	October
Number participating at beginning of month	6 524	6 509
New participants and transfers in	63	39
Removals and transfers out	(78)	(53)
Number participating at end of month	<u>6 509</u>	<u>6 495</u>
% of eligible employees participating	94.6%	94.5%

Employees Retired

	October	Total to Date
Number	5	151 - a)
Aggregate Annual Pensions Including Supplemental Payments	\$ 1 127	\$ 36 983 - b)
Amount contributed by employees retired	\$ 1 943	\$ 22 438
(a - Includes 5 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.		

Group Life Insurance*

	September	October
Number participating at beginning of month	5 746	5 726
New participants and transfers in	66	95
Cancellations	(6)	(15)
Removals and transfers out	(80)	(40)
Number participating at end of month	<u>5 726</u>	<u>5 766</u>
% of eligible employees participating	77.8%	77.7%

*Statistics exclude 46 pensioners as of the end of September and 47 pensioners as of the end of October who were granted lump sum pension settlements and who are paying premiums at Hanford Works.

Group Life Insurance Claims

	October	Total to Date
Number of Claims	3	48
Amount of Insurance	\$ 11 805	\$ 242 177

Group Disability Insurance (1)

Personal Coverage

	September	October
Number participating at beginning of month	3	2
New participants and transfers in	-0-	-0-
Cancellations	-0-	1
Removals and transfers out	1	-0-
Number participating at end of month	<u>2</u>	<u>1</u>

Dependent Coverage

Number participating at beginning of month	2	1
Additions and transfers in	-0-	-0-
Cancellations	-0-	1
Removals and transfers out	1	-0-
Number participating at end of month	<u>1</u>	<u>-0-</u>

General Accounting Division

Employee Benefit Plans (continued)

Group Disability Insurance (1) (continued)

Claims (2)

Number of claims paid by insurance company:

Employee Benefits

Weekly Sickness and Accident	2	2
Daily Hospital Expense Benefits	3	8
Special Hospital Services	3	6
Surgical Operations Benefits	3	6

Dependent Benefits Paid

Daily Hospital Expense Benefits	-0-	-0-
Special Hospital Services	-0-	-0-

Amount of claims paid by insurance company:

Employee Benefits	\$ 488	\$ 697
Dependent Benefits	-0-	-0-
Total	<u>\$ 488</u>	<u>\$ 697</u>

Premiums

Personal - Employee Portion	\$ 3	\$ 2
- Company Portion	2	1
- Total	<u>\$ 5</u>	<u>\$ 3</u>
Dependent- Employee Portion	\$ 1	\$ -0-
- Company Portion	-0-	-0-
- Total	<u>\$ 1</u>	<u>\$ -0-</u>
Grand Total	<u>\$ 6</u>	<u>\$ 3</u>

(1) Group Disability Insurance Plan was discontinued November 30, 1949. September and October statistics cover employees absent with continuous service who are participating in the Group Disability Plan. They were not actively at work on December 1, 1949, and therefore were not eligible to participate in the new Group Health Insurance Plan.

(2) Statistics are for claims paid during the month and do not necessarily indicate that claims were incurred during the month.

Group Health Insurance (1)

Personal Coverage

Number participating at beginning of month	7 050	7 093
New participants and transfers in	164	137
Cancellations	(4)	(4)
Removals and transfers out	(117)	(72)
Number participating at end of month	<u>7 093</u>	<u>7 154</u>
% of eligible employees participating	94.9%	95.2%

Dependent Coverage

Number participating at beginning of month	4 686	4 694
Additions and transfers in	64	97
Cancellations	(11)	(10)
Removals and transfers out	(45)	(33)
Number participating at end of month	<u>4 694</u>	<u>4 748</u>

General Accounting Division

Employee Benefit Plans (continued)

Group Health Insurance (1) (continued)

Claims (2)

Number of claims paid by insurance company:

Employee Benefits

Weekly Sickness and Accident	42	61
Daily Hospital Expense Benefits	56	136
Special Hospital Services	74	165
Surgical Operations Benefits	55	124

Dependent Benefits Paid

Daily Hospital Expense Benefits	147	200
Special Hospital Services	192	246
Surgical Operations Benefits	140	222

Amount of claims paid by insurance company:

Employee Benefits	\$ 10 242	\$ 19 946
Dependent Benefits	17 686	29 297
Total	<u>\$ 27 928</u>	<u>\$ 49 243</u>

Premiums

Personal - Employee Portion	\$ 15 249	\$ 15 382
- Company Portion	7 348 (3)	7 413 (3)
- Total	<u>\$ 22 597</u>	<u>\$ 22 795</u>
Dependent- Employee Portion	\$ 13 141	\$ 13 280
- Company Portion	10 465 (3)	10 577 (3)
- Total	<u>\$ 23 606</u>	<u>\$ 23 857</u>
Grand Total	<u>\$ 46 203</u>	<u>\$ 46 652</u>

- (1) Group Health Insurance Plan was made effective December 1, 1949.
- (2) Statistics cover only claims paid and not all claims incurred during the month.
- (3) Gross company cost before dividend.

Vacation Plan

Number of employees granted permission to defer one week of their 1950 vacation to 1951

	<u>October</u>			<u>Total to Date</u>		
	<u>Weekly</u>	<u>Monthly</u>	<u>Total</u>	<u>Weekly</u>	<u>Monthly</u>	<u>Total</u>
Manufacturing	0	0	0	138	55	193-a
Design and Construction	1	3	4	18	26	44
Municipal, Real Estate and General Services	1	4	5	29	26	55
Technical	0	0	0	26	35	61-a
Health Instrument	0	0	0	4	2	6
Employee & Community Relations	0	1	1	4	5	9
Plant Security & Services	0	1	1	86	24	110-1
Purchasing & Stores	3	2	5	21	8	29
Medical	1	1	2	8	3	11
General Accounting	5	1	6	11	3	14
General Administrative	0	0	0	0	1	1
Total	<u>11</u>	<u>13</u>	<u>24</u>	<u>345</u>	<u>188</u>	<u>533</u>

- (a - Total to date reduced by 1 cancellation
- (b - Total to date reduced by 2 cancellations

Annuity Certificates (For duPont Service)
Number issued

October
1

Total to Date
73

General Accounting Division

Employee Benefit Plans (continued)

U. S. Savings Bonds

Number participating at
beginning of month
New authorizations
Voluntary cancellations
Removals and transfers out
Transfers In
Number participating at
month end

Mfg.

D&C

Municipal, Real
Estate & General
Services

Other

Total

1 677	249	307	1 413	3 646
22	12	1	17	52
(34)	(4)	(10)	(34)	(82)
(4)	(3)	(6)	(26)	(39)
11	1	1	4	17
1 672	255	293	1 374	3 594
49.9%	38.4%	43.7%	43.7%	45.9%

Bonds issued

Maturity Value	\$80 550	\$12 000	\$13 125	\$62 175	\$167 850
Number	1 588	227	264	1 235	3 311
Refunds issued	34	6	7	35	82
Revisions in authorizations	21	12	6	21	60
Annual going rate of deductions					
G. E. Employees Savings and Stock Bonus Plan	\$694 177	\$101 244	\$112 297	\$547 244	\$1 454 962
General Electric Savings Plan	\$217 978	\$ 31 607	\$ 32 900	\$143 700	\$ 426 185
Total	\$912 155	\$132 851	\$145 197	\$690 944	\$1 881 147

Suggestion Awards

Number of awards
Total Amount of Awards

October

Total to Date

44	758
\$ 565	\$12 250

Employee Sales Plan

Certificates Issued
Certificates Voided

October

Major Appliances	Traffic Appliances	Total
31	804	835
1	14	15

Salary Checks Deposited

Richland Branch - Seattle First
National Bank
North Richland Area Office -
Seattle First National Bank
Richland Branch - National Bank
of Commerce
Out of state banks (Schenectady Staff)
Total

September		October	
Weekly	Monthly	Weekly	Monthly
726	846	721	856
11	7	10	7
153	131	164	140
---	2	---	2
890*	986	895**	1 005

*Week ended 9-24-50
**Week ended 10-22-50

Special Absence Allowance Requests

Number submitted to Pension Board

September
5

October
6

Absenteeism (Weekly Paid Employees)

January 1 to October 22

1949	1950
2.28%	2.32%

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING

Number of Employees	<u>September</u>	<u>October</u>
On Payroll at beginning of month	171	178
Removals and transfers out	(5)	(7)
Additions and transfers in	12	6
Number at end of month	<u>178</u>	<u>177</u>
Net increase (or decrease) during month	7	(1)
% of terminations and transfers out	2.9%	3.9%
% of absenteeism	3.06%	3.39%

Changes by division in number of Accounting Division employees during October were as follows:

General: No change

Accounts Payable: Decrease of one employee

One new hire
One transfer to Cost
One entered Military Service

Cost: Decrease of one employee

One transfer from Accounts Payable
One transfer to Budgets
One transfer to Pile Technology Divisions

General Accounts: No change

Plant Accounting: Decrease of two employees

One new hire
One transfer to Health Instrument Divisions
Two terminations

Weekly Payroll: Increase of three employees

Four new hires
One transfer from Special Assignments
One transfer to Manufacturing Power Division
One termination

Monthly Payroll: No change

Special Assignments: Decrease of one employee

One transfer to Weekly Payroll

Budgets: Increase of one employee

One transfer from Cost

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Internal Audit: No change

Injuries	<u>September</u>	<u>October</u>
Major	-0-	-0-
Sub-major	-0-	-0-
Minor	-0-	-0-

Number of Accounting Division employees as of October 31, 1950 were as follows:

	<u>Number of Employees</u>		
	<u>Non-Exempt</u>	<u>Exempt</u>	<u>Total</u>
General	3	3	6
Accounts Payable	12	1	13
Cost	13	1	14
General Accounts	16	1	17
Plant Accounting	19	2	21
Weekly Payroll	65	6	71
Monthly Payroll	15	2	17
Special Assignments	2	3	5
Budgets	5	1	6
Internal Audit	1	6	7
Total	<u>151</u>	<u>26</u>	<u>177</u>

Non-exempt employees may be summarized as follows:

<u>Classification</u>	<u>Number as of</u>	
	<u>9-30-50</u>	<u>10-31-50</u>
Accounting A	1	1
Accounting C	5	5
Accounting D	4	5
Business Graduate	16	15
Clerical Working Leader	5	4
Cost Clerk A	2	1
Cost Clerk B	1	1
Cost Clerk C	1	1
Cost Clerk D	2	2
Field Clerk C	1	1
General Clerk A	20	21
General Clerk B	41	42
General Clerk C	18	15
General Clerk D	8	8
General Clerk E	-0-	1
Office Machine Operator A	8	8
Office Machine Operator B	5	5
Secretary B	1	1
Steno-Typist A	2	2
Steno-Typist B	6	7
Steno-Typist C	4	4
Steno-Typist D	1	1
Total	<u>152</u>	<u>151</u>

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Open employment requests as of October 31, 1950 were as follows:

Accounting D	2
Business Graduate	7
General Clerk A	2
General Clerk B	2
General Clerk C	3
Total	<u>16</u>

General Accounting Division

	<u>September</u>	<u>October</u>
<u>Accounts Payable*</u>		
Balance at Beginning of Month	\$ 68 951	\$ 63 834
Vouchers Entered	879 902	1 125 367
Cash Disbursements	886 814	1 135 278
Cash Receipts	1 795	3 967
Balance at end of month	<u>\$ 63 834</u>	<u>\$ 57 890</u>
Number of Vouchers Entered	1 639	1 981
Number of Checks Issued	1 089	1 173
Number of Freight Bills Paid	278	282
Amount of Freight Bills Paid	\$ 5 134	\$ 3 699
Number of Purchase Orders Received	1 075	910
Value of Purchase Orders Received	\$ 210 365	\$ 202 805
<u>Cash Disbursements</u>		
Municipal, Real Estate & General Services	\$ 65 156	\$ 130 483
Design & Construction	2 766 196	3 355 449
General	3 248 961	3 211 749
Manufacturing	569 282	896 624
Total	<u>\$6 649 595</u>	<u>\$7 594 305</u>
Material and Freight	\$1 063 856	\$1 419 222
Lump Sum and Unit Price Subcontracts	154 800	332 015
CPFF Subcontracts		
Labor	1 831 945	2 223 455
Others	522 536	483 306
Payrolls (Net)	2 214 615	1 918 808
Payroll Taxes	289 308	429 088
U. S. Savings Bonds	147 533	147 763
General & Administrative Expenses	200 000	200 000
Advances to Subcontractors (Kellex Corp)	-0-	100 000
Miscellaneous	225 002	340 648
Total	<u>\$6 649 595</u>	<u>\$7 594 305</u>
<u>Cash Receipts</u>		
Municipal, Real Estate & General Services	\$ 97 662	\$ 135 292
Design & Construction	33 687	35 385
General	5 523 855	7 094 898
Manufacturing	9 525	11 732
Total	<u>\$5 664 729</u>	<u>\$7 277 307</u>

* General Divisions Only.

General Accounting DivisionDetail of Cash Receipts

	<u>September</u>	<u>October</u>
Advances from AEC	\$5 460 208	\$6 943 583
Rents	109 477	125 858
Hospital	39 810	50 785
Telephone	14 400	15 812
Scrap Sales	8 695	13 745
Bus Fares	8 078	10 299
Miscellaneous Accounts Receivable	4 622	9 739
Refunds from Vendors	3 930	5 985
Employee Sales	694	506
Educational Program	2 260	2 678
Income from Special Funds	-0-	63 066
All Other	12 555	35 251
Total	<u>\$5 664 729</u>	<u>\$7 277 307</u>

Number of Checks Written

Municipal, Real Estate & General Services	188	231
Design & Construction	321	398
General	1 089	1 173
Manufacturing	650	720
Total	<u>2 248</u>	<u>2 522</u>

Bank Balances at End of Month

Chemical Bank & Trust Company - New York		
Contract Account	\$1 358 410	\$1 684 083
Seattle First National Bank - Richland		
Contract Account	1 902 217	1 402 195
U. S. Savings Bond Account	218 332	185 703
Salary Account No. 1	20 000	20 000
Salary Account No. 2	30 000	30 000
Travel Advance Account	18 398	20 660
Seattle First National Bank - Seattle		
Escrow Account	57 496	57 496
National Bank of Commerce - Richland		
Contract Account - Manufacturing	330 717	203 376
Contract Account - Municipal, Real Estate & General Services	34 844	19 517
Total	<u>\$3 970 414</u>	<u>\$3 623 030</u>

Travel Advances and Expense Accounts

Cash Advance balance at end of month*	\$ 23 633	\$ 25 992
Cash Advance balance outstanding over one month*	550	1 231
Traveling and Living Expenses:		
Paid Employees	19 857	20 072
Billed to Government	17 515	17 376
Balance in Variation Account at end of month	6 137 Dr.	8 832 Dr.

* General Divisions Only.

General Accounting Division

Hospital Accounting

Accounts Receivable

Balance at Beginning of Month
Invoices Issued
Refunds
Cash Receipts
Payroll Deductions
Bad Debts Written Off
Adjustments

Balance at End of Month

September

October

\$116 522	\$118 771
49 694	51 066
613	795
39 809 Cr.	50 785 Cr.
7 777 Cr.	8 554 Cr.
500 Cr.	47 Cr.
28	69 Cr.

\$118 771

\$111 177

Scrap Sales

(a) Number of Sales
(b) Revenue (Not Including
Sales Tax)
Revenue to G.E.
Revenue to A.E.C. (Sale of
Tract Houses)

Total Revenue

Total to Date

October

257	10
\$264 172	\$ 13 745
34 586	1 863
<u>\$298 758</u>	<u>\$ 15 608</u>

General Accounting Division

ACCOUNTS PAYABLE

The number of vouchers booked in October increased 20% over September. The dollar amount of disbursements also increased. There were 1,981 vouchers recorded in October amounting to \$1,125,367 as compared to 1,639 vouchers in September amounting to \$879,901.

The number of checks issued also increased over September, as indicated below:

	<u>October</u>	<u>September</u>
Chemical Bank & Trust Company	403	339
Seattle First National Bank	770	750
Total	<u>1 173</u>	<u>1 089</u>

A total of 1,988 vouchers were paid in October, averaging 1.69 vouchers per check, which is the highest average we have had.

On October 31 there were 1,195 vouchers on hand requiring additional supporting data before they could be forwarded to A.E.C. for final audit. Details are as follows:

	<u>October</u>	<u>September</u>
Number on hand - Paid	249	201
Number on hand - Unpaid	946	889
Total	<u>1 195</u>	<u>1 090</u>

Of the 249 paid vouchers on hand, only 7 were more than 90 days old.

The number of freight bills paid in October again increased. The number has been steadily increasing the last four months. Total number paid was 282 compared with 278 in September.

The General Ledger Accounts Payable balance on October 31 was \$57,890.48. This is a decrease from September in spite of the fact that the volume and dollar amount of vouchers processed during the month greatly increased over September. Details of this balance by months, compared with September, are as follows:

	<u>October</u>	<u>September</u>	
May	\$ -	\$ 7.54	Dr.
June	-	70.19	Dr.
July	23.60	190.02	Dr.
August	1 125.97	61.16	
September	1 091.25	64 040.30	
October	<u>57 948.80</u>	<u>-</u>	
Total	<u>\$57 890.48</u>	<u>\$63 833.71</u>	

New purchase orders issued in October pertaining to General Divisions decreased substantially from September in number but decreased only slightly in dollar amount. Detail are as follows:

General Accounting Division

ACCOUNTS PAYABLE (CONTD.)

	October		September	
	No.	Amount	No.	Amount
New Purchase Orders	910)	\$202 805	1075)	\$210 365
Alterations	75)		64)	

During October discussions were held with personnel in the Stores Division and recommendations were made regarding the proposed new procedure which they are preparing pertaining to the handling of returnable containers.

BUDGETARY CONTROL

During the forepart of the month work progressed in compiling first quarter actual statistics of General Divisions' operating costs. This information was compiled for General Divisions' use in reviewing their FY 1951 budgets in order to comply with a formal request received from A.E.C. covering quarterly budget reviews.

The information compiled was shown on work schedules and distributed to all General Divisions together with letters of instructions requesting divisional personnel forecasts by quarters.

During the latter part of the month certain divisions returned their completed work schedules together with narrative justifications explaining forecasted increases and decreases. These schedules were reviewed and analyzed by the Budget Section as to the information contained therein. This section completed the schedules by calculating and inserting monetary amounts based on actual average costs and known changes reflected in the divisional forecasts.

Work schedules and letters of instructions covering the quarterly review of construction projects were also forwarded to all General Divisions. These were accompanied by a schedule showing the quarterly breakdown of construction projects sponsored by them as submitted by Hanford A.E.C. to Washington A.E.C. in August of this year.

Also in connection with the quarterly review of FY 1951 budgets, detailed work schedules were prepared and forwarded to Division Accountants and Division Heads with instructions requesting data on a quarterly basis of cash working capital and inventories for FY 1951.

The Research and Development Program Reports of the Technical Divisions were completed and documented. These reports were forwarded to the Technical Divisions for their review with the request that they add whatever other information necessary to make the reports more complete and accurate.

General Accounting Division

COST

General Divisions Operating Reports for the month of September were issued on October 16, detailed reports of Research and Development costs on October 20, and Consolidated Summary of Costs report for all Hanford Works Divisions on October 31, 1950.

Information relative to first quarter costs of Technical Research and Development Authorizations, as well as number of man-months worked on each RDA, was submitted to the Technical Divisions for incorporation in their quarterly RDA reports issued to the A & B Committee.

It was noted that Pile Technology Division was performing work of a control nature in connection with testing graphite received from the Great Lakes Carbon Company. Since AEC was handling the main contract with Great Lakes, arrangements were made to transfer this cost to A.E.C. The necessary codes were established to insure that such work would be properly identified.

Letters were issued on October 26 to interested divisional managers recording September costs and analyzing the major points of change from August to September. Letters to Technical and Health Instrument Divisions included a resume of costs of Research and Development Programs. A brief summary of unit costs for the month was included in the letter to Plant Security and Services Divisions.

At the request of the Health Instrument Development Division, two additional program codes were established for use by the newly organized Soil Science Group.

Based on first quarter operations, standard IME liquidation rates were reviewed and revised where necessary. Revisions were necessary due largely to overall wage increases and increase in the Continuity of Service Expense accrual.

During the month, work continued on the development of standard units to be used in liquidating costs of divisions other than those having applied labor. Plans will be submitted for approval next month and it is expected they will be made effective soon thereafter.

GENERAL ACCOUNTS

During October the General Accounting Division issued 1173 contract checks amounting to \$3,211,749, reflecting a decrease of \$37,212 in expenditures as compared with September.

Advances from A.E.C. were reduced from \$4,500,000 to \$4,000,000 and may be detailed as follows:

General Accounting Division

GENERAL ACCOUNTS (CONTD.)

	<u>October</u>	<u>September</u>
Cash in Bank - Contract Accounts	\$3 309 171	\$3 626 188
Cash in Transit	161 210	443 583
Expenditures Disallowed by A.E.C.	9 619	20 229
Cash in Bank - Salary Accounts	50 000	50 000
Travel Advance Funds	70 000	60 000
Advances to Subcontractors	<u>400 000</u>	<u>300 000</u>
Total	<u>\$4 000 000</u>	<u>\$4 500 000</u>

During October the A.E.C. approved reimbursement of the following items which had been disallowed in previous months:

GAO Informal Inquiry No. GE-36 (In Part)	
Brokerage Fees incurred by transferred employees	\$ 3 115
GAO Informal Inquiry No. GE-37	
Overtime payments to straight day workers	<u>9 000</u>
Total Allowed	<u>\$ 12 115</u>

The amount disallowed at the present time with respect to GAO Informal Inquiry No. GE-36 covering payments for expenses in connection with transferred employees was increased \$1,505 this month, making a total of \$9,619. This represents the balance of Expenditures Disallowed by A.E.C.

Due to increased travel expense, the Travel Advance account was increased \$10,000 this month.

The balance of Accounts Receivable-Miscellaneous decreased from \$6,513 to \$2,791 and may be summarized as follows:

Freight Claims	\$ 2 185
Travel refund claims against airlines	368
Billing to U.C.L.A. Department of Institutes and Lectures for lecture services rendered	185
All Other	<u>53</u>
Total	<u>\$ 2 791</u>

The above freight claims are being followed by the Traffic Section of the Purchasing Division and all other open balances by this section.

In order to comply with A.E.C. Bulletin GM-159, "Transfer to A.E.C. of Uncollectible Accounts of A.E.C. Cost-Type Contractors", instructions were prepared and distributed to each Division Accountant. The instructions outlined a procedure to be followed in processing the assignment of uncollectible accounts to A.E.C. on a uniform basis at the end of each calendar quarter.

During October 223 pairs of safety shoes were sold on payroll deduction. Since the start of this program, only four employees have terminated

General Accounting Division

GENERAL ACCOUNTS (CONTD.)

without paying for their shoes. Of those four, three have been collected and the fourth is in the process of collection.

A total of 105 Travel Expense Reports were processed during October amounting to \$14,099. Reimbursement was received from the A.E.C. in the amount of \$13,132; the balance of \$967 was charged to the Travel and Living Expense Variation Account. The open Travel Advances to Employees increased from \$23,633 to \$25,992 as of the end of the month.

Fiscal Year to date, the Travel and Living Expense Variation Account has been charged with \$8,832 (All Divisions). This reflects an increase of \$2,695 this month, of which \$677 was entertainment expense and \$2,018 the difference between expenses incurred by employees and reimbursements received from the A.E.C.

During the month work was begun revising Hanford Works Instructions Letter No. 14 covering Travel Expenses. The purpose of this revision is to set forth in one letter the policy covering travel expenses in connection with official business, transferred employees and newly hired employees.

In connection with that portion of Internal Audit Report IA-7, "Review of Comprehensive Liability and New York Workmen's Compensation Policy SL-1929374" which recommended that a claim register be set up and maintained, the work of entering detailed information in the register is 75% completed. To the date of this writing the Travelers Insurance Company has listed on their monthly billings a total of 488 claims. Information has been compiled upon 366 claims dating back to September 1946. It is expected that the register will be completed and in current operation before the close of November.

Memorandum Billings were received from Knolls Atomic Power Laboratory covering Engineering and Consulting Laboratory Assistance to Hanford in the amount of \$112,147, KAPL Assistance to Hanford of \$2,455, and Research Laboratory Assistance of \$521.

General Ledger Trial Balances were received from all Accounting Divisions by October 17, 1950. Hanford Works Financial Statements were completed October 19 and Consolidated Financial Statements on October 23, 1950.

Considerable time has been devoted to the improving of the Consolidated Inventories Report. These improvements will be incorporated in the October report. These improvements were made in order to obtain desired information for A.E.C. as well as fulfilling the requirements of our Budget Section.

General Accounting Division

INTERNAL AUDITING

Audit of Receiving and Shipping records, routines and procedures was begun on October 24. The purpose of the audit is to determine the effectiveness of the records, routines and procedures in connection with (1) receiving, handling and safeguarding of materials, (2) returning of materials to vendors, (3) disposition of damage claims, over and short reports and material exception reports, (4) accountability and handling of returnable containers and (5) the maintenance and operation of proper internal controls and sound accounting procedures.

On October 28 an audit of Hanford Works timekeeping procedures was begun. This initial study will primarily embrace those areas where time clocks are not in use.

During October the Washington State Tax Commission performed an audit of our records pertaining to State Business and Occupational Taxes, covering the period from September 1946 through June 1950. As a result of the audit, a Tax Assessment was issued to the General Electric Company by the State of Washington for approximately \$193,000 for disallowed deductions taken in prior returns, plus interest of about \$15,000. Following receipt of the Tax Assessment, an audit was made by Internal Auditing of calculations used by the State in arriving at the assessment made. A report will be issued in the next few days covering our findings; however, for the most part, the disallowances made by the State are legal matters, which will have to be ruled on for final disposition by our Law Division.

Two assignments, Audit of Excess Materials and Review of Mail Distribution System at Hanford Works, have been completed and reports will be issued in the near future.

The assignment covering Review of Memo Employee Sales was completed and a report of findings together with recommendations was submitted to Management.

MEDICAL ACCOUNTING

The balance in Accounts Receivable decreased from \$118,789 in September to \$111,177 in October, due primarily to an increase in cash payments of \$10,976.

Out-Patient invoices totaled 2,029 and amounted to \$10,440 in October as compared to 1,998 amounting to \$11,026 in September. This represented an increase of 31 invoices and a decrease of \$586.

Sales in October increased \$1,372 over September due to the increased patient-day census from 73.2 in September to 75.2 in October.

A total of 59 claims in the amount of \$1,773 was submitted this month to Fort Lewis for services rendered military personnel. Reimbursement on 27 claims totaling \$629 on prior months' billings was received during the month from Fort Lewis.

General Accounting Division

MEDICAL ACCOUNTING (CONTD.)

Listed below is a summary of accounts submitted to date to Yakima Adjustment Service for collection:

	<u>NUMBER</u>	<u>AMOUNT</u>
Accounts Submitted	154	\$28 332
Accounts Returned as uncollectible	12	3 916
Collections by Yakima Adjustment Service	21*	755
Collections on Accounts Recalled (10% basis)	7	414
Accounts Recalled	10	1 936
Accounts at Yakima Adjustment Service as of 10-31-50	112	21 311

*Note - Includes 13 accounts collected in full and 8 accounts partially collected.

Recasting of costs from September 1, 1946 through June 30, 1950, on the present basis of reporting costs, was completed this month and a comparison of unit costs per patient day was made. Comparison by calendar year of average loss per patient day is shown below:

<u>YEAR</u>	<u>LOSS PER ADULT PATIENT-DAY</u>
1946	\$ 17.39
1947	20.93
1948	17.37
1949	15.95
1950 (1st quarter only)	10.44

During the month the FY 1951 Medical Division budget was reviewed. As a result of the review, reductions were made in estimated Construction Medical costs. Hiring of construction personnel has been considerably below the original forecasts, on which the budget was based, therefore making the reductions necessary.

PLANT ACCOUNTING

Revisions to the Property Accounting Manual prepared by the Finance Office of the A.E.C. were submitted to General Electric for distribution. These revisions covered additions and changes to the Plant Accounts and were prepared with the assistance and advice of Plant Accounting personnel. It will be necessary to accordingly revise the Property Record Unit Catalog due to the changes made. These revisions will be prepared and distributed in the near future.

A representative of this office attended a staff meeting in the 200-East Area for the purpose of acquainting those present with Plant Investment Accounting policies and procedures. Representatives of the Maintenance, Instrument, Electrical, Patrol, Transportation and "S" Divisions were present at this meeting. Examples of Work Orders directly under the supervision of this group were discussed. Further meetings of this nature will be scheduled in other areas in the future.

General Accounting Division

PLANT ACCOUNTING (CONTD.)

The monthly "Reconciliation of Changes in Plant Accounts" was revised to include changes in Plant Accounts for Current Month, Fiscal Year to Date, and Total to Date.

An additional report has been developed and will be issued monthly entitled "Charges and Salvage Credit to Uninstalled Equipment". This report will list acquisitions of Uninstalled Equipment by source of charge and by type of equipment. Salvage Credits, as included therein, will represent actual salvage realized from the sale or trade-in of equipment. Salvage resulting from transfers to "Excess" will be shown separately.

General Accounting Division

PAYROLLS

During the month of October there were 107 removals from payroll, including five removals due to lack of work and two transfers to other units of the Company. There were 168 additions to the payroll, including two transfers from other units of the Company. The result is a net increase of 61 employees on the payroll.

* * * * *

Quarterly Federal and State Payroll Tax Reports were prepared and filed with the respective government agencies during the month of October. Checks were issued covering the employee's and employer's portion of such taxes.

* * * * *

H. W. Instructions Letter No. 53, covering Company benefits for employees entering the Armed Forces was revised on October 19, 1950 to conform to certain changes made by the Company on a company-wide basis, with respect to such benefits. The Atomic Energy Commission indicated their verbal approval of the changes covered by the revised instructions letter and formal Request for Reimbursement Authorization covering these changes was transmitted to the Commission on October 19, 1950.

* * * * *

During the month of October, Payroll Divisions prepared lists of those employees who had not taken all of their 1950 vacations. The lists, showing the name of the employee and number of days of vacation not taken as of September 30, 1950, were forwarded to each Division concerned.

* * * * *

There were 50 time cards received late in Weekly Payroll Division during the month. The highest number of cards received late in one week was 20 during the week ended October 29, 1950.

* * * * *

Approximately 106 500 items were addressographed during October, in addition to regular routine addressograph work. Addressograph work for other divisions has increased considerably during the last six months. The number of items, other than payroll items, addressographed in April, 1950 was 64 300.

* * * * *

Payroll deductions for Community Chest subscriptions aggregating \$10 200 were made from salaries of 2 656 employees.

* * * * *

Authorizations for deductions from payroll for the purchase of Safety Shoes were received from 194 employees in October.

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General Accounting Division

PAYROLLS (CONT.)

During October, 52 employees were added to the list of individuals authorized by the Divisions to pick up salary checks, U. S. Savings Bonds, and Custody Receipts. Forty-four employees were removed from the list. At October 31, 1950 there were approximately 663 employees so authorized.

* * * * *

Payment of increased salary rates to weekly paid employees not represented by unions was included in salary checks distributed on October 13, 1950 as a result of General Salary Adjustment, effective September 18, 1950, announced on October 2, 1950. Payment of the retroactive portion of the adjustment was included in weekly salary checks distributed on October 27, 1950. Increased salary rates for monthly paid employees as a result of the adjustment, and the retroactive portion of the adjustment, were paid to monthly paid employees in salary checks covering the month of October:

* * * * *

In October, preferential rates were eliminated in 67 instances where employees were transferred or reclassified. As of October 31, 1950 there were approximately 1 250 employees with preferential rates.

* * * * *

U. S. Savings Bonds having a maturity value of \$49 200 were withdrawn from the General Electric Employees Savings & Stock Bonus Plan during the month by 144 participating employees. The total number of bonds withdrawn was 1 001.

U. S. Savings Bonds and Custody Receipts covering purchases by employees through Payroll Deductions in September were delivered to employees on October 27, 1950. There were 832 U. S. Savings Bonds and 3 435 Custody Receipts delivered to employees.

As of October 31, 1950, percentage of Hanford Works employees participating in the G. E. Employees Savings and Stock Bonus Plan and General Electric Savings Plan, and the annual going rate of payroll deductions was as follows:

	<u>Mfg.</u>	<u>D & C</u>	<u>Municipal, Real Estate and General Services</u>	<u>Other</u>	<u>Total</u>
G. E. Employees Savings and Stock Bonus Plan	45.3%	34.3%	39.2%	39.2%	41.4%
General Electric Savings Plan	12.0%	7.7%	9.5%	8.8%	10.2%
Both Plans	49.9%	38.4%	43.7%	43.7%	45.9%

General Accounting Division

PAYROLLS (CONT.)Annual Going Rate of Deductions

	<u>Mfg.</u>	<u>D & C</u>	<u>Municipal, Real Estate and General Services</u>	<u>Other</u>	<u>Total</u>
G. E. Employees Savings and Stock Bonus Plan	\$694 177	\$101 244	\$112 297	\$547 244	\$1 454 962
General Electric Savings Plan	<u>217 978</u>	<u>31 607</u>	<u>32 900</u>	<u>143 700</u>	<u>426 185</u>
Total	<u>\$912 155</u>	<u>\$132 851</u>	<u>\$145 197</u>	<u>\$690 944</u>	<u>\$1 881 147</u>

* * * * *

New authorization cards for check-off of Union Dues were received by Weekly Payroll Division for 28 members of six unions affiliated with Hanford Atomic Metal Trades Council, as follows:

<u>Union</u>	<u>Number</u>
International Union of Operating Engineers, Stationary Local No. 280	7
International Chemical Workers Union, Local No. 369	13
International Brotherhood of Teamsters, Warehousemen, Garago Employees and Helpers, Local No. 839	3
Building Service Employees International Union, Local No. 201	2
Instrument Craftsmen's Guild	2
United Association of the Plumbing and Pipe Fitting Industry of the United States and Canada, Local No. 598	<u>1</u>
Total	<u>28</u>

Authorizations for check-off of Union Dues in effect at October 31, 1950, cover 638 employee members of fourteen Unions.

The agreement between the Building Service Employees International Union, Local No. 201, and General Electric Company covering certain employees of the Medical Division, which was executed September 13, 1950, provides for check-off of Union Dues for employee members who sign individual payroll deduction authorizations.

Arrangements were completed in October for check-off of Union Dues for Medical Division employees who are represented by the Building Service Employees International Union, Local No. 201.

* * * * *

Permission to defer one week of their 1950 vacations until 1951 was granted by Division Managers to eleven Weekly Paid employees and thirteen Monthly Paid employees. To date, permission to defer one week of 1950 vacations until 1951 has been granted to 345 Weekly Paid employees and 188 Monthly Paid employees.

* * * * *

Under the Group Health Insurance Plan, 502 claims for benefits by employees were forwarded to Metropolitan Life Insurance Company during the month and 961 checks amounting to \$49 940 were received from the Insurance Company covering payment of 634 claims submitted by employees for benefits under the Plan.

General Accounting Division

PAYROLLS (Cont.)

At the end of October, Bank Reconciliations were complete, as follows:

1. Weekly Payroll through Payroll No. 215, for the week ended October 8, 1950.
2. Weekly Salary Vacation Payroll through Payroll No. 215, for the week ended October 8, 1950.
3. Monthly Salary Payroll No. 49 for the month of September.
4. Bond Account for September.

* * * * *

A quarterly wage and salary report indicating the number of employees in each job classification as of September 30, 1950, segregated by divisions, and indicating the weighted average of employees in each classification was furnished to the Atomic Energy Commission on October 13, 1950. This report is submitted in accordance with verbal agreement between representatives of the Commission and representatives of the General Accounting Division reached in January 1950. Regulations governing the submission of these reports have not yet been issued by the Atomic Energy Commission.

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PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - OCTOBER 1950

SUMMARY

There were two lost time injuries during the month. The major injury frequency rate for the year to date is 0.319.

There were two minor fires in the industrial areas with no loss resulting.

Volume continues to increase in the General and Clerical Services Sections.

All records flow sheets have been prepared and forwarded to Divisions for approval. Work on the uniform filing procedure has been started in the Manufacturing Divisions.

Methods Studies and Forms control activities resulted in estimated savings of \$17,602 of which \$17,268 will be on a recurring basis for approximately two years.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - OCTOBER 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

	<u>Beginning of Month</u>	<u>End of Month</u>	<u>Increase</u>	<u>Decrease</u>
Staff	3	3		
Patrol and Security	590	594	4 (a)	
Safety & Fire Protection	136	139	3 (b)	
Office Services (General Services, Clerical Services, Records Control and Office Methods)	227	231	4 (c)	
TOTALS	956	967	11	

NET INCREASE: 11

(a) - Patrol and Security

- 3 - New Hires (Patrol)
- 3 - Transferred from other Divisions (Patrol)
- 2 - Terminations

(b) - Safety and Fire Protection

- 1 - New Hire
- 1 - Rehire
- 1 - Retirement cancelled
- 1 - Transferred from Technical Division
- 1 - Transferred to Health Instrument Division

(c) - General Services

- 1 - New Hire
- 1 - Transferred from Richland Fire Division
- 1 - Returned from Leave of Absence
- 1 - Removed from Roll due to Illness
- 1 - Termination

Clerical Services

- 10 - New Hires
- 1 - Transferred from Purchasing and Stores Division
- 7 - Transferred to other Divisions
- 2 - Terminations

Records Control

- 1 - Transferred from Power Division
- 1 - Transferred to Employee and Community Relations Division

Office Methods

- 1 - New Hire

Plant Security and Services Divisions

SAFETY AND FIRE PROTECTION

Injury Statistics

Days since last Major Injury

Accumulated exposure hours since last Major Injury

Major Injury Frequency Rate (1-1-44 through 10-31-50)

14
604,926
0.80

	<u>September</u>	<u>October</u>	<u>Year to Date</u>
Major Injuries	0	2	4
Sub-Major Injuries	3*	3	24
Minor Injuries	315	284	3,138
Exposure Hours	1,221,250	1,339,503	12,528,813
Major Injury Frequency Rate	0.0	1.49	0.319
Major Injury Severity Rate	0.0	0.009	0.002
Minor Injury Frequency Rate	2.58	2.12	2.50

*Two injuries reclassified from minor injuries to Sub-Major Injuries on 10-10-50.

Major Injury No. 70

At approximately 11:30 A.M., on October 9, an employee of the Health Instrument Division working in the 300 Area received a complete fragmented fracture of the middle phalanx of the right great toe when he was struck on the toe by a piece of billet. The injured was taking an air sample over the automatic billet cut-off saw which was in operation. The piece being cut off was of abnormal length and did not remain in the V block. It fell away from the saw and onto the injured's foot.

Major Injury No. 71

At approximately 1:30 P.M., on October 17, an employee of the Transportation Division working in the 300 Area received a fracture to his left hand. The injured, a heavy equipment operator, and a Serviceman were engaged in digging postholes using a mechanical earth auger. A hole was partially dug when a smooth rock came out on top of the auger blade as the unit was being raised to clean the blade. The injured reached over with his left hand to push this rock off the auger blade. His hand became caught between rock and rack gear of digger as the auger rose to the stop position.

Sub-Major Injury No. 185

At approximately 11:00 A.M., on September 22, 1950, an employee of the Transportation Division on loan to the Stores Division received a fracture of the left little finger when his hand was caught between a gas cylinder and side of a pallet. The injured was engaged in loading empty compressed gas cylinders on to a commercial truck. Several cylinders on the pallet started toppling toward him. When he tried to catch them, his hand got caught.

Sub-Major Injury No. 186

At approximately 9:30 A.M., on September 22, 1950, an employee of the Transportation Division received a tuft fracture of the right great toe. The injured was loading his cylinder truck in preparation to delivering compressed gas cylinders to the Areas. In attempting to move two cylinders at one time, the injured lost control and caused one to fall striking his toe.

Plant Security and Services Divisions

Sub-Major Injury No. 187

At approximately 2:00 P.M., on October 18, an employee of the Municipal Division incurred a diagonal fracture of the right great toe when it was struck by falling material. He was assisting in moving heavy material and did not have safety shoes or toe guards on at the time of injury.

Sub-Major Injury No. 188

At approximately 12:50 P.M., on October 20, an employee of the Transportation Division working out of the 1100 Area received a chip fracture to the left index finger when he hit his finger with a wrench which he was using as a hammer. He was attempting to repair equipment although he had been instructed not to do so.

Sub-Major Injury No. 189

At approximately 9:00 A.M., on October 23, an employee of the Railroad Maintenance Crew, Transportation Division, received a chip fracture of the left little finger when it was caught between a claw bar and an angle bar.

Safety Activities

Investigation procedures on minor injuries have been expanded due to a recent trend in questionable industrial injuries. The philosophy of classifying injuries also has been changed from that of fixing responsibility to the determination of their causes. A new type of injury report has been approved.

Investigation of the tank accident which occurred on October 26 at the 190-F Building and which was the act of sub-contractors, Morris-Knudson, has been conducted. Report of investigation is available.

Final acceptance inspection of 190-DR was completed during October.

A member of the Safety Division served as representative of the committee conducting the start-up inspection of 105-DR.

A study was concluded which improves the servicing and inspection procedures of chain falls throughout the plant. The results modify inspection periods and eliminate the needless frequent inspections of little used equipment.

The Maintenance and Safety Divisions are coordinating activities on the design of a practical self-contained welder's mask and respiratory supply combination for the purpose of providing safety as well as efficiency for jobs in the 200 Areas.

Favorable progress is being experienced in the Safety and Fire Prevention Program being conducted for the "S" Division Supervisor Trainees.

Equipment to maintain working pressure in the propane system in the 3706 Building during the winter months has been approved. Standards are being established for plant wide usage based upon experience gained by this installation.

All Safety Engineers in the Areas are now serving on the Area Civil Defense Committees.

Plant Security and Services Divisions

Safety Activities (Contin)

A member of the Safety Division now serves on a committee appointed by the Area Council to set up a safe procedure covering the handling of acetone in large volumes in the 100-H Area and proper ventilation required.

A Safety Engineer has been assigned and established with office accommodations in the Stores Division. His specific duties are to coordinate the inventory, handling and disbursement of all safety wearing apparel and equipment which is handled by the Purchasing and Stores Division. Also to review methods of distribution of solvents and/or materials considered explosive or toxic.

Fire Prevention Activities

On October 1, the Pasco Warehouse Fire Station was turned over to the US Army. On the same day, the 100-B Area Fire Station was reactivated with two men and an officer per shift on duty.

There were no fire alarms during the month in any of the Areas. Two very minor fires during this period were extinguished by employees and were investigated by a Fire Protection Engineer.

Building Surveys were completed on Building No. 182-B, No. 3717 and No. 284-E.

Acceptance tests were made of the fire mains and hydrants in the 100-DR Area.

In the 100-B Area, the fire alarm system wiring was changed to a one-loop system having both boxes and gongs on the same loop in place of a separate loop for each. This change will increase the reliability of the system.

A new procedure for the Electrical Division to follow in maintaining the fire alarm system in all Areas was placed into effect in the 100 Areas. It is expected to be put into effect in the other Areas next month. The new system will cause the Electrical Division to discover trouble on the system more promptly and provides a record of panel reading and work done.

Two fire trucks failed to operate when an attempt was made to pump water from the high tank valve pit in the 300 Areas. In the future, pumpers will be put through rigid tests every three months to show up weaknesses in the equipment.

The Supervisor of the Fire Protection Division attended the New Warehouse Planning Committee meeting and recommended that maximum undivided area be held down to 20,000 square feet.

Special Activities - Fire Prevention Month

Hand fire extinguishers were demonstrated in all Areas. In the 100-B, D, F, H, and White Bluffs Areas, 250 employees attended these demonstrations. In the 200-East and West Areas, 230, and in the 300 and 101 Areas, 785 attended.

Fire evacuation drills were held in the following buildings: Administration, 100-B, D, F, 200-East and West; office buildings 3702 and 3703, and laboratory building 3706, 300 Area; 101 Building.

Plant Security and Services Divisions

Fire Protection Activities (Contin)

Fire Inspection Committees were organized in all Areas. A report of their findings was forwarded to the supervisors responsible and the Fire Protection Engineers.

Committees of top management made inspections of all areas for good housekeeping conditions. No report has yet been received from these committees.

Two 16 mm sound movie films on fire prevention entitled "These are the Facts" and "Stop Fires - Save Jobs" were shown to 100 employees.

Industrial Fire Investigations

<u>Division</u>	<u>Area</u>	<u>No. of Fires</u>	<u>Cause</u>	<u>Loss</u>
Technical	200-West	1	Undetermined	None
Electrical	Outer	1	Electrical	None
Total		2	Total	None

OFFICE SERVICES DIVISION

General Services

Plant Laundry (Building 2723)

	<u>September</u>	<u>October</u>
Coveralls - Pieces	27,313	31,029
Towels - Pieces	7,515	7,397
Miscellaneous - Pieces	74,731	78,053
Total pieces	110,059	116,479
Total Dry Weight - Lbs.	148,098	159,797

Richland Laundry (Building 723)

Flatwork - Pieces	51,298	53,242 Lbs.
Rough Dry - Pieces	27,162	17,374 Lbs.
Finished - Pieces	2,339	2,291 Lbs.
Total Pieces	80,799	* 95,508 Pieces
Total Dry Weight - Lbs.	61,053	72,907 Lbs.

Monitoring Section (2723 Laundry)

Poppy Check - Pieces	85,278	87,037
Scaler Check - Pieces	115,780	121,621
Total Pieces	201,058	208,658

Plant Security and Services Divisions

General Services (Contin)

* 723 Laundry - Effective this month, the volume for the 723 Laundry is based on pounds rather than pieces which has been the practice in the past. Pieces, however, will be estimated on a basis of an average for the past months of 1.31 pieces per pound. This new method of recording volume has been put into effect in order to conform with recent commercial laundry poundage bids on flat, rough dry and finish work.

200-West Laundry - Heavy volume in 200-West Laundry is due to extended shutdown in 100-B Area in the past month.

Clerical Services

Mail Room Section

	<u>September</u>	<u>October</u>
Pieces of Internal Mail handled	442,417	523,324
Pieces of Postal Mail handled	62,295	72,502
Pieces of Registered Mail handled	1,053	1,017
Pieces of insured mail handled	262	336
Pieces of special delivery mail handled	320	286
	<hr/>	<hr/>
Total Mail Handled	506,347	597,465
Total Amount of Postage Used	\$ 1,626.62	\$ 1,743.67
Total Teletypes handled	4,399	5,549

Office Equipment Section

The stock of office equipment is almost entirely depleted. Effort is being made to get some deliveries on open orders and some relief is hoped for during the next month.

Work is continuing on the preparation of the A & B Committee request for the purchase of the balance of the year's requirements of office equipment. This should be ready to submit by January.

	<u>September</u>	<u>October</u>
Office Machines repaired in shop	265	360
Office Machines service calls	316	355
	<hr/>	<hr/>
Total Machines Serviced	581	715

Printing Section

The volume continues to be very heavy in this Section. Overtime was worked during the month to try to keep the backlog down.

Plant Security and Services Divisions

Printing Section (Contin.)

	<u>September</u>	<u>October</u>
Multilith Orders received	268	287
Multilith Orders completed	258	261
Multilith Orders on hand	84	110
Stencil and fluid duplicating orders received	936	1,091
Stencil and fluid duplicating orders completed	947	1,096
Stencil and fluid duplicating orders on hand	40	33

Stenographic Services Section

	<u>September</u>	<u>October</u>
	<u>Hours</u>	
Dictation and Transcription	24:00	0
Machine Transcription	24:10	13:20
Letters	307:25	31:10
Manual and Procedures	141:05	276:00
Duplicating--Stencils, Ditto	171:10	286:15
Special	495:45	623:25
Training	90:00	383:25
Unassigned Time	34:25	100:30
Meeting Time	12:00	12:00
Holiday and Vacation	104:00	0
Total	1,404:10	1,773:10
Employees loaned to other Divisions	683:15	937:50
Total Hours Available	2,087:25	2,711:00

Records Control Division

Quantity of records received, processed and stored:

Community Divisions	9	Standard	Storage	Cartons
Design and Construction Divisions	99	"	"	"
General Accounting Division	53	"	"	"
Health Instrument Division	155	"	"	"
Manufacturing Accounting Division	4	"	"	"
Medical Division	19	"	"	"
"P" Division	27	"	"	"
Plant Security & Services Divisions	4	"	"	"
Power Division	25	"	"	"
"S" Division	1	"	"	"
Stores Division	12	"	"	"

408 Standard Storage Cartons

Plant Security and Services Divisions

Records Control (Contin)

Records Services provided:	651
Records Cartons issued	362
Records reboxed, processed and stored:	714 Cartons
Records processed, crated and shipped to E. I. du Pont de Nemours Hall of Records, Newbridge, Delaware:	13 Cartons

All Records Flow Schedules have been typed and sent to Divisions for approval. About 10% have not been returned but will be within a week or ten days. A preliminary summary of the approved schedules has been made for review by the Records Committee. The manner of presentation of the schedules to the Atomic Energy Commission for approval has not been decided.

Records in Medical Division files on du Pont employees for time prior to Hanford works have been removed from these files and shipped to the du Pont Company in accordance with instructions from the comptroller of the du Pont Company. This amounted to thirteen cartons of records.

The Assistant Supervisor of the Records Control Division made a trip to Giffels and Vallet Company, Detroit, Michigan, to inventory their records created under Subcontract G-151. The inventory will be reviewed by the comptroller to determine if further steps regarding the records are necessary for General Electric Company protection under the contract.

Work on the uniform filing method has been started in the Manufacturing Divisions.

Forty-three of the sixty sections of shelving for the Records Center have been erected this month.

Records Services were 59% higher than last month.

Seven-hundred and fourteen cartons of records were reboxed into new cartons.

The Atomic Energy Commission is in process of microfilming vital records as agreed upon by their Records Officer. Manuals, etc. on this list delivered to them the first week in October have been filmed and returned.

Plant Security and Services Divisions

Office Methods Section

General Activities -

	<u>September</u>	<u>October</u>
Printing Orders reviewed	377	440
Printing Orders cancelled	29	24
New numbers assigned	180	216
Forms redesigned	26	32

Eighteen of the printing orders cancelled were for small quantities of forms that were available from either the originating division or Stores Stock.

Three orders were cancelled and forms currently being used by other divisions substituted.

Three orders were for obsolete forms and could not have been used if printed. One of these orders called for 50,000 8½ x 11 forms printed, on both sides.

The above twenty-four orders represent a savings of \$334.00.

Methods Studies -

Design and Construction Divisions method of reporting to the field the status of material and equipment required the use of 357 sheets of a form 11 x 17 inches. Master copies were kept current and photostats made twice each month for distribution to thirty-seven locations. Reproduction cost equalled \$1,572.00 per month. Instead of reporting on each item of material or equipment, a permanent index was established, referring to requisition number. Status reports by requisition number are now being issued on 8½ x 11 inch ditto sheets requiring only 110 sheets. Reproduction costs for the past two months have averaged approximately \$133.00 per month with considerably less clerical effort. In reproduction costs alone, a savings of \$17,268.00 per year has been created. This method is now being considered by Project Engineering Division.

Total estimated savings created by above activities were \$17,602.00 of which \$17,268.00 will be on a recurring two year basis.

PATROL AND SECURITY

General

On October 9 a temporary post was established in the 108-B Building, 100-B Area. This post is located on the third floor level and will control entrance of authorized personnel.

On October 10, the former 241-TX badge house, located at the northwest corner of the 200-West Area, was moved to a new location approximately 200 yards west of the U Building on First Avenue and became the main construction badge house for entrance to the West Area proper. It was occupied by Patrol, and the temporary shack serving as the main construction badge house was abandoned on October 30.

Plant Security and Services Divisions

Patrol and Security (Contin.)

A procedure was placed into effect October 10 whereby 700 Area patrol will check the keys in and out to the janitors in the 760 Building.

The new security film entitled "On Guard" was received October 12 and showings began at once. A new protection film entitled "Sabotage" was started at that time.

Revised instructions covering the preparation and distribution of the new minor injury report from the areas was issued October 12 as part of Operations Order No. 194.

On October 13, all Security Patrol khaki trousers were turned in to the Central Supply Section for repair and storage.

Effective October 18, General Order No. 39, Revision No. 1, was issued establishing Hanford Works Patrol service date as the date to be used in the event of force reduction.

Three Dodge Power wagons were assigned to the Security Patrol Division on October 19. One will be stationed across the river from Hanford, another at the Range and the third at the 200-East Area.

On October 23, six 4-wheel-drive Jeep station wagons were assigned to Security Patrol to replace military jeeps.

A procedure for use of fire extinguishers was made a part of the Security Patrol Training Manual on October 23.

A procedure explaining defensive tactics for the patrolman was also made a part of the Security Patrol Training Manual on October 23.

Construction started October 23 on the instrument building within the 300 Area.

The practice of pulling inactive construction badges after a 30-day waiting period was placed into effect October 24.

Effective October 25, the relief patrolman in the 234-5 Area will make frequent checks of Room 146 on Shift No. 1, Monday through Saturday, and on all shifts Sundays and holidays to see if the door is securely locked.

On October 25, a procedure was established for "Reporting and Conducting Searches for Missing Documents" by the Security Division. On October 5, a patrolman was placed on special assignment to check and aid in locating these documents declared lost or missing.

The Atomic Energy Commission took over the 701 Building, 700 Area, on October 25 and a procedure was established by Patrol for the checking of the doors and windows twice each night shift, plus the checking of same on all shifts Saturdays, Sundays and holidays. Any irregularities will be reported to the Atomic Energy Commission.

Three night inspections were made by the Duty Officers during the month.

Plant Security and Services Divisions

Patrol and Security (Contin.)

During the month, eight large buildings were moved under Patrol escort from the White Bluffs area to a location south of the 221-U Building and are to be used by construction personnel in conjunction with the MJ-4 Project in the 200-West Area. In addition to these eight large temporary buildings, numerous small temporary buildings were also moved into the 200-West Area.

Four temporary type buildings were moved into the 221-U exclusion area for use by construction personnel in conjunction with the MJ-4 Project, 200-West Area.

The movement of material and equipment from the 221-U Area in conjunction with the MJ-4 Project has been started. This material and equipment is being moved into an open fenced storage yard west of the 221-U slab yard.

Work was started on the 241-TX Tank Farm by the Atkinson and Jones service group. No special patrol protection will be required for this work.

All buildings and materials were moved from the northwest corner of the 200-West Area where the 241-TX Badge House formerly stood, and the fence and area were restored to their original status.

As a result of the two cases of breaking into and entering the Hanford arsenal, all firearms stored in that building were temporarily moved into the 100-H arsenal. All firearms not in current use at the Training School were also moved to that location.

Effective September 28, the operation of the 100-DR "limited" area badge house was discontinued, at which time the 100-DR construction area badge house was placed in operation. The inner construction fence was removed at that time.

Patrol

The 200 Areas handled 132 process escorts between the areas.

Requests handled totaled 359 consisting mainly of opening doors, buildings, gates and issuing keys for employees of other departments.

A total of 109 Unusual Incident Reports were received, consisting mainly of security violations, lost badges, pencils, contraband picked up at barricades, traffic accidents and fires.

A total of 763 pat searches were made of employees leaving the operating areas during the month.

Classified escorts totaling 313 were handled during the month.

A total of 85 traffic escorts were handled during the month.

A total of 523 construction personnel escorts were handled during the month.

Patrol made 18 ambulance runs for the Medical Division during the month.

Plant Security and Services Divisions

Patrol and Security (Contin.)

Practice evacuation was held as follows:

100-H Area	10-18-50	10:35 A.M.
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Practice Blackout was held as follows:

100-B Area	10-2-50	9:35 P.M.
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Practice Mobilization Plan A:

300 Area	10-8-50	9:55 A.M.
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Arrest Summary

	<u>September</u>	<u>October</u>
Warning Tickets issued	6	2
Verbal warning given	22	2
Citation tickets issued (Traffic only)	10	0

Accident Summary

Total Accidents	5	13
Government permits suspended	1	2

Training

The training courses held during the month were as follows:

	<u>Hours</u>
Safety	3/4
Health	1/4
First Aid	1/2
Security	1/2
Health Instrument Division Lecture	1 1/2
Machine Gun	3
M-8	1 1/2

Material necessary to commence formulating a Security Patrol Activities film on the aspects of sabotage was acquired.

A new Dodge power wagon, HO 1C-4961, was assigned and delivered to the Pistol Range. The weapons carrier, HO 1G-2081, formerly used at the Range was returned to the Motor Pool.

Records and material on file at the Training School were examined and obsolete material removed and the entire filing system renewed.

An instructor at the Patrol Training School attended an A.E.C. staff meeting to formulate plans for the making of the latest Security Patrol Activities film with reference to sabotage.

Plant Security and Services Divisions

Patrol and Security (Contin.)

Action was taken to procure material necessary to conduct a new Security Patrol competitive Safety Program.

All surplus weapons contained in the Contraband Room, Arsenal and Patrol Training School Building were transferred to the Arsenal at 100-H Area.

Security

The following sections to the security instructions under the heading of H. M. Instructions Letter No. 135 were revised during the month.

Section X "Authorization and Control of Visitors"

Section XXI "Material and Package Pass Procedure"

Section XXII "Procedure for Control of Personal Property of Subcontractors"

One-hundred General Electric employees received their "Q" orientation talk from representatives of the Security Division during the month.

There were 256 security meetings held and attended by 3,800 employees during the month.

A representative of the Security Division showed the film entitled "On Guard" at 43 meetings during the month. The film "Scrap of Paper" was shown at 12 meetings.

Security Bulletin No. 56 was issued on October 23, 1950.

Employee Clearance

Class "Q" clearances received on new employees this month	70
Class "Q" clearances received on new employees to date	6,917

Class "Q" clearances received on both old and new employees since February 17, 1947	11,377
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Normal "P" clearances awaiting change to "Q"	129
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Authorization Clearances issued this month	98
--	----

Visitor or Temporary Badges

<u>Area</u>	<u>September</u>	<u>October</u>
100-B	826	915
100-D	1,320	1,392
100-F	1,242	1,286
100-H	844	898
200-E	1,098	1,130
200-W	1,682	1,744
200-N	794	794
300	2,137	2,226
P-11	36	43
100-DR	43	51
TOTAL	10,012	10,450

Plant Security and Services Divisions

Patrol and Security (Contin.)

Statistical Summary of Outstanding Area Badges

	<u>September</u>			<u>Total</u>		<u>October</u>			<u>Total</u>
	A	B	C			A	B	C	
100-B	1895	554	444	2893	100-B	1912	521	440	2873
100-D	963	960	459	2382	100-D	980	947	461	2388
100-F	675	1182	399	2246	100-F	690	1180	381	2251
100-H	1702	1011	499	3212	100-H	1709	1019	495	3223
200-E	969	1880	323	3172*	200-E	986	1895	323	3204*
200-W	1430	1446	303	3179	200-W	1474	1412	303	3189
200-N	32	842	121	995	200-N	36	839	121	996
300	1339	1730	708	3777	300	1306	1705	708	3719
P-11	52	2		54	P-11	55	3		58
100-DR	2988	7		2995	100-DR	3061	7		3068

*Includes 39 "A" badges at
Riverland Yards

*Includes 39 "A" badges at
Riverland Yards

Special Clearance Section

Following is a statistical summary of clearance status of vendor and consultant vendor companies:

Total companies forwarded to the AEC this month	10 Personnel:	21
Total companies forwarded to the AEC last month	6 Personnel:	81
Total companies forwarded to the AEC to date	305 Personnel:	2,677
Total companies cleared for "Restricted Data" this month	5 Personnel:	13
Total companies cleared for "Restricted Data" last month	3 Personnel:	5
New companies forwarded to the Atomic Energy Commission this month:		

Vickers, Incorporated
Seattle, Washington

RCA Service Company, Inc.
911 North Orange Drive
Hollywood, California

Number and type of clearance granted by the Atomic Energy Commission this month to vendors and consultants:

Emergency Approval	6
Formal "P"	8
Formal "Q"	8

HANFORD WORKS
General Electric Company
Richland, Washington

DECLASSIFIED

REPORT OF VISITORS FOR PERIOD ENDING OCTOBER 31, 1950

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data</u>	
					<u>Class.</u>	<u>Unclass</u>
ACCOUNTING DIVISION						
I. Visits to other Installations						
K. L. Robertson to: Knolls Atomic Power Lab. Schenectady, New York	Accounting and financial matters	R. Turner	10-11-50	10-13-50		X
ACCOUNTABILITY DIVISION						
I. Visits to other Installations						
V. D. Donihee to: U.S. Atomic Energy Comm. New York, New York	Conference on SF Account-ability matters.	S. R. Gustavson	10-18-50	10-19-50		X
V. D. Donihee to: Oak Ridge National Lab. Oak Ridge, Tennessee	Conference relative to new procedures concerning SF Accountability reports	W. C. Youngs, Jr.	10-29-50	10-31-50		X
E. N. Wooley to: Oak Ridge National Lab. Oak Ridge, Tennessee	Accounting systems, measurements and reporting SF materials	W. C. Youngs, Jr.	10-29-50	10-31-50		X
MEDICAL DIVISION						
I. Visits to other Installations						
W. D. Norwood to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Attend meeting of industrial physicians and quarterly meeting	Dr. T. Shipman D. Brown	9-27-50	10-3-50		X

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
					Areas	

DESIGN AND CONSTRUCTION DIVISIONS

I. Visits to other Installations

B. R. Elder to: Argonne National Lab. Chicago, Illinois	Fabrication and properties of zirconium	K. F. Smith S. Skinner A. Amorosi	10-2-50	10-2-50	X	
B. R. Elder to: Battelle Memorial Inst. Columbus, Ohio	Discuss progress of Reactor Division and properties of zirconium	H. Saller H. R. Nelson	10-3-50	10-3-50	X	
B. R. Elder to: Knolls Atomic Power Lab. Schenectady, New York	Discuss progress of Reactor Division	A. U. Seybolt	10-4-50	10-4-50	X	
B. R. Elder to: Atomic Energy Commission New York, New York	Discuss procurement of gadolinium oxide and properties of titanium	F. Gauch	10-5-50	10-5-50	X	
R. C. Hollinghead to: Kellogg Corporation New York, New York	Consultation on problems in connection with installation of pulse generator	J. S. Atwood	10-9-50	10-15-50	X	
R. C. Mann to: Kellogg Corporation New York, New York	Consultation and engineering study of specifications and drawings	J. S. Atwood J. F. Shelane	10-30-50	11-10-50	X	
J. W. Mercke to: Knolls Atomic Power Lab. Schenectady, New York	Interview for job assignment	R. S. Neblett B. R. Prentice	10-20-50	10-20-50	X	
G. Thayer to: Argonne National Lab. Chicago, Illinois	Consultation on equipment for 432 Project	H. L. Hull	10-9-50	10-9-50	X	
G. Thayer to: Gen. Eng. & Con. Lab. Schenectady, New York	Consultation on equipment for 432 Project	D. H. Marquis	10-11-50	10-19-50	X	

DECLASSIFIED

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
R. R. Henderson to: Willamette Iron & Steel Portland, Oregon	Consultation on hot waste tank to be fabri- cated for Waste Disposal System	D. H. Holeman	10-16-50	10-17-50		X
R. F. Klein to: Puget Sound Naval Shipyard Bremerton, Washington	Consult on test assem- bly being manufactured	S. L. Allison	10-5-50	10-8-50	X	
E. P. Peabody to: Leland S. Rosener San Francisco, California	Discussion of outside utilities on project C-394	L. S. Rosener, Jr. L. S. Rosener, Sr.	10-16-50	10-20-50		X
W. C. Royce to: Leland S. Rosener San Francisco, California	Discussion of outside utilities on project C-394	L. S. Rosener, Jr. L. S. Rosener, Sr.	10-16-50	10-20-50		X
J. R. Wolcott to: Willamette Iron & Steel Portland, Oregon	Consultation on ship- ment and inspection of equipment mock-ups	D. H. Holeman G. Smith	10-16-50	10-17-50		X
II. Visitors to this Works						
E. S. Baker General Electric Company Schenectady, New York	Inspection of 234-5 Project	W. P. Ingalls G. S. Cochrane	11-1-50	11-1-50	X	200-W 234 235
A. A. Batza Gen. Eng. & Con. Lab. Schenectady, New York	Installation of Task I, Project 432, RG Line	G. Thayer	10-23-50	12-23-50	X	200-W 231 234 235
A. S. Parry General Electric Company Schenectady, New York	Work on desk of electric distribution faciliti- ies	J. G. Carriere E. P. Peabody G. H. Hill	10-23-50	10-28-50		X 200-E XXX 200-W XXX
R. L. Loftus North American Aviation Co. Downey, California	Discuss heat transfer and NPR Program	H. S. Isbin	10-24-50	10-25-50	X	

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass Areas
R. L. Stoker North American Aviation Co. Downey, California	Discuss heat transfer and NPR Program	H. S. Isbin	10-24-50	10-25-50	X	
P. R. Matthews Knolls Atomic Power Laboratory Schenectady, New York	Consultation on shield- ing problems	R. T. Jaske R. L. Dickeman	11-7-50	11-10-50	X	300 3706 100-D 105
A. H. Rau Gen. Eng. & Con. Lab. Schenectady, New York	Consultation on draft- ing organization, practices and procedures	J. G. Carriere G. H. Hill	9-25-50 10-6-50	10-6-50 10-11-50	X X	100-D Const. 300 3706, 303 200-W 221-U 231 100-D 105

EMPLOYEE AND COMMUNITY RELATIONS DIVISION

I. Visits to other Installations

H. E. Scott
to: Knolls Atomic Power Lab.
Schenectady, New York

Discuss manpower
requirements for
Hanford Works

W. S. Macauley
W. H. Milton, Jr.

HEALTH INSTRUMENT DIVISIONS

I. Visits to other Installations

M. L. Barad
to: Stanford University
Palo Alto, California

Discuss H. I. Develop-
ment work

P. A. Leighton

X

H. M. Parker
New York, New York

Attend AIEE-IRE conference - -

10-20-50 10-30-50

X

H. M. Parker
Seattle, Washington

Attend AEC conference
and present paper at Wash. St. Med. Assoc.

10-4-50 10-6-50

X

W. H. McAdams
Seattle, Washington

Attend AEC conference - -

10-4-50 10-6-50

X

CONFIDENTIAL

- 5 -

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data</u>	
					<u>Class</u>	<u>Unclass</u>
						<u>Area:</u>
W. A. McAdams to: Pullman, Washington	Address Water Works conference	- -	10-20-50	10-21-50		X
W. Singlevich to: Idaho Operations Office Arco, Idaho	Discuss Arco background survey	L. J. Deal L. E. Johnson	10-25-50	10-26-50	X	
K. E. Herde to: Washington State College Pullman, Washington	Attend Livestock conference	- -	10-2-50	10-3-50		X
D. E. Warner to: Washington State College Pullman, Washington	Special training course	- -	10-2-50	10-13-50		X
A. A. Selders to: Atomic Institute Iowa State College Ames, Iowa	Discuss botanical investigations	F. H. Spedding W. E. Loomis	10-30-50	10-31-50	X	
II. Visitors to this Works						
Dr. L. T. Alexander U. S. Dept. of Agriculture Washington, D. C.	Consultation on soil problems	H. M. Parker	10-18-50	10-19-50	X	100-F 108 200-W 221-U 200-E XXI
Dr. L. E. Farr Brookhaven National Lab. Upton, L.I., New York	Discuss general prob- lems pertaining to radiation medicine	W. D. Norwood (Med Div) H. A. Kornberg	10-5-50	10-6-50	X	100-F 108
R. W. Schmitzer General Electric X-ray Corp. Milwaukee, Wisconsin	Supervisory engineer responsible for disman- tling and packing an X-ray machine for shipment	H. M. Parker	10-25-50	10-26-50		X 300-XXX

INSTRUMENT DIVISION

I. Visitors to this Works

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data</u>		<u>Areas</u>
					<u>Class</u>	<u>Unclass</u>	
K. E. Atwood Bailey Meter Company Cleveland, Ohio	Consultation on instrumentation problems	W. M. Mathis	10-18-50	10-18-50	X		100-D 105-DR 200-W 221-U

PROJECT ENGINEERING DIVISIONS

I. Visits to Other Installations

H. J. Bellarts Supervise testing work S. L. Allison

to: Puget Sound Naval Shipyard on high pressure, high temperature pop valve, project C-379

10-30-50 10-31-50 X

J. E. Hughes
to: Winfield Smith Corp.
Springville, New York

10-9-50 10-9-50 X
10-26-50 10-28-50 X

J. E. Hughes
to: Eastern Industries Co.
Norwalk, Connecticut

10-10-50 10-10-50 X

MANAGEMENT

I. Visits to other Installations

D. W. McLanagan
to: Knolls Atomic Power Lab.
Schenectady, New York

10-25-50 10-27-50 X

II. Visitors to this Works

E. S. Baker
Nucleonics Department
General Electric Company
Schenectady, New York

10-31-50 11-3-50 X

D. L. Millham
General Electric Company
Schenectady, New York

10-15-50 10-17-50 X

100-D 105
200-W 221-T,
221-U, 231, 234, 235

RECEIVED
OCT 24 1950

Name - Organization

W. H. Milton, Jr.
General Electric Company
Schenectady, New York

H. A. Winne
General Electric Company
Schenectady, New York

W. S. Macaulay
General Electric Company
Schenectady, New York

MANUFACTURING MANAGEMENT

I. Visitors to this Works

E. F. Miller,
Division of Production
Atomic Energy Commission
Washington, D. C.

T. R. Young
Knolls Atomic Power Lab.
Schenectady, New York

F. B. Campbell
Knolls Atomic Power Lab.
Schenectady, New York

P. S. Dickey
Bailey Meter Company
Cleveland, Ohio

II. Visits to other Installation

J. E. Maider, Jr.
to: Los Alamos Scientific Lab. Project
Los Alamos, New Mexico

Purpose of Visit

Discuss contract with
AEC

Discuss contract with
AEC

Discuss contract with
AEC

Person Contacted

G. R. Prout
F. K. McCune
G. C. Butler

G. R. Prout
F. K. McCune
G. C. Butler

G. R. Prout
F. K. McCune
G. C. Butler

Arrival Departure Restricted Data
Class Unclass Areas

10-15-50 10-17-50 X

100-D 105
200-W 221-T,
221-U, 231, 234, 235

10-15-50 10-17-50 X

100-D 105
200-W 221-T,
221-U, 231, 234, 235

10-15-50 10-17-50 X

100-D 105
200-W 221-T,
221-U, 231, 234, 235

Inspection of 105-D

10-2-50 10-6-50 X 100-D 105

Discussion of mainten-
ance problems of hot
apparatus

10-30-50 11-2-50 X 100-F 105

Training Program

9-5-50 10-13-50 X

Inspection of instru-
mentation facilities

10-17-50 10-18-50 X 100-D 105
200-W 221-U

DECLASSIFIED

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Class	Restricted Data	Unclass	Areas
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"S" DIVISION

I. Visits to other Installations

R. S. Bell to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Discuss specifications and production schedules and forecasts	M. Roy	10-29-50	11-2-50			X	
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J. P. Derouin to: Gen. Eng. & Con. Lab. Schenectady, New York	Observation of process equipment	D. H. Marquis W. A. Brown	10-23-50	11-18-50			X	
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C. T. Groszwith to: Gen. Eng. & Con. Lab. Schenectady, New York	Consultation on 432 Project	D. H. Marquis E. S. Baker D. E. Garr H. A. Winne	10-2-50	10-15-50			X	
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E. G. Pierick to: Gen. Eng. & Con. Lab. Schenectady, New York	432 Project Equipment Testing - process equipment	D. H. Marquis	10-9-50	11-4-50			X	
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TRANSPORTATION DIVISION

I. Visitors to this Works

W. A. Shearer State of Wash. Public Service Comm. Olympia, Washington	Inspect and test track scales	R. T. Cooke E. G. Jones	10-25-50	10-25-50			X	
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PURCHASING AND STORES DIVISION

I. Visits to other Installations

W. A. Jeffroy to: C. F. Braun Company Los Angeles, California	Expedite stool orders	J. Braun	10-23-50	10-29-50			X	
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RECEIVED
OCT 31 1950

DECLASSIFIED

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
W. A. Jeffrey to: S. W. Engineering Co. Los Angeles, California	Expedite steel orders	Mr. Coulter	10-23-50	10-29-50		X
W. A. Jeffrey to: S. W. Welding Company Los Angeles, California	Expedite steel orders	Mr. Linman Mr. Manier Mr. Cutler	10-23-50	10-29-50		X
W. A. Jeffrey to: Standard Steel Co. Los Angeles, California	Expedite steel orders	Mr. Love Mr. Kenny Mr. Rees	10-23-50	10-29-50		X
W. A. Jeffrey to: Consolidated Western Eng. Co. Los Angeles, California	Expedite steel orders	J. G. Thompson	10-23-50	10-29-50		X
G. E. Hotaling Washington, D. C.	Attend priorities meeting	- -	9-30-50	10-10-50		X
G. E. Hotaling to: Babcock & Wilcox Co. Beaver Falls, Pennsylvania	Expedite steel orders	Mr. Sullivan	9-30-50	10-10-50		X
G. E. Hotaling to: G. O. Carlson Company Thorndale, Pennsylvania	Expedite steel orders	G. O. Carlson	9-30-50	10-10-50		X
G. E. Hotaling to: Carnegie Illinois Steel Pittsburgh, Pennsylvania	Expedite steel orders	P. Voigt	9-30-50	10-10-50		X
G. E. Hotaling to: Allegheny Ludlum Steel Co. Pittsburgh, Pennsylvania	Expedite steel orders	R. Allen	9-30-50	10-10-50		X
H. A. Hauser to: Bethlehem Steel Corp. Seattle, Washington	Expedite order for structural steel for 277-U Bldg	W. S. Pfaff	10-30-50	10-30-50		X

DECLASSIFIED

Name - Organization

Purpose of Visit

Person Contacted

Arrival

Departure

Restricted Data
Class Unclass Areas

II. Visits to other Installations

J. O. Veach Dorr Company Denver, Colorado	In connection with order HWC-8110	R. T. Gardner	10-4-50	10-6-50	X	100-DR
R. W. Schmitzer General Electric X-ray Corp. Milwaukee, Wisconsin	Crate an X-ray machine on order HW 69893-G	P. L. Eisenacher	10-25-50	10-30-50	X	300
G. Zank Lee & Estes Kennewick, Washington	Deliver material on order HW 54181-M	H. H. Hart	10-2-50	10-2-50	X	100-B 108
W. Freuling United Truck Lines Kennewick, Washington	Deliver material on order HW 67666-M	H. H. Hart	10-2-50	10-2-50	X	200-E 271-B
R. Thorne Inland Motor Freight Pasco, Washington	Deliver material on order 69144-M	H. H. Hart	10-2-50	10-2-50	X	100-B 108
R. Thorne Inland Motor Freight Pasco, Washington	Deliver material on order 69144-M	H. H. Hart	10-3-50	10-3-50	X	100-D 105
G. Hixon Inland Motor Freight Pasco, Washington	Deliver material on order HW 69144-M	H. H. Hart	10-4-50	10-4-50	X	100-B 105 100-F 105
R. Thorne Inland Motor Freight Pasco, Washington	Deliver material on order 69144-M	H. H. Hart	10-6-50	10-6-50	X	100-D 105
R. Thorne Inland Motor Freight Pasco, Washington	Deliver material on order HW 65716-M	H. H. Hart	10-12-50	10-12-50	X	300 303-J

RECEIVED

Name - Organization

W. Freuling
United Truck Lines
Kennewick, Washington

R. Thorne
Inland Motor Freight
Pasco, Washington

R. Thorne
Inland Motor Freight
Pasco, Washington

W. Freuling
United Truck Lines
Kennewick, Washington

S. Gill
Inland Motor Freight
Pasco, Washington

C. Johnson
Lee & Estes
Kennewick, Washington

R. Thorne
Inland Motor Freight
Pasco, Washington

S. Gill
Inland Motor Freight
Pasco, Washington

T. B. Megy
Northern Pacific Railroad
Pasco, Washington

G. Johnson
Lee & Estes
Kennewick, Washington

Purpose of Visit

Deliver material on
order HW 69153

Deliver material on
order HW 69144-M

Deliver material on
order HW 69144-M

Deliver material on
order HW 69150-M

Deliver material on
order HW 65716-M

Deliver material on
order HW 69154-M

Deliver material on
order HW 69144-M

Deliver material on
order HW 69144-M

Check shipment of
damaged material received

Deliver material on
order HW 67648-M

Person Contacted

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

RECEIVED
Arrival Departure Class UnClass Areas

10-13-50 10-13-50 X 200-W
271-T

10-13-50 10-13-50 X 100-B 105
100-F 105

10-16-50 10-16-50 X 100-D 105

10-16-50 10-16-50 X 200-W 271-T
200-E 271-B

10-17-50 10-17-50 X 300 303-J

10-19-50 10-19-50 X 300 XXX

10-20-50 10-20-50 X 100-D 105

10-24-50 10-24-50 X 100-F 105

10-25-50 10-25-50 X 100-H XXX

10-25-50 10-25-50 X 100-D XXX

Name - Organization

G. Johnson
Lee & Estes
Kennewick, Washington

L. Wilson
Lee & Estes
Kennewick, Washington

B. Tourney
Lee & Estes
Kennewick, Washington

G. Johnson
Lee & Estes
Kennewick, Washington

G. Hixon
Inland Motor Freight
Pasco, Washington

P. Plummer
Layrite Concrete Products Co.
Yakima, Washington

A. Schuman
United Truck Lines
Kennewick, Washington

P. Plummer
Layrite Concrete Products Co.
Yakima, Washington

G. Zank
Lee & Estes
Kennewick, Washington

Purpose of Visit

Deliver material on
order HW 67648-M

Deliver material on
order HW 67648-M

Deliver material on
order HW 67648-M

Deliver material on
order HW 67648-M

Deliver material on
order HW 67648-M

Deliver material on
order HW 71766-M

Deliver material on
order HW 63685

Deliver material on
order HW 71766-M

Deliver material on
order HW 63685

Person Contacted

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

H. H. Hart

Arrival

10-25-50

10-25-50

10-25-50

10-27-50

10-27-50

10-30-50

10-30-50

10-30-50

10-31-50

Departure

10-25-50

10-25-50

10-25-50

10-27-50

10-27-50

10-30-50

10-30-50

10-30-50

10-31-50

Restricted Data
Class Unclass Areas

X 100-B XXX

X 100-B XXX

X 100-D XXX

X 100-D XXX

X 100-B 105
100-D 105

X 100-B 108

X 200-W
234

X 100-B XXX

X 100-B 108

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
TECHNICAL DIVISIONS						
I. Visits to other Installations						
A. B. Greninger to: Argonne National Lab. Chicago, Illinois	Technical consultation on Hanford problems	W. H. Zimm N. Hilberry	10-23-50	10-27-50	X	
R. H. Beaton to: Los Alamos Scientific Lab. Los Alamos, New Mexico	234-5 production specifications	M. F. Roy	10-30-50	11-2-50	X	
J. G. Bradley to: Pennsylvania State College State College, Pennsylvania	Equipment discussion	M. R. Fenske	10-16-50	10-18-50		X
A. R. McGuire to: Pennsylvania State College State College, Pennsylvania	Equipment discussion	M. R. Fenske	10-16-50	10-18-50		X
J. G. Bradley to: Knolls Atomic Power Lab. Schenectady, New York	Separations Process Research Unit consultation	L. B. Bragg	10-19-50	10-20-50	X	
A. R. McGuire to: Knolls Atomic Power Lab. Schenectady, New York	Separations Process Research Unit consultation	L. B. Bragg	10-19-50	10-20-50	X	
B. Weidenbaum to: Gen. Eng. & Con. Lab. Schenectady, New York	432 project testing	D. H. Marquis	10-9-50	10-13-50	X	
B. Weidenbaum to: Knolls Atomic Power Lab. Schenectady, New York	234-5 discussions	J. Marsden	10-9-50	10-13-50	X	
E. A. Eschbach to: Argonne National Lab. Chicago, Illinois	P-10 Consultation	C. Stevenson	10-16-50	10-17-50	X	

TECHNICAL DIVISIONS

I. Visits to other Installations

A. B. Greninger
to: Argonne National Lab.
Chicago, Illinois

Technical consultation
on Hanford problems

W. H. Zimm
N. Hilberry

R. H. Beaton
to: Los Alamos Scientific Lab.
Los Alamos, New Mexico

234-5 production specifications

M. F. Roy

J. G. Bradley
to: Pennsylvania State College
State College, Pennsylvania

Equipment discussion

M. R. Fenske

A. R. McGuire
to: Pennsylvania State College
State College, Pennsylvania

Equipment discussion

M. R. Fenske

J. G. Bradley
to: Knolls Atomic Power Lab.
Schenectady, New York

Separations Process
Research Unit consultation

L. B. Bragg

A. R. McGuire
to: Knolls Atomic Power Lab.
Schenectady, New York

Separations Process
Research Unit consultation

L. B. Bragg

B. Weidenbaum
to: Gen. Eng. & Con. Lab.
Schenectady, New York

432 project testing

D. H. Marquis

B. Weidenbaum
to: Knolls Atomic Power Lab.
Schenectady, New York

234-5 discussions

J. Marsden

E. A. Eschbach
to: Argonne National Lab.
Chicago, Illinois

P-10 Consultation

C. Stevenson

DECLASSIFIED

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
						Areas
S. S. Jones to: Gen. Eng. & Con. Lab. Schenectady, New York	Investigate facilities for heater construction	D. H. Marquis	10-9-50	10-13-50	X	
S. S. Jones Knolls Atomic Power Laboratory Schenectady, New York	Investigate facilities for heater construction	J. P. Howe	10-9-50	10-13-50	X	
A. R. Matheson to: Knolls Atomic Power Lab. Schenectady, New York	P-10 consultation	C. Mammal J. Marsden	10-30-50	10-31-50	X	
R. L. Olson to: Gen. Eng. & Con. Lab. Schenectady, New York	P-10 consultation	D. H. Marquis	10-9-50	10-14-50	X	
R. L. Olson to: Knolls Atomic Power Lab. Schenectady, New York	P-10 consultation	C. Mammal	10-9-50	10-14-50	X	
C. R. F. Smith to: Knolls Atomic Power Lab. Schenectady, New York	P-10 analysis	J. Marsden H. Matraw	10-9-50	10-14-50	X	
R. Ward to: Argonne National Lab. Chicago, Illinois	Metallurgical consultation F. Foote on radiometallurgical developments and uranium metallurgy		10-23-50	10-27-50	X	
R. Ward to: Battelle Memorial Inst. Cincinnati, Ohio	Metallurgical consultation H. W. Russel on the Hanford Program		10-30-50	10-30-50	X	
R. Ward to: Knolls Atomic Power Lab. Schenectady, New York	Metallurgical consultation J. P. Howe on assistance to Hanford		10-31-50	10-31-50	X	

RECEIVED

Restricted Data
Class Unclass
Areas

Name-Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Class	Unclass	Areas
L. D. Turner to: Argonne National Lab. Chicago, Illinois	Metallurgical consultation	F. G. Foote	10-23-50	10-27-50	X		
H. F. Zuhre to: Gen. Eng. & Con. Lab. Schenectady, New York	P-10 consultation	D. H. Marquis	10-9-50	10-14-50	X		
H. F. Zuhre to: Knolls Atomic Power Lab. Schenectady, New York	P-10 consultation	C. Mammal	10-9-50	10-14-50	X		
H. F. Zuhre to: Argonne National Lab. Chicago, Illinois	P-10 consultation	C. Stevenson	10-16-50	10-18-50	X		
H. F. Zuhre to: Los Alamos Scientific Lab. Los Alamos, New Mexico	P-10 consultation	E. S. Robinson	10-18-50	10-20-40	X		
F. W. Albaugh to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Discuss 234-5 product specifications	M. F. Roy	10-30-50	11-2-50	X		
R. D. Fletcher to: Radiation Laboratory University of California Berkeley, California	Review design and usage of gloved boxes, caves and remote handling facilities	E. Nielsen	10-2-50	10-3-50	X		
R. D. Fletcher to: Radio Isotope Apparatus Berkeley, California Co.	Confer on gloved box design	E. Tomkins M. Harkins	10-2-50	10-3-50		X	
J. M. Fouts to: Willamette Iron & Steel Portland, Oregon	Inspect prototype of turntable hoods	G. Smith	10-16-50	10-16-50		X	

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
						Areas
J. M. Fouts to: Leland S. Rosener Co. San Francisco, California	Outline scope of work for plot plan and utilities of Works Laboratory	L. S. Rosener, Jr.	10-17-50	10-20-50		X
E. F. Gates to: Chicago, Illinois	Glass blower recruitment	- -	10-16-50	10-17-50		X
E. F. Gates to: H. S. Martin Company Chicago, Illinois	Discuss glass shop techniques	Mr. Martin Mr. Shugg	10-16-50	10-17-50		X
E. F. Gates to: Knolls Atomic Power Lab. Schenectady, New York	Discuss glass blower training program and inspect glass blowing facilities	D. E. Irvin I. Perleberg	10-18-50	10-20-50	X	
R. J. Hale to: Williamette Iron & Steel Portland, Oregon	Inspect prototype of turntable hoods	G. Smith	10-16-50	10-16-50		X
F. B. Quinlan to: Leland S. Rosener Co. San Francisco, California	Discuss design of special equipment for radiometallurgy building	L. S. Rosener, Jr.	10-16-50	10-20-50		X
G. J. Rogers to: Radiation Laboratory University of California Berkeley, California	Inspection, review design and usage of gloved boxes, caves and remote handling facilities	E. Nielsen W. Ruhl H. Hawkins	10-2-50	10-3-50	X	
G. J. Rogers to: Radio Isotope Apparatus Co. Berkeley, California	Confer on gloved box design	E. Tomkins	10-2-50	10-3-50		X
C. G. Stevenson to: Atomic Energy Commission New York, New York	Attend meeting of Technical Information Panel called by AEC	C. Slessor	10-23-50	10-25-50	X	

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
C. G. Stevenson to: Kellogg Corporation New York, New York	Discuss taking over document accountability of Kellogg Classified Reports J. H. Hagerton by Hanford Works	H. B. Lytz	10-26-50	10-26-50	X	
C. G. Stevenson to: Technical Information Div. reports Abstracting Program Atomic Energy Commission Oak Ridge, Tennessee	Discuss technical reports Abstracting Program	I. A. Warheit	10-27-50	10-27-50	X	
C. G. Stevenson to: Chicago Patent Group Museum of Science & Industry Jackson Park, Chicago, Illinois	Discuss accountability and transmittal of classified documents to Chicago Patent Group	F. W. Test	10-30-50	10-30-50	X	
C. G. Stevenson to: Abbott Laboratories Chicago, Illinois	Inspect new library facility	- -	10-30-50	10-30-50		X
II. Visitors to this Works						
D. H. Garinsky Brookhaven National Lab. Upton, L.I., New York	Separations discuss- ions on graphite, irradiation requests and processing. Canning of uranium and fabrication	R. H. Beaton R. Ward	10-2-50	10-5-50	X	300 303, 3706 100-B 105 100-H 105
W. E. Winsche Brookhaven National Lab. Upton, L.I., New York	Separations discuss- ions on graphite, irradiation requests and processing. Canning of uranium and fabrication	R. H. Beaton R. Ward	10-2-50	10-5-50	X	300 303, 3706 100-B 105 100-H 105 200-W 221-F 221-U, 231
B. V. Coplan Knolls Atomic Power Laboratory Schenectady, New York	SPRU consultation	R. H. Beaton	10-23-50	10-26-50	X	300 3706, 321 200-W 221-F, 221-U, 231

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Uncl. ss Areas
L. W. Neidrach Knolls Atomic Power Laboratory Schenectady, New York	SPRU consultation	R. H. Beaton	10-23-50	10-26-50	X	300 3706, 321 200-W 221-F, 231, 221-U
E. J. Reber Knolls Atomic Power Laboratory Schenectady, New York	SPRU consultation	R. H. Beaton	10-23-50	10-26-50	X	300 3706, 321 200-W 221-F, 231, 221-U
L. B. Bragg Knolls Atomic Power Laboratory Schenectady, New York	SPRU consultation	R. H. Beaton	10-23-50	10-26-50	X	300 3706, 321 200-W 221-F, 231, 221-U
E. L. Zebroski Knolls Atomic Power Laboratory Schenectady, New York	Separations processes	R. H. Beaton R. B. Richards D. W. Pearce O. F. Hill	10-23-50	10-27-50	X	300 3706, 321
A. C. Jealous Oak Ridge National Laboratory Oak Ridge, Tennessee	TBP consultation	C. M. Slansky	10-11-50	10-11-50	X	300 3706, 321
W. D. Davis Knolls Atomic Power Lab. Schenectady, New York	Discussion of analytical development, P-10 Project	W. M. Harty A. R. Matheson	10-1-50	10-14-50	X	100-B 108 300 3706
R. O. Bolt California Research Laboratory Oak Ridge, Tennessee	Discuss irradiation materials (Consultant to ORNL)	R. E. Nather	10-5-50	10-6-50	X	100-H 105 300 3706
R. W. Coyle NEPA-Fairchild Engine & Air- Oak Ridge, Tenn. Craft Corp.	Supervise experiments and set up Nuclear Energy for the Propulsion of Aircraft Apparatus	J. B. Lambert J. F. Sullivan	10-5-50	10-13-50	X	300 3706 100-H 105 100-D 105 100-F 105
J. G. Morgan NEPA-Fairchild Engine & Air- Oak Ridge, Tenn. Craft Corp.	Supervise experiments and set up Nuclear Energy for the Propulsion of Aircraft Apparatus	J. B. Lambert J. F. Sullivan	10-5-50	10-13-50	X	300 3706 100-H 105 100-D 105 100-F 105

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data	
					Class	Unclass
C. E. Stilson NEPA-Fairchild Engine & Air- Oak Ridge, Tenn. craft Corp.	Supervise experiments and set up Nuclear Energy for the Propulsion of Air- craft Apparatus	J. B. Lambert J. F. Sullivan	10-5-50	10-13-50	X	300 3706 100-H 105 100-D 105 100-F 105
H. E. Robertson NEPA-Fairchild Engine & Air- Oak Ridge, Tenn. craft Corp.	Supervise experiments and set up Nuclear Energy for the Propulsion of Air- craft Apparatus	J. B. Lambert J. F. Sullivan	10-5-50	10-13-50	X	300 3706 100-H 105 100-D 105 100-F 105
C. E. Weber Knolls Atomic Power Lab. Schenectady, New York	Technical consultation on special requests	R. E. Nather	10-11-50	10-12-50	X	300 3706 100-H 105
J. Blowney Knolls Atomic Power Lab. Schenectady, New York	Technical consultation on special requests	R. E. Nather	10-11-50	10-12-50	X	300 3706 100-H 105
D. B. Bowen North American Aviation Corp. Downey, California	Technical consultation on P. H. Reinker on graphite	P. H. Reinker	10-11-50	10-13-50	X	300 3706 100-H 105
W. L. Carter North American Aviation Corp. Downey, California	Technical consultation on P. H. Reinker on graphite	P. H. Reinker	10-11-50	10-13-50	X	300 3706 100-H 105
R. A. Noland Argonne National Laboratory Chicago, Illinois	P-10 consultation and consultation on canning problems	R. Teats E. A. Smith	10-24-50	10-27-50	X	300 3706, 303 100-B 105, 108
L. R. Kelman Argonne National Laboratory Chicago, Illinois	P-10 consultation and consultation on canning problems	R. Teats E. A. Smith	10-24-50	10-27-50	X	300 3706, 303 100-B 108, 105
J. W. Moyer Knolls Atomic Power Lab. Schenectady, New York	Consultation on spectro- scopic methods of product analysis and spectrochem- ical work	W. M. Harty A. R. Matheson J. A. Parodi W. W. Marshall	10-20-50	11-19-50	X	300 3706 100-B 105, 108 200-W 234

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OCT 20 1950

Name - Organization

H. P. Broida
National Bureau of Standards
Washington, D. C.

Purpose of Visit

Consultation on spectro-
scopic methods of product
analysis and check equip-
ment on P-10 analytical
methods

Person Contacted

W. M. Harty
A. R. Matheson
J. A. Parodi
W. W. Marshall

Arrival

10-25-50

Departure

11-3-50

Class

X

Restricted Data

Uncl. Inss

Areas

300 3706
100-B 105, 108
200-W 234

PURCHASING AND STORES DIVISIONS

SUMMARY

OCTOBER, 1950

Personnel of the Purchasing and Stores Divisions showed a net decrease of one indicated by the tabulation below:

	<u>Total Personnel</u> <u>as of 9-30-50</u>	<u>Total Personnel</u> <u>as of 10-31-50</u>	<u>Net Change</u>
Exempt	61	65	4
Non-Exempt	294	289	-5
TOTALS	<u>355</u>	<u>354</u>	<u>-1</u>

There was a substantial increase in the Purchasing Division's work load during the month. The dollar value of orders placed was \$4,850,382.16 as compared with the total dollar value of \$2,100,202.97 in the previous month.

Bulk orders for approximately 2,200 tons of stainless steel were placed. This steel will be shipped to the fabricators of vessels, towers, exchangers, and similar equipment for the construction program.

The Divisions' Assistant Manager made a trip to Pittsburgh to arrange for the warehousing and handling of stainless steel purchased on bulk orders. All steel which cannot be shipped directly to a fabricator at the time it is produced will be routed to the warehouse for subsequent shipment.

On October 3, 1950, the National Production Authority issued Regulation No. 2 which established ratings for defense orders. The ratings assigned to us were DO-40 - Operations, DO-41 - Construction, and DO-42 - Construction Equipment. All our outstanding orders as of the effective date of the Regulation were rated within 10 days. Current orders were rated as issued.

A Priorities and Allocation Section was established in the Purchasing Division and G. Q. Mathews appointed Supervisor. It will be the responsibility of this section to properly rate all orders, maintain records, and make the reports required under the law.

Materials valued at \$21,297.69 were declared excess from Operations inventories by the Stores Division. Material valued at \$527,310.19 were declared excess from the Construction Materials Account.

A total of 2,582 purchase requisitions were screened against project inventories with the result that 1,662 items were supplied from inventories thus obviating the necessity for outside purchase.

Receipts of material through the receiving warehouse increased approximately 25% over the previous month. It was necessary to divert personnel from other sections of Stores and authorize overtime to keep current with the work.

Excess material valued at \$1,506,797.98 was shipped during the month.

PURCHASING AND STORES DIVISIONS
SUMMARY

All warehouses at the Pasco Depot, with the exception of 5 and 6, were evacuated and at month end only six employees were on duty at this location.

Considerable time and effort was expended in identifying large quantities of stainless steel sheets, plates, bars, fittings and pipe with respect to physical and chemical analysis in order that it may be used in the current construction program.

The Traffic Division was successful in obtaining publishment of new rates on phosphoric acid from southern California points which will result in savings of 40 to 48 cents per hundredweight.

After extended negotiations, our Traffic Division was successful in having published, a new rate of 28 cents per hundredweight on lime from Evans, Washington to the project which will result in savings of approximately \$24 per car.

As a result of rate reductions obtained from the carriers, total savings in freight charges during the month of October amounted to approximately \$22,982.53.

PURCHASING AND STORES DIVISIONS
STAFF SECTION
OCTOBER, 1950

ASSIGNMENTS

Additional reports showing physical volume and rates of disbursement of materials by captions were submitted to the Project Engineering Divisions for the preliminary design of centralized warehousing.

In conjunction with the Warehouse Survey, a detail study of graphite was completed for Project Engineering Divisions, to assist in the preliminary design of graphite stores facilities.

A new procedure for disposition of broken and damaged materials was completed and forwarded to Stores Division supervision.

The survey for centralization controls and reconciliation activities for the 903 account is completed and the procedure is now being written.

The Returnable Container Procedure is being drafted in its final form and will be operative this month.

On the request of D. M. Knott, Administrative Assistant to the Manager, Technical Divisions, a complete study of the 903-10 account (Chemical and Laboratory Supplies) was initiated to correct discrepancies between package size units and unit prices and nomenclatures. The existing caption catalog was revised accordingly.

The approved procedure for the Accounting Section, Surplus, Salvage and Scrap was forwarded to Stores Division supervision.

A method for accumulating and presenting "Back Order" statistics was proposed and accepted.

This Section is currently maintaining graphs, showing weekly: Items Out of Stock; Back Orders on Hand; Store Orders Processed and Total Item Count for each caption in general stores.

The following reports were submitted during the month:

Weekly and Monthly:

- Weekly Overtime Requests
- Monthly Inventory Valuation Report
- Monthly Force Report
- Monthly Force and Overtime Forecast Report
- Monthly Recapitulation Report of Inventories per Financial Statement

PURCHASING AND STORES DIVISIONS
STAFF SECTION

Quarterly Reports

Budget Estimates - Quarterly Review of Fiscal Year 1951 Operating Costs
Divisional Personnel Forecast by Quarters
Budget Estimates - Graphite Storage for Balance of Fiscal Year 1951
Construction Budget for the Centralized Warehouse and the Graphite Storage

PERSONNEL

	<u>As of 9-30-50</u>			<u>As of 10-31-50</u>			<u>Net Change</u>		
	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>
Methods - Procedures									
Cost Budget Control	3	6	9	2	4	6	-1	-2	-3
Audit Section	2	13	15	2	12	14	0	-1	-1
Total -----	5	19	24	4	16	20	-1	-3	-4

SAFETY AND SECURITY

Safety and Security Meetings Scheduled - 1
Number of Employees Attending ----- 12

The following Accounts were physically inventoried and audited:

903-3	Plumbing -----	100%
903-10	Laboratory Chemical Supplies -	100%
903-12	Gauges, Recorders -----	90%
903-17	Welding Supplies -----	90%
903-21	Steel, Structural Sheet -----	90%
903-26	Radio Supplies -----	90%
904-A	Spare Parts -----	100%
904-B	Spare Parts -----	25%
906	Cash Sales -----	100%

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION
OCTOBER, 1950

GENERAL:

There was a sharp increase in the work load during October as compared with the previous month. 2126 purchase orders were placed as compared with 1741 placed in September. 3498 requisitions were received and assigned as compared with 2877 during September. Requisitions on hand at month end totalled 1061 as compared with 866 at the end of the previous month.

The dollar value of orders placed during the month of October totalled \$4,850,382.16 as compared with a total of \$2,100,202.97 in September. Of the total dollar value of the orders placed in October, 30 orders for 2246 tons of stainless steel accounted for \$3,144,400 and six orders for 577 tons of carbon steel accounted for \$80,710.

Of 517 construction requisitions received, 134 were for Project C-187-D, 20 for Project C-187-E, 68 for Project C-362, four for Project C-361, six for Project 234-5, one for DR Water Works and 80 for construction MS Stores.

A list of "Special Procurement" materials and equipment, together with required-for-construction dates for Project C-361 and C-362 was received from the Manager, Separations Division, Design & Construction Divisions. The purchase of the equipment contained on this list is being accomplished in accordance with the special procurement procedure approved by the Atomic Energy Commission.

Fabrication has been started on a number of orders for Class I and II equipment and vessels for C-187-D Project. Deliveries of limiting items have been expedited to the point where some fabricators are proceeding without a delay due to material shortage. Stainless steel forged fittings and stainless steel tubing are the limiting items on most vessel orders.

At the request of the Manager, Separations Division, Design & Construction Divisions, arrangements were made to inspect a tank fabrication order in Oakland, California, for the lump sum contractor on the 241 tank farm. All fabrication work on the tanks was rejected by our inspector. However, permission to ship the rejected tanks was given the fabricator; consequently, our inspector was withdrawn and the Design Division was advised that Purchasing would accept no responsibility in the matter.

The U. S. Gypsum Company was awarded a contract to supply our requirements of Lime for the next twelve months. Other annual requirement contracts were awarded to the Hooker Electrochemical Company for Liquid Chlorine, and Mutual Chemical Company for Sodium Dichromate.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

Invitations to Bid were mailed to prospective vendors for our annual requirements of Nitric Acid and Phosphoric Acid.

The Divisions' Assistant Manager made a trip to the Pittsburgh area to arrange for the warehousing and handling of the stainless steel being purchased on bulk orders. All steel which cannot be shipped either to a fabricator or direct to the project at the time it is produced, will be shipped from the mill to a warehouse for storage.

Effective October 3, NPA Regulation #2 established the mechanism for a Priority or Defense Order (DO) Rating System. This order permits the use of DO ratings to procure materials by the Atomic Energy Commission and its operating contractors.

A new Priorities and Allocation Section was established in the Division. The supervisor is responsible for the proper rating of all orders and maintaining the necessary records required under the law.

PERSONNEL

	<u>As of 9-30-50</u>			<u>As of 10-31-50</u>			<u>Net Change</u>		
	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>	<u>Ex.</u>	<u>Non-Ex.</u>	<u>Total</u>
Administrative	1		1	1		1			
Purchasing	13	12	25	13	16	29	4	4	4
Expediting	5	11	16	8	12	20	3	1	4
Inspection	17	8	25	18	2*	20*	1	-6	-5
Clerical	1	18	19	1	18	19			
Priorities	0	0	0	1	2	3	1	2	3
Total	37	49	86	42	50	92*	5	7	12

* The above figures do not include 7 rotational trainees assigned to Inspection.

SAFETY AND SECURITY

Safety and Security Meetings Scheduled - 4
Number of Employees Attending ----- 75
Minor Injuries ----- 1

STATISTICS

	<u>G</u>	<u>D</u>	<u>TOTAL</u>
Requisitions on hand 10-1-50			
(Includes 78 assigned to Government)	688	178	866
Requisitions assigned during October	2,981	517	3,498
Requisitions placed during October	2,836	467	3,303
Requisitions on hand 10-31-50			
(Includes 96 assigned to Government)	833	228	1,061

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

STATISTICS (Continued)

	<u>Number</u>	<u>Value</u>	
HW Orders placed	1,777	\$1,211,587.58	
HW Alterations placed	134	771.55	
Total	1,911	\$1,212,359.13	
HWC Orders placed	349	8,638,794.58	
HWC Alterations placed	46	252.06	
Total	395	\$3,639,046.64	
AEC Orders placed	153	156,250.32	
DC Orders placed	26	102,962.98	
Government Transfers	<u>OR</u> 9	<u>ORC</u> 0	<u>Total</u> 9
Return Orders Issued			<u>Number</u> 95

Dollar Value of Orders to which Priority Rating was applied;

	<u>4th Quarter 1950</u>	<u>1st Quarter 1951</u>	<u>2nd Quarter 1951</u>
DC-40	\$1,102,559.38	\$46,829,000.33	\$40,609.26
DC-41*	9,098,035.71		

*Includes Contract Section

OPEN ORDERS

HW Orders ----- 1,202
HWC Orders ----- 595
Government Orders - 36

Number of New Orders requiring inspection during month ----- 53
Number of Orders requiring inspection completed during month ----- 25
Number of Orders outstanding requiring inspection at month's end - 210
HW Orders expedited (Special Request) ----- 270
HW Orders expedited (Routine) ----- 600
HWC Orders expedited (Routine) ----- 513

PURCHASING AND STORES DIVISIONS
STORES DIVISION
OCTOBER, 1950

GENERAL

Materials valued at \$21,297.69 were declared excess from active inventories during the month. This was accomplished by discontinuance of 526 obsolete stock items.

2582 purchase requisitions were processed through screening and 1662 items furnished from plant sources. In addition to the normal screening of purchase requisitions, 28 items of stainless steel, aluminum, etc. not immediately available on the open market were furnished to fabricators from plant inventories.

Materials valued at \$527,310.19 were declared excess from the Construction Materials Account (10.20). This material was on firm negative lists rescreened by all subcontractors. Materials valued at \$183,846.90, involving fourteen captions in the 10.20 account were disbursed to construction forces during the month. This approximates the total disbursement from active inventories to Operations forces which was \$226,790.10.

Quantities of stainless steel sheets, shapes, bars, plates, fittings, and pipe heretofore unidentified as to physical and chemical analysis were identified and cataloged. These catalogs were forwarded to the Design and Construction Divisions for their information and possible use.

Receipts of incoming shipments increased approximately 25% over last month's activity. Personnel from other Sections of Stores was diverted to the Receiving Section and some overtime work was necessary to maintain the current flow of receiving reports.

Materials and equipment valued at \$109,077.77 were withdrawn from excess and returned for use on the Project.

143 shipping documents valued at \$1,506,797.98 and comprised of 321 truckloads and 46 carloads were processed and shipped as excess during the month.

All warehouses at the Pasco Depot, except No. 5 and No. 6 were evacuated and only six employees were in those facilities at month end.

90 representatives of government and private businesses were escorted through our warehouses and scrap yards for the purpose of negotiating the sale of scrap and the transfer of excess property.

8 formal excess lists totaling \$1,414,941.49 were submitted to the Commission during the month. A request was received from the Commission October 23, 1950 to prepare all future excess lists in accordance with the new General Services Administration Personal Property Management Regulation No. 3. No difficulty is anticipated in so doing.

PURCHASING AND STORES DIVISIONS
STORES DIVISION

PERSONNEL

	As of 9-30-50			As of 10-31-50			Net Change		
	Ex.	Non-Ex.	Total	Ex.	Non-Ex.	Total	Ex.	Non-Ex.	Total
Administrative	4		4	4		4			
Construction Matl. Sect.	2	35	37	2	35	37			
Operations Matl. Sect.	4	96	100	4	105	109	✓9		✓9
Surplus, Salvago & Scrap									
Materials Section	5	86	91	5	68	73	-18		-18
TOTALS	15	217	232	15	208	223	-9		-9

SAFETY AND SECURITY

Safety and Security Meetings Scheduled	11
Number of Employees Attending	201
Minor Injuries	4

STATISTICS

INVENTORY CONTROL SECTIONS

Construction Materials Section

Items in Stores Stock	47,975
Items in Small Tools (Estimated)	8,316
Items added to Stock	75
Items completely liquidated from Stock	1,441
Store Orders Posted - Materials (Items)	3,594
Store Orders Posted - Tools (Items)	599
Number of Requisitions Screened - A.J.	491
Number of Items Screened - G.E.	2,682
Number of Items furnished from Stock	295
Number of Items Excessed	1,702
Value of Disbursements - Materials	\$210,655.99
Value of Disbursements - Tools	21,932.73
Inventory Valuation at month end - Materials	8,078,361.96
Value of Materials Shipped	3,766.29
Value of Materials Excessed	527,310.19
Value of Materials Received	90,297.36

Operations Materials Section

Number of items added to Stores Stock	40
Number of items deleted from Stores Stock	260
Items in Stores Stock at month end	46,305
Store Orders Posted	22,186
Number of requisitions screened this month - G.E.	2,491
Number of items furnished from plant sources this month	1,367
Inventory valuation at month end (903-all captions, 906 & 912)	\$1,143,709.58
Inventory valuation at month end (Spare Parts)	1,623,539.28
Inventory valuation at month end (Special Materials)	3,163,375.61
Total value Inventory Accounts	5,930,624.47

PURCHASING AND STORES DIVISIONS
STORES DIVISION

STATISTICS (Continued)

Value of Disbursements, not including cash sale items	\$227,782.46*
Value of Cash Sales	384.96
Value of Sales, Payroll Deduction	1,279.23
Value of Materials Declared Excess	21,297.69
Value of Materials Returned to Stores Stock for Credit	4,534.25

* Includes \$15,239.80 disbursed to Construction and CPFF Subcontractors

Surplus, Salvage and Scrap Materials Section

Balance of Account 10.10 as of 9-25-50	\$9,819.499.72
--	----------------

Receipts 9-25-50 to 10-25-50

Lumber	\$228,391.03
Automotive Equipment	5,824.21
Machine Tools & Equipment	606.85
Office Furniture	3,890.30
Household Furniture	6,746.60
Material & Supplies	278,229.62
Miscellaneous Equipment	<u>15,002.70</u>

538,690.31

Adjustments - Classes & Current Market Prices

20,145.68

10,378,335.71

Disbursements 9-25-50 to 10-25-50

On Project

Lumber	12,416.92
Automotive Equipment	20,617.50
Machine Tools & Equipment	1,962.85
Office Furniture	928.22
Material & Supplies	60,598.21
Miscellaneous Equipment	<u>12,554.07</u>

\$109,077.77*

Transfers from Excess to Account 10.20

3,211.49

Off Project

Automotive Equipment	322,287.20
Machine Tools & Equipment	35,766.50
Office Furniture	23,884.56
Household Furniture	332.75
Material & Supplies	1,089,579.18
Miscellaneous Equipment	<u>34,947.79</u>

1,506,797.98

1,619,087.24

Balance of Account 10.10 as of 10-25-50

\$8,759,248.47

Total Receipts to Date

\$33,430,661.22

Total Disbursements to Date

\$24,671,412.75

* Includes Disbursements to Construction - \$86,614.08

PURCHASING AND STORES DIVISIONS
STORES DIVISION

STATISTICS (Continued)

Scrap and Salvage Disbursed

Scrap Sales Completed	16
Scrap Sales in Process	5

Scrap Sales Revenue for month of October	\$7,727.90
Total Scrap Sale Revenue to Date	162,605.45

WAREHOUSING, RECEIVING, DISBURSING & SHIPPING SECTIONS

Construction Materials Section

Store Orders Filled	4,193
Items Excessed	1,702

Operations Materials Section

Receiving Reports Issued	4,381
Emergency Store Orders Filled	5
Shipments Processed (Containers & Material)	338
Shipments Received	4,276
Store Orders Registered	23,843

Surplus, Salvage & Scrap Materials Section

Store Orders Filled	324
Truckloads of Material Shipped	321
Carloads of Material Shipped	46

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION
OCTOBER, 1950

GENERAL

In August, 1950, the Purchasing Division advised that Phosphoric Acid, in tank cars, would be available from Newark and South Gate, California in sufficient quantities to fill contract requirements during the coming calendar year. A thorough study disclosed that present freight rates applicable on this commodity from the new origins to Hanford and Richland were excessive in comparison with rates published on the same commodity in other sections of the country. Therefore, an emergency proposal was submitted to the California-North Coast Rail Lines requesting reduced rates.

Advice has now been received that the carriers have acted favorably on our proposal and will publish on statutory notice rates which will reflect savings of 48 cents per cwt or \$480 per car from South Gate, California and 40 cents per cwt or \$400 per car from Newark, California to Hanford or Richland.

After extended negotiations, the rail carriers approved a rate of 28 cents per cwt on Lime, in bags, minimum 60,000 pounds from Evans, Washington to Hanford and Richland, to become effective November 27, 1950. This reduction will effect a savings of \$24 per car on shipments in bags.

In October, 1950, the Railway Express Agency published special reduced rates on less-than-carload express shipments weighing 300 pounds or more when consigned to Civil Services of the United States Government. Since these reduced rates are applicable to all purchases placed on f.o.b. shipping point basis, it is possible for General Electric Company and all CPFT Subcontractors to take advantage of reduced express charges which will reflect savings up to 35% of the regular commercial rates. Full instructions have been issued to the Purchasing Division and CPFT Subcontractors as to proper method of shipment in order to effect these savings.

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 \$22,982.53. This makes a total savings from September 1, 1946 to date of \$1,381,401.39.

PERSONNEL

	<u>Total Personnel</u> <u>as of 9-30-50</u>	<u>Total Personnel</u> <u>as of 10-31-50</u>	<u>Net Change</u>
Exempt	2	2	0
Non-Exempt	7	7	0
	<u>9</u>	<u>9</u>	<u>0</u>

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

SAFETY AND SECURITY

Safety and Security Meetings Scheduled - 1
Number of Employees Attending ----- 8
Minor Injuries ----- 0

STATISTICS

Savings Report

1. Rate reductions obtained from the Carriers:

Commodity	Origin	Savings for October	Savings 9-1-46 thru 9-30-50	Total Savings 9-1-46 to date
Acid, Sulphuric	Dupont, Wash.	\$ 363.15		
Coal	Kemmerer, Wyoming	5,164.80		
Coal	Roslyn, Washington	4,403.25		
Coal	Roundup, Montana	4,204.40		
Lime	Evans, Washington	263.06		
Sand and Gravel	Pioneer Spur, Wash.	20.00		
Soda Ash	West End, Calif.	606.00		
Caustic Soda	Willbridge, Oregon	6,710.18		
Ferric Sulphate	Steger, California	1,247.69		
		<u>\$22,982.53</u>	<u>\$1,358,418.86</u>	<u>\$1,381,401.39</u>
2. Freight Bill Audit		534.35	52,242.90	** 52,777.25
3. Loss and Damage and Overcharge Claims		710.50	98,822.73	99,533.23
4. Ticket Refund Claims		27.32	9,648.97	9,676.29
5. Household Goods Claims		113.63	13,909.08	14,022.71
		<u>\$24,368.33</u>	<u>\$1,533,042.54</u>	<u>\$1,557,410.87</u>

** Includes \$19,495.23 for the A. E. C.

Work Volume Report

Reservations Made

Rail	83
Air	125
Hotel	99

Expense Accounts Checked

102

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Continued,

Work Volume Report (Continued)

Household Goods and Automobiles	Movements Arranged Inbound	13
	Movements Arranged Outbound	5
	Shipments Traced	2
	Storage Bills Approved	3
	Insurance Riders Issued	10
	Requests for Claim Billing	6
	Claims Filed	4
	Claims Collected - Number	7
	Claims Collected - Amount	\$113.63
Ticket Refund Claims	Filed	29
	Collected - Number	2
	Collected - Amount	\$ 27.32
Freight Claims	Filed	9
	Collected - Number	11
	Collected - Amount	\$710.50
Freight Bill Audit Savings		\$534.35
Freight Shipments Traced		30
Quotations	Freight Rates	281
	Routes	231
Bills Approved	Air Freight	8
	Air Express	60
	Carloading	189
	Express	180
	Rail	786
	Truck	273
Over and Short Reports Processed		13
Damage Reports Processed		7
Carload Shipments	Inbound - General Electric	821
	- Others	173
	Outbound- General Electric	16
	-- Others	7

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Continued)

Reports of Carloads Received

	<u>MIW</u>	<u>N.P.</u>	<u>U.P.</u>	<u>TOTAL</u>
General Electric Company:				
Oxalic Acid			1	1
Air Coolers and Heaters	1			1
Ammonium Silico Fluoride	1	1		2
Anti Freeze		2		2
Air Coolers	1			1
Aluminum Ingots		1		1
Bath Tubs				1
Coal			1	1
Chlorine, Liquid	70	224	411	705
Chemicals	2	3		5
Cabinets	2			2
Infusorial Earth	1			1
Grease			1	1
Hydrofluoric Acid			1	1
Lime			2	2
Nitric Acid	1	1	4	6
Phosphoric Acid		20	4	24
Potash Flakes		1	4	5
Cast Iron Pipe	1			1
Caustic Soda			1	1
Soda Ash	7	7	7	21
Salt	1	3	2	6
Sodium Nitrate		2	1	3
Sodium Nitrite	1		1	2
Ferrous Ammonium Sulphate	1			1
Ferric Sulphate	1		2	3
Sulphuric Acid	1	2	2	5
Steel	2			2
Steel Tubing		2	1	3
Switchboards			1	1
Transformers		2		2
Tires	1			1
Express	1			1
Merchandise	4			4
	2	3		5
TOTAL	<u>102</u>	<u>274</u>	<u>447</u>	<u>823</u>

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Continued)

Report of Carloads Received (Continued)

	<u>MILW</u>	<u>N.P.</u>	<u>U.P.</u>	<u>TOTAL</u>
Atkinson & Jones Construction Co.:				
Asphalt	2			2
Cement		29		29
Culvert Pipe			1	1
Conduit	1			1
Gravcl		1		1
Insulating Material	1			1
Cast Iron Pipe			1	1
Sewer Pipe	5		7	12
Silica Sand	3			3
Steel Footwalks	1			1
Tile	2			2
Merchandise	2			2
TOTAL	17	30	9	56
Fred J. Early:				
Cement	6			6
Cotton Cloth	1			1
Sewer Pipe		10	1	11
Steel Plate			4	4
Merchandise	2			2
TOTAL	9	10	5	24
Asbestos Supply Company:				
Fiberboard		1		1
Merchandise	1			1
	1	1	0	2
C & E Construction Company:				
Asphalt			5	5
Associated Engineers, Inc.:				
Pipe		1	1	2
U. S. Army:				
Cabinet Files		1		1
Cable		1		1
Steel Fence and Posts			1	1
Guns		1		1
Lumber		1		1
Oil and Grease		1		1
Receiving & Transmitting Sets		1		1
TOTAL	0	6	1	7
Richland Fuel and Lumber Company:				
Coal		24	53	77
TOTAL - SUBCONTRACTORS	27	72	74	173
" - ENTIRE PROJECT	129	346	521	996

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

SUMMARY - OCTOBER, 1950

The number of applicants interviewed decreased from 1,442 in September to 1,210 in October. Of these applicants 336 were individuals who applied for employment with the Company for the first time. In addition, 127 new applications were received through the mail. Open, nonexempt, nontechnical requisitions decreased from 280 at the beginning of the month to 238 at the month end. Total plant roll increased from 7,795 to 7,838. Turnover rate decreased from 2.60% in September to 1.59% in October. During October, 27 new requests for transfers to other type of work were received in the Employment Office, and 40 transfers were effected.

Instructions Letter No. 157 covering the G.E. Educational Assistance Program was issued during October. Five employees retired during October, and seven employee deaths occurred. One hundred and ten visits were made to employees confined to Kadlec Hospital and four visits were made to employees confined at home. In addition thirty-seven salary checks were delivered to employees during October. At the end of October there were 601 reservists on our rolls, and 708 employees registered under the Selective Service Act of 1948, with 105 employees classified as 1-A. Fifty-two suggestion awards, totaling \$ 580, were made during October. These suggestions resulted in an estimated savings of \$ 6,243.50.

During the week of October 16-20, the 40-Hour Supervisor's Training Program was conducted with 28 supervisors participating. Two issues of the H.W. SAGE was distributed during the month. At the request of the "S" Division, the program on the spirit and intent of the GE-HAMTC Agreement was presented to 28 of this division's supervisors-in-training. The second of the 8-hour, trial test program for nonexempt employees was conducted in the 200-W Area on October 13, with 30 employees of the "S" Division participating.

Formal negotiations began on October 4, with the Company offering a 3% wage increase (4¢ minimum) and the HAMTC countering with a demand for 20¢ an hour across the board. When an agreement was not reached, Federal Mediation was called in by the Council, but no settlement was effected by October 23 when negotiations were recessed. The Company was advised that it had been designated as defendant in a suit charging violation of the Davis-Bacon Act.

Negotiations with the Operating Engineers were initiated during the month. Demands included 50¢ per hour blanket increase, increased isolation pay, double time for all overtime, etc. The Federal Mediation and Conciliation Service has been requested to intervene. Negotiation of a first contract with the International Association of Machinists was concluded October 18. Increases of 5¢ per hour effective August 14, 1950, and 5¢ per hour effective January 1, 1951, were granted. The Plumbers State Joint Board have agreed upon an increase of 25¢ per hour for Plumbers and Steamfitters

Employee and Community Relations Divisions
Summary

effective February 1, 1951, as well as a plan for vacations with pay in which accumulation will start on January 1, 1951. Negotiations with a view toward the renewal of the Master Agreement were held on October 19 and 26, 1950. The matter of increased isolation pay has been injected into the discussions, otherwise the situation remains unchanged. The Project Negotiating Committee has maintained the position that the Ironworkers opening of their Schedule "A" is not in order. The Ironworkers have insisted that either the Committee set a date for negotiations or refuse to negotiate. The Atomic Energy Commission has indicated that they will direct General Electric to include a provision in future contracts with lump sum and unit price contractors requiring the submission of weekly payrolls for the purpose of compliance with the Davis-Bacon Act and Eight Hour Law. The Boilermakers have notified Atkinson-Jones of a desire to negotiate wage increases of ten cents (10¢) across the board in conformity with their Seven Western States Agreement. No meeting has been scheduled. The Roofers have informed Atkinson-Jones that their opening notice was intended only as a request to negotiate a new wage scale. Atkinson-Jones has assured the Roofers that a meeting will be scheduled immediately after the first of November for the purpose of negotiating a new Schedule "A". A demand by the Bricklayers has been made for \$3 per hour (25% increase).

The Wage Rate Division calculated and issued to Payroll new base and preferential rates for approximately 3000 non-unit employees, using as a basis 3% or a minimum of 4¢ per hour, including certain employees of the Health Instrument Division, and the North Richland and Richland Municipal Fire Departments whom the H.M.T.C. is seeking to represent. Six reimbursement requests were submitted to the AEC for approval. Phone wage surveys were made in the Northwest area regarding Boat Operators and specific jobs in printing establishments. One hundred forty-three requisitions for new help were reviewed and approved, 421 wage increases approved, 109 inter-divisional transfers approved, 220 reclassifications and 64 temporary reclassifications and 24 reactivation cases were processed and 116 additions to the weekly payroll approved.

Union Relations received the largest amount of Community and Public Relations attention among the several subjects dealt with during the month of October. Because of the fact that the Hanford Atomic Metal Trades Council had made its feelings known concerning General Electric's offer of an additional three per cent increase prior to the start of actual collective bargaining discussions, it was obvious to all concerned that an aggressive employee information program was required.

The various Union Relations information activities included the services of all of the various groups in Community and Public Relations, including

Employee and Community Relations Divisions
Summary

the Hanford Works Photo House and the commercial artist. Communication media utilized included radio, daily newspapers, Hanford Works NEWS, and special supplements for Hanford Works NEWS.

News releases during October totalled 56. Of this total, 49 went to the "local list" of media, and 7 were sent to the 75 daily newspapers, wire services, and radio stations in the four Northwestern states, in addition to the "local list".

Plans were completed during the month for conducting a meeting between Richland ministers and educators and G-E Nucleonics Department Management.

The Community Relations Supervisor, in addition to planning the ministers and educators meeting, also handled writing up the Community Divisions' accomplishments from September 1, 1947, to September 1, 1950, and a foreword to an historical report on Richland.

Speaking engagements arranged for by Public Functions during the month included a talk by the Assistant General Manager at the Yakima Kiwanis Club, and the Spokane Rotary Club. In addition, other speaking engagements for Hanford Works speakers were arranged for at the Sunnyside Chamber of Commerce, the AICHE meeting at Columbus, Ohio, and a talk before the Seattle Chapter of the Pacific Northwest Personnel Management Association.

A large portion of the responsibility for employee information concerning the G-E "Security Package" promotion was assigned to Special Programs and Hanford Works NEWS during the month. This required that Special Programs devote a large amount of time to the preparation of the promotion program as it will be carried out in the form of written and published information. The work in this field was done jointly with the committee within Employee and Community Relations which devoted time during October to this effort.

Special Programs prepared a full page message to employees and tri-city residents and it was published in both Columbia Basin NEWS and in the Tri-City HERALD during the month. Another message, designed especially for employees was prepared by Special Programs for publication in Hanford Works NEWS.

Another extensive editing and booklet design job was completed by Special Programs during the month when they forwarded the copy and artwork for the forthcoming "Guide to Richland" to the successful bidder for the printing.

Hanford Works NEWS served as a medium for advising of the increased need for personnel at Hanford Works. Stories during the month

Employee and Community Relations Divisions
Summary

emphasized that employees might advise relatives of the current needs, thus enlisting the assistance of employees in recruiting of personnel.

Other programs of interest to employees which received publicity in Hanford Works NEWS during the month included the Patrol Safety Hurdle Race, the Company's policy concerning employees entering the armed forces, the Hanford Civil Defense Program, information on the new income tax returns, and Suggestion System promotion stories.

The woman publicity writer in the News Bureau prepared three Women's Pages during October which were published in Hanford Works NEWS. A story containing a full schedule of youth activities was prepared by her and released to local newspapers and to the plant newspaper.

This employee also handles the "Share A Ride" column, which received approximately 270 calls during October for rides or riders. The calls included both requests for week end trips and vacation trips.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

OCTOBER, 1950

ORGANIZATION AND PERSONNEL

Employee Relations

Employment:

Effective October 3, 1950, a Field Clerk "A" assigned to the Plant Security and Services Division was upgraded to an Employment Interviewer and Investigator "B", and transferred to the Procurement and Procedures Group to replace the Employment Interviewer and Investigator "B" who was transferred during September.

Effective October 16, 1950, a General Clerk "D" was engaged and assigned to the Procurement and Procedures Group to replace a General Clerk "D", who was upgraded to a General Clerk "B" to fill a vacancy in that Group which will occur in November.

Effective October 20, 1950, a General Clerk "C" terminated voluntarily.

Employee Services:

Effective October 13, 1950, Norman Farnham, a Technical Graduate assigned to this Group under the Rotational Program, completed his three months and was transferred to the Health Instrument Division.

Insurance, Workman's Compensation, and Suggestion System:

There were no organization changes in this Group during the month of October.

Training and Program Development:

There were no organization changes in this Group during the month of October.

Union Relations

Effective October 23, 1950, one General Clerk "C" transferred to the Wage Rate Section from the Stenographic Services Division.

Effective October 16, 1950, one Staff Assistant joined the Wage Rate Section as a new hire.

Employee and Community Relations Divisions
Organization and Personnel

Community and Public Relations

On October 11, 1950, one Publicity Writer was employed to work in Public Functions.

On October 19, 1950, one Publicity Writer who worked in the News Bureau terminated voluntarily.

Number of Employees on Payroll	<u>October, 1950</u>
Beginning of month	92
End of month	94
	<hr/>
Net Increase	2

This increase is due to the increased volume of work in the Wage Rates Section of Union Relations Division.

Employee and Community Relations Divisions

ACTIVITIES

Employee Relations

Employment:

	<u>September, 1950</u>	<u>October, 1950</u>
Applicants interviewed	1,442	1,210

336 of the above applicants interviewed during October were individuals who applied for employment with the Company for the first time. In addition, 127 new applications were received through the mail.

Open Requisitions	<u>September, 1950</u>	<u>October, 1950</u>
Exempt	4	4
Nonexempt	280	238

Of the 280 open, nonexempt, nontechnical requisitions at the beginning of the month, 133 were covered by interim commitments. Of the 238 open, nonexempt, nontechnical requisitions at the end of the month, 119 were covered by interim commitments. During October, 151 new requisitions were received requesting the employment of 336 nonexempt employees.

	<u>September, 1950</u>	<u>October, 1950</u>
Employees added to the rolls	162	173
Employees removed from the rolls	<u>206</u>	<u>130</u>
Net gain or loss	- 44	• 43

Of the 130 employees removed from the rolls, only 5 were removed due to lack of work. One of these employees was in the bargaining unit.

Turnover:	<u>September, 1950</u>	<u>October, 1950</u>
	<u>Male</u> <u>Female</u>	<u>Male</u> <u>Female</u>

Excluding employees laid off for lack of work	2.13%	4.55%	1.32%	2.81%
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Over-all plant turnover:	<u>September, 1950</u>	<u>October, 1950</u>
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Excluding employees laid off for lack of work	2.60%	1.59%
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During October, 30 employees terminated voluntarily to accept other employment, and 21 terminated to enter military service.

Employee and Community Relations Divisions

At the end of October, there were 94 employees in lack of work status, divided into the following categories:

	<u>September, 1950</u>	<u>October, 1950</u>
Nonbargaining unit employees	48	37
Bargaining unit employees	140	57

Transfer Data

Accummulative total of requests for transfer received since 1-1-50	399
No. of requests for transfer received during October	27
No. interviewed in October, including promotional candidates	45
Transfers effected during October, including promotional transfers	40
Transfers effected to date since 1-1-50, including promotional transfers	308
Transfer requests active at month end	104
Transfers effected in October for employees given lay off notices	2
Transfers effected since 1-1-50 for employees given lay off notices	47
Number of stenographers transferred out of Stenographer Pool in October	6

During October, 16 people whose continuity of service was broken while in an inactive status were so informed by letter. In addition, 2 employees who were removed from the rolls without processing through our termination procedures were contacted by letter.

During October the number of straight typing tests given to applicants doubled the number usually given. This increase was primarily due to the addition of another interviewer to handle women applicants. Of the 39 tests given, only five applicants were able to meet our qualifications for typists.

Employment Statistics

<u>Number of employees on rolls</u>	<u>9-30-1950</u>	<u>10-31-1950</u>
Exempt		
Male	1,796	1,844
Female	48	48
Nonexempt		
Male	4,511	4,487
Female	1,440	1,459
TOTAL	7,795	7,838

ADDITIONS TO THE ROLLS

	<u>Exempt</u>	<u>Nonexempt</u>	<u>Total</u>
New Hires	26	116	142
Re-engaged	1	7	8
Reactivations	3	17	20
Transfers (from other plants)	3	0	3
Actual Additions	33	140	173
Payroll Exchanges	27*	3**	30
GROSS ADDITIONS	60	143	203

* Transferred from Weekly Payroll

Employee and Community Relations Divisions

TERMINATIONS FROM THE ROLLS

	<u>Exempt</u>	<u>Nonexempt</u>	<u>Total</u>
Actual Terminations	7	96	103
Removals from the rolls (deactivations)	2	25	27
Payroll exchanges	3*	27**	30
 GROSS TERMINATIONS	 12	 148	 160

95% of all terminations were on a voluntary basis, and most of these were for the following reasons: (a) Personal Reasons (b) Another Job (c) Other Reasons.

GENERAL

	<u>9-1950</u>	<u>10-1950</u>
Applicants interviewed	1,442	1,210
Photographs taken	260	303
Fingerprint impressions taken (in duplicate)	371	370
Procurement letters written	568	474

ABSENTEEISM STATISTICS (Weekly Salary Rolls)***

Male	1.69 %	2.21 %
Female	2.81	2.90
Total Plant Average	1.96	2.51

INVESTIGATION STATISTICS

Cases pending at beginning of month	908	850
Cases received during the month	188	200
Cases closed	246	269
Cases pending at month end	850	781
Cases found satisfactory for employment	184	165
Cases found unsatisfactory for employment	5	6
Cases closed before investigations completed	6	6
Special investigations conducted	34	13

* Transferred to Weekly Payroll

** Transferred to Monthly Payroll

*** Statistics furnished by Weekly Payroll Division

Employee Services:

During October, two retired employees were visited and eleven were contacted by letter in conformity with our policy established to contact retired employee relative to benefits available to them. In addition, one retired employee has requested that his pension payment be made into a lump settlement rather than monthly payments. Another pensioner was contacted to ascertain if he wished to continue his participation in the Group Life Insurance Plan, and if so, to request him to keep his premiums paid regularly.

Employee and Community Relations Divisions

During October, it was necessary that a representative of this Group make a trip to Prosser, Washington, to obtain a photostatic copy of the Coroner's Report of the death of William H. Day, Jr., a former employee, in order that the Metropolitan Insurance Company would release his Life Insurance to the beneficiary.

The following visits were made with employees during the past month by a representative of the Employee Services Group:

Kadlec Hospital	110
Employees at home	4
Salary checks delivered to employees confined to Kadlec Hospital	33
Salary checks delivered to employees confined at home	4

On October 17, 1950, the Employee Services Group released for distribution E. W. Instructions Letter No. 157, which described in detail the General Electric Educational Assistance Program.

As of the end of October, participation in Company Benefit Plans were as follows:

Pension Plan	94.5 %
G.E. Group Life Insurance	77.7
G.E. Group Health Insurance	95.2
Employee Savings & Stock Bonus	41.1

Seven employee deaths occurred during the month of October, namely:

John O. Hornbeak, Purchasing and Stores Division;
Thomas Sigurdson, Construction Division;
Odell E. Carson, Technical Separations Division;
Leo Francis Peacock, Power Division;
Donald Lee Shepard, Pile Technology Division;
Kenneth White, Technical Services Division; and
Margaruite E. Tucker, Purchasing and Stores Division.

The following employees retired during October:

Ethel C. Travis, Medical Division, (Optional);
Glenn P. Sebree, Transportation Division;
Angus E. Daer, Maintenance Division;
Frank Fillinger, Public Works Labor Division; and
Ernest N. Hull, Transportation Division.

Each of these employees was interviewed prior to their retirement in order that all benefit plans to which they might be eligible during their retirement might be clearly explained.

Four publications of Employee Benefit Plans Information were prepared and released to the Works News for publication during October. In addition, the obituaries of five of the deceased employees were prepared and released to the Works News for publication during the month.

Employee and Community Relations Divisions

During the week October 9 through October 15, a member of this Group attended a meeting in Schenectady relative to the programming of the new Security Package at this Works. All preliminary arrangements necessary for this program have been completed, and the plan will be presented during November.

Reserve and Selective Service

On October 19, two representatives of this Group visited the State Director's Office of Selective Service in Tacoma, to discuss problems which pertain to this Works in connection with Selective Service, particularly with reference to our requests for deferments. Indications as a result of this meeting are the State Selective Service Headquarters could not offer us much help, as the policy established by the National Headquarters of Selective Service was to draft all single, nonveterans between the ages of 19 and 26 regardless of age. At the present time efforts are being made through the Atomic Energy Commission in Washington to have some kind of a general policy established by the National Headquarters of Selective Service with respect to employees of the A.E.C.

On October 23, two members of this Group visited the Yakima Selective Service Local Board No. 14 in order to present some of our special problems in regard to Selective Service to them. This Board indicated that every consideration would be given our requests for deferments.

During October, 9 reservists received orders to report for active duty. Deferments have been requested on six of these employees, with five being granted and one still pending.

At the end of October there were 601 reservists on our rolls. At the present time the reservists are categorized as follows:

Category A	133
Category B	60
Category C	47
Category D	347

The statistics with respect to employees effected by the Selective Service Act are as follows:

Employees registered under Selective Service Act of 1948	708
Employees registered who are veterans	433
Employees registered who are nonveterans	275
Employees classified as 1-A who are single and nonveterans	105
Employees classified as 1-A, in Category A	55
Employees classified as 1-A, in Category B	10
Employees classified as 1-A, in Category C	12
Employees classified as 1-A, in Category D	27
Employees unclassified who are single	17
Deferments requested to date	68
Deferments granted	23
Deferments denied and appealed	12
Deferments denied and not appealed	1
Deferments still pending	32

Employee and Community Relations Divisions

Insurance, Workman's Compensation, and Suggestion System:

Suggestion System

	<u>September, 1950</u>	<u>October, 1950</u>	<u>Total since 7-15-1947</u>
Suggestions received	111	128	5,657
Investigation reports completed	139	202	5,337
Awards granted by Suggestion Committee	27	52	848
Cash Awards	\$ 405.00	\$ 580.00	\$ 12,650.00
Estimated Savings	3,355.66	6,243.50	

Three issues of the Works News during October carried news stories featuring the Suggestion System.

The largest single award made during September was to an Instrument Division employee, who suggested the substitution of Ever-Ready # 742 batteries in place of flashlight cells for use in V.G.M. Portable Instruments, to reduce the number of servicings necessary.

Insurance and Compensation

Compensation

John T. Gamache -- On March 17, 1949, the claimant alleged that he had sustained a back strain while helping to lift a motor onto a base, while in the employ of the Atkinson and Jones Construction Company. This claim was allowed and he was given extensive conservative treatment. On June 9, 1950, the Department of Labor and Industries issued an order allowing him a permanent partial disability award of 65% in the amount of \$ 2242. We objected to this award, and the claimant was given another examination, at which time the examiners re-affirmed their contention that he be allowed the 65% disability award. As a further check we enlisted the services of an independent insurance adjusting firm in Portland, Oregon, to investigate the claimant at his home, and as a result nothing was developed to indicate that the claimant was not entitled to this disability award. As a result we withdrew our protest to the final claim.

LeRoy E. Tyler. -- On May 10, 1948, the claimant fell and sustained an injury to his back. After several months of treatment, he was examined by two physicians who recommended a permanent partial disability award of 15% of the maximum allowed for unspecified injury. Mr. Tyler preferred to accept further treatment rather than this award, and a subsequent rating examination by three physicians resulted in their opinion that he receive 15% permanent partial disability. A physician attached to our Medical Division felt that the claimant had received a severe injury and that the award was not out of order. In addition the claimant was compelled to wear a neck brace for six weeks after the accident, and to oppose the award could have a bad affect from an employee relations standpoint. In view of the foregoing, and the recommendations of five doctors located away from the plant, the award was allowed to go uncontested.

Employee and Community Relations Divisions

Rae H. Carmichel -- The claimant states he was injured on November 30, 1948, while in the employ of the Newberry Neon Electric Company, and at the time felt a sharp pain in his lower left side. The claimant was given conservative treatment for a muscle strain and dismissed from medical care shortly thereafter. A physical examination given at the time of his termination, on February 11, 1949, disclosed no hernia, however, on June 20, 1949, Mr. Carmichel entered a claim for a hernia which he alleged was sustained while working on the Project. The claim was opposed by the General Electric Company and rejected by the Department of Labor and Industries. The claimant appealed and hearings were held to enable both the claimant and the Company to present testimony. On October 26, 1950, the Board of Industrial Appeals held that there was no causal connection between the hernia condition and the alleged accident. This decision by the Board realized a savings of \$ 600 for the Company.

Position Schedule Bond - Franklin County

The Position Schedule Bond covering guard-deputies in Franklin County has been cancelled effective October 1, 1950. This results from the fact that no patrolmen or guards will be stationed in that County after that date.

General Electric Property Damage by Third Parties

On October 27, 1950, J. A. Wood was driving a government owned Buick near Buena, Washington. A large semi-truck was approaching from the opposite direction with a drag shovel loaded on the flat bed. The shovel started to swivel and the truck jack-knifed with the shift of the load. The momentum caused the drag shovel to roll off the truck and onto the government sedan which was pulled over to the side of the road and stopped. The accident resulted entirely from the negligence of the other party and the matter has been reported to the insurance carrier of the Central Sand and Gravel Company who owned the equipment.

On October 26, 1950, at approximately 3:15 P.M. a large dearator tank fell from its position above the 190 Building in the 100-F Area, causing extensive damage to the roof of the building. The Morrison-Knudson Company, through a subcontractor had undertaken the job of removing the tank from a tower on top of the 190 Building and had the tank suspended by chains for several hours before it fell. The reason given for the fall was the breakage of two bolts on which the chains holding the tank had been attached. Several workmen received minor injuries but no one was seriously hurt. Inasmuch as the job was unusually hazardous the Morrison-Knudson Company was required to insure themselves for any resulting damage. It is also our understanding that they have assumed complete responsibility for the damage which resulted when the tank fell.

Life Insurance

Code information for use by insurance companies in issuing insurance to employees of this Works was furnished to 41 insurance companies and investigation agencies during October.

Employee and Community Relations Divisions

Insurance Statistics

	<u>September, 1950</u>	<u>October, 1950</u>	<u>Total since 9-1-1946</u>
Claims reported to the Department of Labor and Industries	90	92	3,736
Claims reported to the Travelers Insurance Company	4	8*	463

* Of the above claims reported during October to the Travelers Insurance Company, 6 were property damage claims, and two were bodily injury claims.

Training and Program Development

During the week of October 16-20, 1950, the 40-Hour Supervisor's Training Program was conducted with 28 supervisors attending.

During October, 4 more groups of supervisors, totaling 80, enrolled and started the "Principles and Methods of Supervision". This brings the total number of supervisors participating to 240, with 12 groups. The problem of giving supervisors on shift the "Principles and Methods of Supervision" has been solved, and these supervisors will begin receiving this training in January, 1951.

During October, two issues of the H.W. SAGE were prepared and mailed to all supervisors.

In October, 12 more copies of the Supervisor's Handbook on Employee Relations were issued to supervisors in the various divisions, this brings the total number of these books issued to 1,412. There was one revision to the Handbook made during October.

A total of 146 new employees were given orientation during August, and of this number 72% elected to participate in the Group Life Insurance Plan, and 72% elected to participate in the Group Health Insurance Plan. In addition, 3 re-engaged and 4 transferred employees were given orientation, of this number, 50% elected to participate in the Group Life Insurance Plan, and 87% elected to participate in the Group Health Insurance Plan.

On October 13, 1950, the 8-hour, trial, test program for nonexempt employees covering subjects to inform and interest the employee in order that supervisor might hold similar informative meetings in the future, was presented to 30 nonexempt employees in the "S" Division in the 200-W Area. The "S" Division has requested that these programs be continued for their employees.

At the request of the "S" Division, the Training and Program Development Group again presented the program on the spirit and intent of the GE-HAMTC Agreement to 28 of their Supervisors-in-Training.

Employee and Community Relations Divisions

Union Relations and Wage Rates

Union Relations - Operations Personnel:

Numerous meetings were held during October between the Company and the HAMTC as a result of the Council's request that the Contract be opened for discussion of a blanket wage adjustment for all members of the bargaining unit.

Formal negotiations began on October 4, with the Company offering a 3% wage increase (4¢ minimum) to all employees and the HAMTC countering with a demand for 20¢ an hour across the board. An agreement was not reached; therefore, the Council requested the services of Federal Mediation, represented by Albin Peterson who participated in the meetings for about one week but was unsuccessful in effecting a settlement.

Negotiations were recessed on October 23, 1950, pending any new developments and possible intervention by the Davis Panel.

A representative of the NLRB was in contact with the Company to determine the validity of petitions seeking recognition of the HAMTC as bargaining representative for certain employees of the Health Instrument Division and the Village Firemen of Richland and North Richland.

The Company was advised that it had been designated as defendant in a suit charging violation of the Davis-Bacon Act. Preliminary work is being accomplished by this division in reviewing the Company's position in this case.

Grievance Statistics - Ten grievance reports were received during the month, bringing the total received this year to 183. Three hundred fifty-nine grievances have been received since the grievance procedure was established in April, 1949. Grievances were received this month from the following divisions:

Mfg. Electrical	3
Mfg. Instrument	1
Mfg. Transportation	2
Mfg. "S" Division	1
Mfg. "P" Division	2
Technical Services	<u>1</u>
Total	10

Employee grievance reports received during the month of October were regarding the following subjects:

Jurisdiction	2
Hours of Work	2
Overtime Rates	1
Seniority	1
Sick Leave	1
Wage Rates	<u>3</u>
Total	10

Employee and Community Relations Divisions

The status of all grievances received to date is as follows:

	<u>1949</u>	<u>1950</u>	<u>Total</u>
Settled satisfactorily, Step I	56	42	98
Settled Step I - Time Limit	59	73	132
Pending at Step II	--	18	18
Settled at Step II	<u>61</u>	<u>50</u>	<u>111</u>
Totals	176	183	359

Twelve per cent of the total grievances received this year have been submitted by employees outside the bargaining unit.

Meetings

The Council Grievance Committee and the Company Negotiating Committee met once during the month for the purpose of processing grievances at the Step II Level.

Union Relations - Subcontractor Personnel:

Atkinson-Jones was notified by the Operating Engineers on October 12 of a desire to renegotiate their present Schedule "A" and presented demands which included:

1. 50¢ per hour blanket increase for all classifications;
2. \$6 per day in lieu of travel pay for work within the barricade;
3. \$2 per day in lieu of travel pay for work outside the barricade;
4. Double time for all overtime, together with changes in working rules.

Negotiations were held on October 25, at which time Contractors informed the Union they saw no reason to consider wages other than negotiated at Spokane (average 11.2¢ effective January 1, 1951 and 5¢ per hour effective January 1, 1952). The Union representatives exhibited a determination to negotiate wages higher than Spokane irrespective of (1) the Contractor's policy of adhering to prevailing wages, and (2) GM-44. On October 31, we were informed that the Engineers had requested the intervention of the Federal Mediation and Conciliation Service in the negotiations. A meeting is scheduled for Thursday, November 2.

An Operating Engineers Union Authorization Election held on October 17 and 18 resulted in the following vote:

Eligible to vote	216
Actually voted	203
Votes for	201
Votes against	2

Employee and Community Relations Divisions

Negotiations with the I.A.M., Lodge 1743, were concluded October 18, 1950, with the signing of an Agreement at variance with the Master Agreement only in minor respects and a Schedule "A" which provides the following:

	<u>Eff. 8-14-50</u>	<u>Eff. 1-1-51</u>
Precision Machinist	\$ 2.40	\$ 2.45
Precision Machinist Foreman	2.65	2.70

Daily and Saturday overtime - time and one-half
Sunday and holidays - double time

A Union authorization Election for Lodge 1743 held on October 25, 1950, resulted in the following vote:

Votes for	52
Votes against	12

News reports indicate that the I.A.M. delegation has accepted the five-point proposal extended at the Houston convention for reaffiliation with the A.F. of L. and the said proposal will be presented to the membership for referendum vote in January.

Negotiations with a view toward renewing the Master Agreement were held in Pasco on October 19 and 26, 1950. The Contractors reiterated their demands that the Building Trades Council should not be included as a party to the Agreement. The matter is still unsettled. The Union also made demand for increase in isolation pay. It was agreed that Ray Northcutt should be present at the next session inasmuch as he was one of the original negotiators. A meeting has been scheduled for November 6 in Portland.

The (Plumbers) State Board of Negotiators and/or Arbitrators decided at a meeting on October 20 that effective February 1, 1951, the Journeyman's rate would be increased 25¢ per hour to \$2.75. At the same meeting the Board "---adopted a plan for vacation with pay, in which accumulations will start January 1, 1951." Attorneys are presently studying the plan, the details of which have not been revealed. Unofficial information indicates that (1) 11¢ per man hour will be paid by employers, and (2) the money will be paid to the local Union and kept in a "Vacation Fund" account.

By letter of September 22, 1950, the Contractors' Negotiating Committee notified the Ironworkers that the request to reopen their Schedule "A" was premature and could not be considered until the close of the current year (August, 1951). The Union's reply informed Atkinson-Jones that they were "unable to go along with a program of this nature and must insist that our request to open the Schedule 'A' of the Hanford Agreement or any forth coming Agreement covering the Hanford Project stand, until such time as your Negotiating Committee either refuses to negotiate or sets a date to negotiate the present Schedule 'A'". The Negotiating Committee on October 20 notified the Ironworkers of their continued belief that the Contract opening notice was not in order, but that they were willing to discuss the matter at the convenience of the Union.

Employee and Community Relations Divisions

Negotiations with the Technical Engineers continued during the month under the veiled threat of a strike to enforce wage demands. On October 17, Atkinson-Jones offered a \$3 per week increase which would affect practically the entire Union membership. The offer was apparently accepted by the Negotiating Committee, but was rejected by the membership in a meeting on October 19. The Union notified Atkinson-Jones on October 20 of the rejection and indicated that they had (1) arranged for Conciliator Peterson to attend negotiations on October 30, and (2) served (on October 4) notice of the dispute which meets legal requirements for a strike on November 4. The scheduled meeting was postponed until October 31, 1950, at which time Atkinson-Jones reiterated the \$3 offer and received a counterproposal of \$5 from the Union. Further meetings are scheduled.

The Commission requested comments from General Electric relative to a proposal to require lump sum and unit price subcontractors to submit copies of their weekly payrolls for the purpose of determining their compliance with the Davis-Bacon Act and the Eight Hour Law. It is contemplated that such a provision will become a part of all future contracts. The Commission was advised that General Electric could foresee some opposition from the contractors, but would interpose no objections to such a course of action if directed to do so by the Commission.

The Boilermakers on October 4, 1950, notified Atkinson-Jones of a desire to negotiate wage increases of ten cents (10¢) across the board in conformity with their Seven Western States Agreement. No meeting has been scheduled.

The Roofers have informed Atkinson-Jones that their opening notice was intended only as a request to negotiate a new wage scale. Atkinson-Jones has assured the Roofers that a meeting will be scheduled immediately after the first of November for the purpose of negotiating a new Schedule "A".

A demand by the Bricklayers has been made for \$3 per hour (25¢ increase).

Reimbursement Authorizations

Requests for Reimbursement Authorization handled during the month:

1. Travel Allowance, Plumbers and Steamfitters
2. Office Workers - Wages, etc.
3. Sheet Metal Workers - Wages, etc.
4. Newbery-Neon Electric - Payroll Losses
5. Teamsters - Bull Lift Operator

Reimbursement Authorizations received during the month:

1. Travel Allowance, Plumbers and Steamfitters
2. Office Workers - Wages, etc.
3. Sheet Metal Workers - Wages, etc.
5. Teamsters - Bull Lift Operator

Work Stoppages

Negotiations with the Technical Engineers continued during the month under the threat of a strike that could legally be accomplished on November 4, 1950.

The Operating Engineers have fulfilled legal requirements for a strike and have requested the intervention of the Federal Mediation and Conciliation Service in their current wage negotiations.

Wage Rates:

Announcement of a three per cent increase, to be effective retroactive to September 18, 1950, was made on October 3, 1950. As a result of this decision, the Wage Rate Division calculated and issued to the Payroll Division new base and preferential rates for approximately 3000 non-unit employees, using as a basis 3% or a minimum of 4¢ per hour. Because of the HAMTC's refusal to accept the 3% increase and a demand of additional money, the 3% increase was not applied to employees in those classifications represented by the Council.

As a result of a stipulation by the Council, the increase was figured on the pay of employees in the Health Instrument Operational Division and the North Richland and Richland Municipal Fire Departments. This stipulation was requested because of the Council's previous action in seeking certification as bargaining representative for the above-mentioned groups.

The announcement of this second increase within a period of three months made it necessary to post new rates to each of the many individual employee record cards maintained in this office. The non-unit progression schedule, conversion table and non-unit job description manuals were revised and issued to the holders of such manuals.

Reimbursement requests were forwarded to the AEC for new classifications and revisions in the following categories:

- Change in job rate of Glass Technician
- Change in job rate of Design III
- Change in starting and progression schedule of Draftsmen I
- Change in starting and progression schedule of Draftsmen II
- New classification of Survey Boat Operator
- New classification of Assistant Survey Boat Operator

Phone wage surveys were made in connection with determining the rate to be assigned the Boat Operator and a second survey was made to determine prevailing wages in the printing establishments in the Northwest area for specific jobs.

Retroactive payments were made to individuals who had been laid off for lack of work and after their re-employment had their service restored by the Pension Board. As a result of the decision to make the above payments, discussion was started on the advisability of applying the same treatment

Employee and Community Relations Divisions

to individuals who had left the Company for the purpose of furthering their education and after re-employment also had their service restored by the Pension Board.

As a result of the above action, steps have been taken to change the hiring rules so that individuals eligible for restoration of service will be rehired under the existing reactivation rules.

Several meetings were held during the month with representatives of the HAMTC and the Building Service Employees International Union, Local 201, relative to questions concerning classifications, progression, upgrading, transfer procedure, etc.

In addition to the daily function of checking, reviewing and discussion of jobs, job contents, transfers and wage problems, a total of 220 reclassifications and 109 transfers between divisions were investigated and approved. Sixty-four temporary reclassifications, 116 additions to the payroll and 24 reactivation cases were processed. Requisitions checked and approved numbered 143, and 421 increases were passed and forwarded to the Payroll Division.

Employee and Community Relations Divisions

Community and Public Relations Division

PUBLIC INFORMATION - News Bureau

During the month of October, 56 releases of information were made by the News Bureau.

Local News Releases

During October, 49 releases of information in the form of stories and/or photos on the following topics were made to the "local list" of media, which is comprised of the Columbia Basin NEWS, Tri-City HERALD, Yakima Morning HERALD, Lind LEADER, Walla Walla Union-BULLETIN, Spokane CHRONICLE, Works NEWS, and radio stations KPKW, KWIE, KIT, KREW and KALE. Radio station KREW in Sunnyside, Washington was added to the list of local media during October.

Personnel

Union Activities - Seven news releases were given to the local media which explained General Electric's offer to the HAMTC, the progress of wage negotiations and, in certain instances, took issuance with statements made by union representatives. The seven releases were preceded by a release to the "daily list" of media which stated that the Company was placing an additional 3 per cent increase, with a minimum of four cents per hour, in effect for its non-bargaining unit employees at Hanford Works. It was stated that the HAMTC was being offered the same increase. A concerted effort was made to insure that the local press understood G.E.'s offer, the reasons behind it, and why the Company thinks it is a good offer. The reasons why the Company prefers a percentage increase rather than a flat rate per hour increase. A comparison of our offer with wage increases in other major industries were among the subjects discussed with representatives of local media. Such matters were discussed with Hill Williams on the Tri-City HERALD by the G.E. negotiator and with Williams and Ed Lundy of Columbia Basin NEWS, by the News Bureau supervisor.

General - A system for placing employees who are National Guard members, reservists or subject to the draft in four categories which define the length of time it will take to replace them, was described in a release.

Vital statistics of the four employees who were killed in a plane crash during October were made available to local media.

Speakers - A release based on a talk by the Company's Vice President in Charge of Engineering Policy before the California Manufacturers Association was distributed to the "local list."

Plant

Medical - Four releases about the "Hi, Neighbor!" mental health radio series, prepared by Special Programs, were released to local media. Two stories announcing new cases of polio at Kadlec Hospital were released.

Employee and Community Relations Divisions

Safety - It was announced that G.E.'s Public Safety Director at Richland would attend the Manager's conference and the 38th National Safety Congress in Chicago during October. It was stated that he would describe Richland's bicycle safety program at the Congress.

Community

General - It was announced that the administration offices of the Company's Public Works Division would be moved from Building 69-X to a hutment west of the Bomber Bowl.

Construction - The construction schedule, the staff, and the books to be placed in Richland's new library were discussed in a local release.

Electrical - Tenants were warned of 9 power outages during the month in 5 releases.

Fire Prevention - It was announced that George R. Prout and the A.E.C. manager at Hanford Works would be interviewed during a 15-minute radio program to be aired over the three local radio stations in the kick-off for National Fire Prevention Week. A story described the cause of several near-serious fires and warned residents to try to prevent similar occurrences in the future.

Housing - Tenants of Bremerton houses in North Richland will furnish their own fuel and minor maintenance, beginning December 1, according to an announcement by the Company's Realty Supervisor at the construction camp.

Public Works - It was announced that irrigation water in Richland would be turned off until spring. Also, two releases were distributed on the establishment of parking compounds that should be used by Richland football fans when they attend games at the Bomber Bowl. Details for a contract for the seal-coating of approximately 10 miles of Richland's streets were released. The manager of the G.E. Municipal Divisions stated that Swift Boulevard is scheduled to be extended to give ranch house residents direct access to the by-pass highway.

Recreation - Five releases were made describing completely the fall recreation program being offered by the G.E. Parks and Recreation Division for Richlanders of all ages. Pictures and schedules for all types of recreation from square dancing, finger painting and weight lifting to art classes are offered. A release was made that a Junior Basketball Officials Clinic would be started by the Columbia Sports Officials Association and the G.E. Recreation Division. The Boy Scout program in Richland was described in connection with the Community Chest drive.

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Releases Sent Throughout the Northwest

During October, 7 informative news releases were sent to 75 of the leading daily newspapers, wire services, and radio stations in the four northwestern states in addition to the local mailing list. Below are the subjects of the releases:

Personnel

Union Activities - It was announced that an additional 3 percent increase, with a minimum of 4 cents per hour, was being given to all non-bargaining unit employees of G.E. at Hanford Works and that the same offer was being made to bargaining unit employees.

Speakers - It was announced that the Assistant General Manager of the Nucleonics Department would speak before the Yakima Kiwanis Club. It was explained that several radiation detection instruments as well as other special apparatus used at Hanford Works were shown to the group. He described the Hanford Works safety record, its payroll and he described, within the limits of security, the manufacturing process at Hanford.

Plant

Plant Hiring - It was stated that stenographers in particular and some 30 other categories of employees could go to work at once in Hanford Works.

Construction - Bids were called during October to furnish and install a radio communication system in Richland and to construct a new group of factory structures known as the Hot-Semi Works.

Community

Construction - It was announced that a quarter-million dollar theater opened for business in the uptown business district in Richland during October. L. E. Baldwin, Inc. and Frank Dunham and Company of Seattle, as a joint venture, was announced as the apparent low bidder for rehabilitating 633 prefabricated houses in Richland.

Management "A" List

Copies of a release based on Harry A. Winne's speech before the California Manufacturers Association were sent to this management group.

Tri-City HERALD Only

Special stories for the Tri-City HERALD about the Richland Boy Scout Program, the Washington State Children's Home Society and the Richland Youth Camp Council were released in conjunction with the Richland Community Chest Drive. Two questions submitted by the HERALD about the

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annual budget and payroll of the new library were answered. The HERALD also asked for information about the fence built in 1943-44 to enclose the irrigation ditch which flows through Richland. This information was supplied along with the estimated cost of construction of the fence, \$40,000.

Columbia Basin NEWS Only

Columbia Basin NEWS requested a feature story about the farm which the Health Instrument Division operates. A feature story was prepared, built around Jack Cline, an H.I. employee, who operates the farm. Seven photographs with cutlines of the farm were supplied to the NEWS. Two photographs showing G.E.'s part in the Community Chest drive were given exclusively to the NEWS. One featured the Manager of the Nucleonics Department giving a check for \$3,000 to the Hanford Works Community Chest Chairman, Dr. Patnode, as G.E.'s contribution to the drive. The other depicts all employees of G.E.'s Commercial Facilities Division holding up one dollar bills, donations over and above their quota which they gave in honor of G.E. President Charles E. Wilson, who is National Drive Chairman this year. A feature story about a fire drill program to be held at Kadlec Hospital during National Fire Prevention Week was given to the NEWS. They also received 6 photographs showing the drill in progress and special fire prevention equipment at Kadlec Hospital. A representative of the NEWS requested a statement on the suggestion of the HAMTC that the Council and the Company jointly conduct a cost-of-living survey in this area. It was stated that the Company and the Council do not have the trained personnel to make an accurate survey of this kind. The NEWS asked if the Company had been notified that the Mediation Board would take part in current union negotiations. It was stated that the Company had not been notified that the board would enter negotiations but if they did the Company would be glad to repeat its offer and to hear and consider whatever the mediators had to say. In response to a request, it was stated that there is no expectation that Hanford Works would go on a 6-day work week. At the request of the NEWS, they were furnished with a photograph of the 40 x 150 metal hutment damaged by the recent wind storm.

Walla Walla Union-BULLETIN Only

A representative of the Walla Walla Union-BULLETIN requested background information to help in preparing two stories: one about pollution control in the Columbia River and the other on the Hanford Works railroad system. Interviews were arranged with the Manager of the Technical Divisions and the Assistant to the Manager of the Health Instrument Divisions. An employee of the News Bureau accompanied the reporter during the interviews and arranged for photographs which were supplied to the BULLETIN on each of the two stories.

PUBLIC INFORMATION - Community Relations

A Ministers-Educators-Management luncheon, aimed primarily at acquainting school and religious leaders with the provisions of the G-E Security Package, was planned and scheduled to be held some time during the week November 13 to 17.

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Questions from a local newspaper concerning the recent reorganization of the Community Divisions and the new library planned for Richland were received and answered promptly.

Community Divisions' accomplishments from September 1, 1947 to September 1, 1950, were written and forwarded to Schenectady, at the request of the Community Manager, for inclusion in the report, "Four Years at Hanford Works".

A representative of the Joint Atomic Energy Committee, Mr. William Bergin, requested and was furnished copies of news stories released by the G.E. News Bureau concerning the organization of the Community Divisions. He said he planned to use the information in a historical report he is writing on the three atomic cities for the Joint Committee.

A foreword to a historical report on Richland was written, at the request of the Community Manager, for Mr. William Bergin, representative of the Joint Committee on Atomic Energy. It was submitted to the Assistant Community Manager and the Community Divisions' Legal Counsel for their approval and action.

The soundness of a lease provision which requires that tenants replace windows broken by natural causes was questioned immediately after a recent windstorm resulted in the breakage of a number of house windows. It was suggested to Management that the provision could result in adverse public opinion of the Company.

A letter concerning winterizing of houses was written at the request of the Tenant Relations Section. It was suggested to this group that the mailing of such a letter to all tenants might help solve last winter's problem of houses freezing-up because of tenants' neglect.

A procedure for collecting debts currently owed by some residents for tenant services was outlined, at the request of the Community Accountant. He said he wanted the benefit of public relations thinking on the problem.

Community and plant meetings attended - the monthly meeting of the Richland Community Council; a meeting called by the Community Manager concerned with the writing of a letter to the A.E.C. about housing in Richland; the staff meetings of the Municipal, Real Estate, and General Services Divisions, and the Community and Public Relations Division.

Activities of the Municipal, Real Estate and General Services Divisions were reported to employees and the public via the Works NEWS, newspapers, radio, and other public information media. Superintendents of the Municipal, Real Estate and General Services Divisions were contacted twice weekly, in an effort to gather information of interest and concern to Plant personnel and the public.

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PUBLIC INFORMATION - Public Functions

Mr. Harry A. Winne, Chairman, Nucleonics Committee, was the principal speaker at the California Manufacturers Association's annual convention held in San Francisco, California on October 19. The General Manager of the Nucleonics Department was slated to speak, but, owing to his sudden illness he was unable to fulfill the engagement. Mr. Winne's topic was "Industry and Atomic Energy...the Prospects...The Future" and in addition, he spoke before members of the San Francisco Electric Club. Publicity for these assignments was ably handled by our News Bureau.

"Our Relations At Hanford Works" was the subject of a presentation made by George L. Brown, Jr. of the Employee and Community Relations Divisions before members of the Northwest Chapter Pacific Northwest Personnel Management Association at Seattle, Wash. on 10/19/50.

"Industrial Opportunity for Scientific and Engineering Graduates at Hanford Works and General Electric Company" was the subject of a presentation made by D. W. McLenegan of the Rotational Training Group before members of the senior Chemical Engineers, Chemists, and Metallurgist students of the University of Minnesota, the University of Illinois senior Chemical Engineers, Chemists and Metallurgist students and the Northwestern University senior Chemical Engineers, Chemists, and Metallurgists on 10/27/50, 10/30/50 and 10/31/50.

"Cathodic Protection of Stainless Steel Buried in the Ground" was the subject of a presentation made by F. J. Mollerus of the Electrical Division before members of A.I.E.E. at Oklahoma City, Okla. on 10/26/50.

"Industrial Opportunity for Scientific and Engineering Graduates at Hanford Works and General Electric Company" was the subject of a presentation made by R. E. Curtis of the Rotational Training Group before members of the University of Washington senior Chemical Engineers, Chemists and Metallurgists at Seattle, Wash. on 10/5/50.

"A Demonstration of the Use of Remote Tools in the Production of Plutonium" was the subject of a presentation made by F. K. McCune of Management before members of the Yakima Kiwanis Club at Yakima, Wash. on 10/31/50.

"General Survey of Instrumentation of Health Physics" was the subject of a paper presented for Dr. H. M. Parker of the H.I. Divisions before members of A.I.E.E.-I.R.E. at New York City on 10/20-26/50.

Film Showings

Seven General Electric Films were procured for plant groups, organizations, civic clubs and community groups during the month, including inspection and repairs which are made by us. The dearth of new General Electric films is noticeably reducing the number of requests made of us and plans are being formulated for procuring some recommended films on economics and current topics from the University of Washington's film library (to be previewed for clearance) to offer our customer groups.

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Radio

(It should be mentioned here that because of the lack of studio facilities and inconvenience of station visits, the majority of our programs are tape recorded and tapes are supplied to the stations for transcribed broadcasts. This in no way reduces the prestige of "live" broadcasts; in fact, it is enhanced by our ability to provide them with high quality material as we can re-edit to attain this.)

"The Lady from Safetyland" was concluded with the broadcast of November 4 and will undergo revising in the next three months with a new program to be introduced this spring.

"Are You Listening...?" blossomed out with a new column head this month and upon completion of the current football season an editorial column will accompany the schedule. The editorials will feature comments on General Electric radio efforts and pertinent facts on their "Adventures in Science" forums, currently a "platter" presentation.

The "Hi, Neighbor!" program sponsored by the Richland Health Council continues to be "aired" each Sunday night at 7:30 p.m. over radio station KWIE and the "live" forum broadcast scheduled for December 3 is being emphasized for those interested in this planned feature.

"Freedom is Everybody's Job!" consists of special spot announcements prepared by Public Functions for broadcast by all three local radio stations to promote a "get-out-the-vote" campaign endorsed by the Company. A novel feature was the recording made of the old Hanford High School bell and combining it with a four-line rhyme reminding residents in the tri-city communities of our good citizenship responsibilities. These were accepted for broadcast by all local stations.

"United Nations Day" was observed in Richland with an outdoor program held on the Richland Greenway October 22. Public Functions cooperated by furnishing and operating the public address system. A feature of the anniversary program was three interview-type recordings prepared by this group for the committee which consisted of factual comments on the accomplishments of the U.N. in the past five years. Some well-known figures of Richland participate, including the Division Head. The public address system was also furnished to the Kiwanis Club who sponsored the appearance of Dr. Compton of Washington State College and a delegate to the U.N. Assembly, who spoke to the members of this club.

Assistance was rendered the Camp Fire Girls Council, in their current fund drive. Recordings were made of skits put on by the girls and the local radio stations accepted them as a public service feature for broadcasting.

"The General Electric 'Security Package'" was broadcast by all three radio stations, Sunday, October 8. Arrangements were made for the ac-

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announcers of the stations to conduct interviews with Mr. McCune, Mr. Dupuy and Mr. Callahan on the facts of the offer and for recording these presentations. Valuable engineering assistance was rendered by Ray Benckenstein in the recording work.

Program Development

"Our Relations at Hanford Works" consisted of a visualizer presentation prepared by Public Functions for the Division Head who presented it to the Seattle Chapter of the Pacific Northwest Personnel Management Association Conference on behalf of the Divisions' Manager who was unable to appear. A tentative request to present it to a group of students at the University of Washington was received during the visit. The presentation was an up-to-date record of the accomplishments of Employee and Community Relations Divisions, and the use of charts and visual explanations told our story.

A proposal was submitted to the committee on "Security Package" programming for an auditorium presentation to Supervisors and was accepted.

A complete publicity package was produced on Fire Prevention Week for the Richland Safety Council. This included 14 auditorium quiz shows for all Richland and North Richland school children (5 of which were broadcast by local radio stations) and 6 "man-on-the-street" quiz programs broadcast by local radio stations. A "mystery woman" contest was held in which a prize donated by the Richland Chamber of Commerce was awarded to the person identifying "Miss Flame"; over 300 entries were received. Several letters of commendation were received for our work on this project.

Art Work

Accomplishments in commercial art work during the month of October left little to be desired of quality and quantity. Regular editorial and Security cartoons were prepared for the Works NEWS in addition to photo layout work. Some specific assignments included:

- Illustrations for 1950-51 "Guide to Richland" booklet
- Completed art work for Steno Manual
- Prepared sketches for cover of "Hanford Works Security Handbook"
- Arranged lettering and photo layouts for "Opportunity for You at Hanford Works" booklet
- Finished drawings prepared for Works NEWS ads on wages
- Prepared actual-size two-color layouts for "Safety Is Part of Your Job" booklet

Miscellaneous art work was also completed for various Divisions on smaller projects. (Art work assignments are becoming a critical problem and numerous requests have either been postponed or rejected because of tight scheduling.)

Employee and Community Relations Divisions

Photographic Services

Outstanding accomplishments of Public Functions' Photo House during the month of October are:

1. Over 250 prints were prepared for the Richland Safety Council on Fire Prevention Week activities.
2. A record number of 4,342 identification photographs were printed for Employee Relations Division. Staffing of new manufacturing areas, additional badge requirements for authorized personnel visiting these areas has occasioned this increase and predictions on future requirements indicate a further increase.
3. The S Division, on behalf of Redox officials, required 24 special color slides of charts used for training purposes. An additional request was received from this Division and others are anticipated to follow suit; however, the cost of photographing and processing color work which would necessitate additional photography personnel is now under study.
4. An improved method of lighting was conceived by this group for use in making photographs of hands at Kadlec Hospital. Sharp detail is an exacting requirement of this function and the improved quality is an achievement attributable to this group.
5. By coincidence, a photographer from this group, while on assignment in one of the process areas, obtained some valuable photographs of nearly all phases of a serious accident that occurred therein.
6. Attention is called to an increase of 113 negatives, 541 prints and 15 assignments over the previous month. A total of 5,476 prints and 121 assignments represent record figures in these categories for this group.
7. Windstorm damage in the Community during the month was photographically recorded and represented an emergency assignment over and above regular photo requirements.
8. Three hundred twenty "fine grain" prints and negatives were prepared for the Pile Technology Division.

Extra Activities

Public Functions concluded a year of highly successful Safety Meeting programs in recognition of Charles E. Wilson's 50th Anniversary with General Electric Company.

Five letters of appreciation were received for exceptional services rendered the Richland Safety Council during Fire Prevention Week; Richland Community Chest for drive programs publicity; Municipal Divisions for special programs on photography and recording work.

Employee and Community Relations Divisions

Hanford Works Photo House

	8" x 10"	5" x 7"	2" x 4"	2" x 2"	Negatives	3 1/4" x 4" Color Slides	3 1/2" x 4" Black & White Slides	Prefab. A Badges Laminated	Portraits	35 mm Films 30 Exp.
<u>EMPLOYEE & COMMUNITY RELATIONS</u>										
Employment	9		1188	3154	309			1108		
Special Programs	58				39					
News Bureau	51				32					
Works NEWS	144				113					
Public Functions	150				29					
<u>MANAGEMENT</u>										
Rotational Training					25				25	
<u>MEDICAL</u>		26			26					
<u>MUNICIPAL, REAL ESTATE & GENERAL SERVICES</u>										
Community Safety		250			76					
Community Activities	19				7					
Community Engineering	90				24					
Community Patrol	28				6					
<u>MANUFACTURING DIVISIONS</u>										
S Division	56				18	24				
Instrument Division	58				38					5
<u>H I DIVISIONS</u>										
H I Operational					16	16				
<u>A.E.C.</u>	27									
<u>TECHNICAL DIVISIONS</u>	50				10					
<u>DESIGN & CONSTRUCTION DIVS.</u>										
Reactor Division	6				3					
Design Division	34				23					
Reproduction	13				6					
	793	276	1188	3154	800	24	16	1188	25	5
	1069									

	Oct.	Sept.	Aug.
TOTAL PRINTS	5,476	4,935	3,977
TOTAL NEGATIVES	800	687	794
TOTAL ASSIGNMENTS	121	106	104

Employee and Community Relations Divisions

EMPLOYEE INFORMATION - Special Programs

A full page newspaper message to employees stressing that the Company's offer totaled a wage increase of 6 per cent, and that important improvements in benefit plans also were included in the offer, was prepared and inserted the Saturday and Sunday issues, October 7 and 8, of the Columbia Basin NEWS. Special Programs also assisted in the preparation of radio script material used in programming tape recorded messages prepared for broadcast over local radio stations through Public Functions.

Two letters to employees, one to all employees from Mr. Prout in reply to an HAMTC handbill containing incorrect and misleading statements, and one to two employee groups which have petitioned the NLRB for certification elections, were prepared but due to wage negotiation activities between the Company and the HAMTC were not distributed.

Four radio programs of a series on mental health sponsored by the Richland Health Council were publicized during October through news releases and news photographs prepared for release by the News Bureau, and through preparation of radio spot announcements.

Kadlec hospital fire drill held the week prior to Fire Prevention Week was publicized through news stories and photographs in line with Special Programs' responsibility for Medical Divisions' employee and community relations activities. News releases and photographs stressed that fire drills are regular occurrences at hospital and pointed up major fire protection features of the hospital.

Extensive material on G.E.'s operation of Hanford Works for the A.E.C. was cleared with managers of the various divisions; other material, including a Nucleonics Department organization chart, also was prepared; all material was for insertion in the Ninth Semi-Annual Report to Congress.

Poster location survey of all Hanford Works Areas was made to determine the number of sets of a special Sheldon-Claire Co. employee relations posters would be required at Hanford Works; maximum of 35 sets will cover most employees.

Letter from Richland's Community Patrol Chief to residents, which accompanied original distribution of the booklet, "Here's Community Patrol", was revised for mailing with the booklet to new Richland residents.

Syndicated "Security Package" material was revised from local stand-points; it appeared as a four-page insert in the October 13 issue of the Hanford Works NEWS.

Report on construction personnel recruitment advertising prepared and placed in construction trade magazines and newspapers in major cities of the country by Special Programs from 1948 to the present was prepared

Employee and Community Relations Divisions

and relayed to the Design and Construction Divisions historian. Attached to the report were sample advertisements.

Report on the 1950 "Adventures Ahead" magazine subscription promotion was completed, with distribution being made to Schenectady and New York offices.

Current issue of the revised G-E "Writers Manual" was circulated to all Division managers with an attached letter which advised that additional copies may be obtained for use by Divisions through Community and Public Relations Divisions.

Copy and artwork for the forthcoming "Guide to Richland" was sent to the successful bidder, the Republic Publishing Company. Copy for the booklet was revised; artwork and layout were prepared by the Division commercial artist.

Availability of a telephone directory address locating system, and of Dunn and Bradstreet business rating service, to all Divisions through the Investigations and Files section of the Employee and Community Relations Divisions was brought to the attention of all Division Heads and above through a letter prepared by Special Programs.

Full page message in the Hanford Works NEWS was developed at the suggestion of Union Relations Assistant Manager to re-emphasize that the two 3 per cent wage increases at Hanford Works averaged more than 10 cents per hour for all weekly paid employees, and that the two were part of one offer totaling 6 per cent.

"Security Package" promotion timetable was prepared with the concurrence of representatives from Employee Services, the Training Group and Accounting Division.

Sharp increase in communicable diseases in Richland during October was announced by the Health Officer in a news story and released to local news media through the News Bureau. The story advised parents of symptoms of prevalent diseases and suggested action in event of such symptoms. Increase of polio cases admitted to Kadlec also was released to the press during the month in three different news stories in line with responsibility for Medical Divisions community and employee relations activities.

EMPLOYEE INFORMATION - Works NEWS

During the month of October publicity was given to the following plant and community programs:

Community Chest promotion was highlighted through to completion of the Drive in the plant.

Employee and Community Relations Divisions

Fire Prevention Week publicity included front page features, pictures, news stories, and editorial cartoons. All events taking place during the week were published which were of paramount interest to Hanford Works people. Recognition of the Works NEWS' efforts during this time was given through a letter of appreciation.

Fire protection in the plant was reviewed at the same time in the Lifeline column with specific emphasis on demonstrations being given in the areas by the industrial firemen.

Suggestion System news stories and syndicated cartoons were published throughout the month to give impetus to the drive for more suggestions.

Income tax information was presented in a front page news story. A special supplement was prepared for insertion showing the amount of tax to be deducted from all weekly and monthly paid people employed in the plant.

G.E. Security Package promotion, including information regarding the second 3 per cent raise offered at Hanford Works, received priority during the month.

A special four page insert, prepared by the Special Programs section, was published, giving information on how each employee will benefit from the provisions of the "Security Package." This was followed by full page mat, also prepared by Special Programs, showing how the wage raise here compares to those given elsewhere in industry.

A series of health articles, written by Dr. B.L. Vosburgh of the Apparatus Department, were introduced and started during the month. The series is being published, by sanction of the Medical Divisions, because of the valuable health hints they have for all employees.

The Safety Program received front page billing in a feature prepared by an area reporter on the final results of the Patrol Safety Hurdle Race. Features written by reporters are being given every consideration to promote more stories of this quality.

Company policy concerning employees entering the armed forces was published in complete detail. Every effort is being made to acquaint all people leaving for service, policies which concern them and their families set locally and throughout the Company.

U.N. Celebration observances of its fifth birthday in Richland gained considerable recognition in the Works NEWS through cartoons and news stories. Emphasis was placed on United Nations Day because of its special significance to all Americans.

U.S. Savings Bond publicity, in cooperation with the Treasury Department, was initiated in the last issue of the month and will be continued during their Drive in November.

Employee and Community Relations Divisions

Employment needs at Hanford Works were publicized and will receive additional publicity help until quotas are filled.

Civil Defense Program, stressing the need for volunteer services of employees living in the community to serve as wardens, and alert signal information was promoted through cartoons and news stories.

Sports Page improvement through appearance and material published was significant during the month. Encouragement was and is being given to employees to submit pictures of hunting trips and other sports activities. An employee voluntarily offered to write "Strikes and Spares" following an appeal made by the Works NEWS for a new sports-writer of this column. Sports page features have been encouraged and results have been more than satisfactory.

A special report, stating the Works NEWS policy with respect to the inclusion of community news in the paper, was prepared.

Special booklets containing the complete economic series of Neil Carothers, as published in the Works NEWS are now being printed.

One twelve page paper was published during the month.

Three women's pages

EMPLOYEE INFORMATION - Women's Activities

Three women's pages appeared in October issues of the Hanford Works NEWS. Sculpturing done by an employee was featured in the October 6 issue with pictures of Esther Parker and her work. "Men Cooks Reveal Taste Tested Recipes" was the main feature in the October 13 issue of the Works NEWS. Three men employees were featured in pictures preparing meals from favorite recipes which were also printed on the page. A sub feature on that page was a C.E. Lamp Department release on proper lighting in the home. On October 20 suggestions for Halloween parties were featured with recipes and game suggestions from the C.E. Consumers Institute, the Benton County Extension Agent, and Better Homes and Gardens. A booklet of Halloween party ideas prepared by Community Activities Division, was offered to readers.

As a result of patterns offered during September, 165 patterns were mailed at the request of readers.

As a service to Works NEWS readers "What's Doing" publicized the following events during the month of October: Community Recreation Division Halloween booklet; G.E. Community Recreation Division Spalding Recreation Program; local football games; A.A.U.W. Town Hall Lecture; Red Feather Concert; Miss Flame Show; badminton at Spalding School; Community House Recreation program; Navy Band; "Life With Father"; Dorm Club Card Party; square dancing; "Our Lady of Fatima," P.T.A. Halloween carnival; International Folk Dance Club; Orthopedic Build Fair; "Pirates of Penzance".

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Employee and Community Relations Divisions

A full schedule of youth activities prepared by Community Recreation Division was published in the Works NEWS and local newspapers. A Community House schedule was printed on the Works NEWS sports page, showing coming events and showing when the building is open to adults. A front page Works NEWS story was prepared announcing the complete program for the Red Feather concert at Carmichael Auditorium. Art classes offered young people by the C.E. Recreation Division and the Allied Arts Association were publicized in the Works NEWS and local media. A story was prepared and published in the Works NEWS on work done by Verl Byron in Community Chest fund drives.

About 270 calls were received for rides or riders for week end or vacation trips in "Share a Ride." Requests were received for the following destinations: Lewiston, Walla Walla, Spokane, Seattle, Portland, Tacoma, Yakima, Salt Lake, Denver, Minneapolis, Sioux City, Chicago, Grandview, Toppenish, Tulsa, Cheney, Pullman, Missoula, Des Moines, Albuquerque, Cleveland, Boise, Wenatchee, San Francisco; Los Angeles, Illinois, Iowa, Nebraska, East Coast, California; Casper, Wyo., Lovett, Tex., and Dodge City, Kan.

MUNICIPAL, REAL ESTATE AND GENERAL SERVICES DIVISIONS
SUMMARY - OCTOBER, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll:	<u>Beg. of Month</u>	<u>End of Month</u>
Administration	11	11
Accounting	28	28
Engineering & Contracts	32	30
<u>Municipal Divisions</u>		
Public Works	138	125
Parks & Recreation	32	33
Patrol	46	45
Fire	58	57
Safety	3	2
<u>Real Estate Divisions</u>		
Housing	186	196
Commercial & Other Property	13	13
<u>General Services Divisions</u>		
Steam & General Maintenance	72	73
Patrol	20	20
Fire	37	36
	<u>676</u>	<u>669</u>

There was a decrease of seven employees in the Divisions during the month of October, 1950.

GENERAL

Richland experienced a severe wind storm during the month which caused extensive damage requiring emergency overtime to be worked in order to repair the damage to houses, commercial facility buildings, and 700-1100 area buildings.

Total housing applications pending, four hundred twenty-two (422).

C & E Food Store #2 and the Uptown Theater (Midstate Amusement Corporation) opened during the month of October.

During the month, thirteen prisoners were processed through the Richland Jail.

The Greater Richland Chamber of Commerce sponsored "Fire Prevention Week" October 8 through 14, and this program was coordinated and assisted by the Municipal, Real Estate and General Services Divisions.

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MUNICIPAL, REAL ESTATE AND GENERAL SERVICES DIVISIONS
ACCOUNTING DIVISION

MONTHLY REPORT FOR OCTOBER, 1950

ORGANIZATION

Employees-Beginning of Month	28	Exempt	5	Male	10
Transfers In	1	Non-Exempt	23	Female	18
Transfers Out	0		28		25
New Hires	1				
Terminations	2				
Total end of Month	28				

RENTS

<u>House Leases Processed</u>	<u>October</u>	<u>September</u>
Total active leases beginning of month	5692	5699
New leases	128	119
Cancellations	141	126
Total active house leases end of month	5679	5692
Modifications	9	8

<u>Dormitory</u>		
Total occupancy beginning of month	965	984
New assignments	128	130
Removals	130	149
Total occupancy end of month	963	965

Rental Revenue Was As Follows:

Equipment	\$ 19 30	\$ 17.80
Houses		
Basic Rent	197,134.67	198,957.44
Electricity	48,038.52	48,455.33
Water	7 960.87	8 032.46
Steam	1,069.45	1,106.78
Dormitory	13,378.88	13,522.53
Facility		
Basic Rent	37,720.74	30,569.36
Electricity	3,433.92	3 433.92
Water	490.00	490.00
Steam	10,416.67	10,416.67
	\$319,663.02	\$315,002.29
Unoccupied Dormitory Loss	1,253.62	1,109.97
Unoccupied House Revenue Loss	3,708.94	1 358.44
	\$324,625.58	\$317,470.70

Telephone

Number of work orders processed	294	319
Number of working phones	5050	5016
Revenue including services	\$ 18,921.05	\$ 18,943.07

Municipal, Real Estate and
General Services Accounting Division

Miscellaneous

	<u>October</u>	<u>September</u>
Invoices prepared during month	213	215
Revenue from above Invoices	\$ 4,008.07	\$ 4,114.39
Building permits issued during October		
Richland Concrete Company	\$ 6.00	
Previously reported	6,980.22	
Total to date	\$ 6,986.22	

General

Sixty-seven collection letters were written during the month resulting in the collection of forty-eight accounts totaling \$392.53.

Eight accounts were submitted to the Yakima Adjustment Service.

Six telephone accounts	\$203.43
Two miscellaneous accounts	8.17
Twenty-one accounts previously submitted	221.80
Total twenty-nine accounts	\$433.40
Collected by Yakima Adjustment Service	54.82
Collected by General Electric Co.	5.29
Balance	\$373.29

Nine minor balance telephone accounts in the net total of \$2.05 were written off in October.

Fifty-seven of the sixty-seven active telephone accounts delinquent thirty days or over as of September 30, 1950, have been paid.

ACCOUNTS PAYABLE

Statistics

Accounts payable vouchers	301	213
Freight Bills processed	18	11
Purchase orders received	41	71
Net amount of purchase orders	\$ 13,726.58	\$ 21,802.00
Receiving reports received	118	99
Total net amount disbursed	\$130,483.19	\$ 65,156.00
Number of checks issued	226	180

Municipal, Real Estate and
General Services Accounting Division

A Summary of Active Subcontracts is shown below:

<u>Subcontractor</u>	<u>Subcontract Number</u>	<u>Amount Awarded</u>	<u>Paid this Month</u>	<u>Total Paid</u>	<u>Amount Retained</u>
Newland Cafeteria	*	\$ 117.45	\$ 37.05	\$ 117.45	\$ -0-
Richland Maintenance Co.	*	133,712.77	14,214.85	133,712.77	-0-
Holaday & Edwarthy, Inc.	G-284	4,735.25	622.75	4,735.25	-0-
Associated Engineers, Inc.	G-305	89,462.05	43,232.79	66,892.95	7,432.55
Empire Electric Co.	G-310	16,760.00	-0-	-0-	-0-
Grant, Algot C.	G-318	26,135.00	7,194.59	13,489.87	1,496.88
American Steel & Wire Co.	G-319	7,688.67	-0-	-0-	-0-
Packard Pipe & Pump Co.	G-326	10,243.50	2,169.22	2,169.22	241.03
C & E. Construction Co.	G-328	165,992.95	20,706.75	20,706.75	2,309.75
F. O. Repine Co.	G-329	29,263.00	3,160.40	3,160.40	351.16
Pasco Electric Co.	G-331	7,035.70	-0-	-0-	-0-
		<u>\$491,151.34</u>	<u>\$91,338.40</u>	<u>\$244,984.66</u>	<u>\$11,824.37</u>

* Total amount of contract will be total of estimates as submitted.

COST

Reports

The September Operating Report was issued October 18, 1950.

The Comptroller's Appropriation Report and Supplemental Report was issued October 23, 1950.

The August Utilities Report was distributed October 9, 1950. The September Utilities Report was issued October 25, 1950.

Budget

Operations

The recast of the first quarter, FY 1951, Operating Budget to correspond to the reorganization was completed.

The quarterly operating budget review as requested by the AEC was completed in draft form.

The revision of the entire budget to correspond to the reorganization was completed.

Construction

The Construction budget status report was issued October 31, 1950.

The quarterly construction budget expenditure pattern requested by the AEC was completed.

Municipal, Real Estate and
General Services Accounting Division

Appropriation Requests

The following appropriation requests were prepared this month. Some of these were re-writes of previously submitted requests.

- a) Bathtub, Tileboard and Linoleum Replacement - Conventional Houses.
- b) Additional Erosion Control and Irrigation of Public Areas - Shelterbelt Planting and Irrigation.
- c) Resurfacing and widening of Symon Street
- d) Resurfacing George Washington Way - Gillespie St. south to Lyman Road.
- e) Water Service Alteration - Prefab Houses.

The following Division Manager Appropriations were submitted.

- a) Installation of Water Main and Fire Hydrant.
- b) Expansion and surfacing of Parking Lot - Swift Blvd. and Gillmore Ave.

Service Orders

<u>Service Orders</u>			<u>Labor</u>		<u>Material</u>		<u>Total</u>	
<u>Code</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Sept.</u>	<u>Oct.</u>
1	997	780	\$1,476.30	\$1,205.74	\$1,552.14	\$1,063.45	\$3,028.44	\$ 2,269.19
2	1,980	1,723	2,027.06	1,852.49	2,310.15	2,287.97	4,337.21	4,140.46
3	141	735	200.10	823.08	128.67	769.72	328.77	1,592.80
4	39	6	142.80	23.85	83.66	14.85	226.46	38.70
5	262	231	371.70	350.55	638.21	621.30	1,009.91	971.85
6	192	408	402.60	974.25	146.93	282.08	549.53	1,256.33
9	30	10	118.56	46.55	95.86	36.03	214.42	82.58
Total	3,641	3,893	\$4,739.12	\$5,276.51	\$4,955.62	\$5,075.40	\$9,694.74	\$10,351.91
Increase		252		537.39		119.78	119.78	657.17
Average Cost			1.30	1.36	1.36	1.30	2.66	2.66

The increase in Heating and Ventilating Craft, covering furnace repairs, accounts for most of the overall increase.

- 1 Plumbing 3 Heat & Vent 5 Lock and Key 9 Sheetmetal
- 2 Electrical 4 Glazing 6 Carpentry

Work Orders

	<u>August</u>	<u>September</u>	<u>October</u>	<u>Net Change</u>
Active Routine	310	313	244	- 69
Active Normal	2,121	2,275	3,363	1,088
	2,431	2,588	3,607	1,019
W. O. Received	2,236	1,592	1,904	
W. O. Completed	2,260	1,435	885	
	- 24	- 157	1,019	

Municipal, Real Estate and
General Services Accounting Division

General Ledger

	<u>No.</u>	<u>Debit</u>	<u>Credit</u>
Second Class Invoices Received	94	\$446,469.87	\$218,222.27
Second Class Invoices Issued	68	98,232.43	27,430.39

ENGINEERING AND CONTRACTS DIVISION
MONTHLY REPORT
OCTOBER 1950

ORGANIZATION AND PERSONNEL

	<u>Exempt</u>	<u>Non-Exempt</u>	<u>Total</u>
Number of employees on payroll:			
September 30, 1950	19	12	31
October 31, 1950	18	12	30

GENERAL

A contract procedure has been completed and submitted for approval.

A procedure outlining the manner in which the Engineering Group will function in relation to other divisions has been prepared. This procedure has been discussed at meetings with other groups and will be submitted in final form in the immediate future.

A proposed working schedule of all projects for which engineering requests have been received has been completed. This schedule has been reviewed with the divisions involved.

C. E. Lange attended the Pacific Coast Building Officials Conference in San Diego, California, October 2 to 6. G. A. Huff attended a three-day short course in water supply engineering at the Washington State College, Pullman, Washington, during the month.

The following meetings are regularly attended by one or more of the Engineering Division. Considerable committee work is required in connection with such meetings.

Electrical Standards Subcommittee	Town Planning Board
Mechanical Standards	Fire Prevention Subcommittee
Civil Standards Subcommittee	Staff Meetings
Architectural & Civil Standards	Safety Meetings & Security Meetings
Architectural Standards Subcommittee	Traffic Control Committee

The following number of jobs were completed on continuous engineering service requests:

ESR-97-CH	Electrical and structural inspections	4
ESR-340-CH	Fire damage estimate to houses	1

The following Engineering Service Requests were completed or cancelled:

<u>Job No.</u>	<u>Description</u>	<u>Date Completed</u>
4-CH	Fourth Housing Addition (Old)	Closed out 10-23.
77-CH	Residential Painting--Interior (Study)	Closed out 10-19.
127-CH	500 Additional Housing Units (Old)	Closed out 10-23.
310-SS	Covering Floors in 703 Building Offices With Linoleum	Cancelled

Engineering and Contracts Division (continued)

<u>Job No.</u>	<u>Description</u>	<u>Date Completed</u>
312-SS	700 Area Buildings--Re-roofing, Painting, or Siding	10-17
352-MD	Reconstruction of Patients' Bathrooms	Closed out 10-23
375-FW	Domestic Water Line Relocation	10-9
387-FW	Engineering for Public Administrative Services	10-11
390-FW	Road and Street Maintenance	10-11
391-FW	Public Grounds Maintenance	10-11
421-CA	Mail Truck Loading Zone, U. S. Post Office	10-9
439-AEC	Records Control Building Surveying	10-24
444-FW	Parking Lot North of 761 Building	10-30
445-AEC	Swimming Pool Site on Swift--Sketch and Field Notes	10-30
452-AEC	Review Plans and Specifications of Richland Swimming Pool for Code Compliance, Etc.	10-23
464-AEC	Lines and Grades for AEC Airport Control Building	10-9
472-FW	Gowan-Hains Curbing and Walk	10-18
481-VE & AEC	Swimming Pool Building Lines and Bench Mark	10-24

The status of facility-sponsored construction is as follows:

Theater: Construction started 12-14-49. Building in use with only minor exceptions to clear.

Recreation Hall Alteration: Awaiting information.

Morgan and Olberg Drugstore: Construction started 8-7-50. Work progressing.

McVicker Food Store: Construction started 5-22-50. Building in use with only minor exceptions to clear.

Richland Fuel and Lumber: Construction 85% complete. Work progressing.

Drive-In Restaurant: Construction started 7-24-50. Building in use with only minor exceptions to clear. As-built drawings to be made.

Playland Park: Construction 95% complete. As-built drawings to be made.

Engineering and Contracts Division (continued)

The status of facility-sponsored construction (continued)

Outdoor Roller Rink: Construction 80% complete. Work progressing.

Richland Bakery: Construction 75% complete. Awaiting completion of electric meter installation.

Richland Laundry and Cleaners Addition: Construction started 9-22-50. Work progressing.

Automatic Laundry Building Addition #1: Construction started 8-10-50. Work progressing.

The status of community activities construction is as follows:

Latter Day Saints Church: Construction started 2-5-49. Building in use with only minor exceptions to clear.

Assembly of God Church: Construction started 5-23-50. Work not progressing.

Reorganized LDS Church: Construction started 8-22-49. Work progressing slowly.

Christian Science Society: Awaiting information.

Catholic Church Site: Awaiting information.

Northwest United Protestant Church: Construction started 9-25-50. Work progressing.

Westside United Protestant Church: Detailed plans and specifications checked and being revised.

First Baptist Church: Awaiting start of construction.

Episcopal Church: Awaiting information.

Central United Protestant: Awaiting information.

Redeemer Lutheran Church: Construction started 8-21-50. Work progressing.

Addition to Masonic Temple: Construction started 8-11-50. Work progressing.

Free Methodist Church: Awaiting information.

The status of AEC sponsored construction is as follows:

Chief Joseph School: Construction started 4-24-50. No called inspections.

Jason Lee Elementary School: Preliminary information furnished AEC.

Columbia High School Addition: Building permit to be issued.

Richland Swimming Pool: Building permit to be issued.

Engineering and Contracts Division (continued)

The status of "S" projects (\$5,000 to \$20,000) is as follows:

- S-244 "Fencing Irrigation Ditch, Wright to Van Giesen" - Project proposal and appropriation requests delivered to H. A. Root. Proposal approved by A & B Committee. To be submitted to AEC 11-1-50.
- S-255-D "Parking Lot, Columbia High School" - Modification in preparation to increase authorized funds by \$2,475. Work 65% complete.
- S-290 "Automatic Traffic Signals" - Work progressing. Eight per cent complete.
- S-299 "Radio Communication - Fire Division" - Invitation to bids issued using original specifications. Bid opening scheduled 11-9-50.
- S-311 "722-A Remodeling" - All work completed. Project completion report required.
- S-333 "Air Conditioning Dormitories" - Work progressing. 20% complete.
- S-342 "Repair Roof Over New Wings of 703 Building" - Work approximately 80% complete. All new flashing in place. Ready for application of aluminum coating.
- S-349 "Interior Painting - 703 Building" - 95% complete.
- S-350 "Lighting 705 Building" - Field release No. 2 issued.
- S-362 "Relocation of Water Shut-off Valves - Prefabs" - Request for informal approval submitted and approved by A & B Committee. To be sent to AEC 11-1-50.
- S-366 "Exterior Painting of Kadlec Hospital, Municipal Building, and Two Churches" - Specifications complete. Awaiting decision on contract procedure.
- S-394 "Moving Hutment 1125-1" - Foundation and backfill is approximately 90% complete. Flooring had been removed from warehouse when severe wind damage necessitated work stoppage of moving operation until decisions have been made by Legal Division as to method by which we should proceed in this operation.
- S-404PW "Shelterbelt Planting and Irrigation" - Project submitted.
- S-405-B "Street Tree Planting" - Approved by AEC 10-9-50.
- S-415 "Hospital Soft Water Line" - Drawings and specifications submitted to Contract Section for subcontract. Further investigation of existing water system for hospital reveals portion of lawn irrigation system is supplied directly from hospital sanitary water. Further investigation is being made.
- S-432 "Extension of Swift Boulevard to By-Pass Highway" - Approved by AEC 10-9-50.

Engineering and Contracts Division (continued)

The status of "C" projects (over \$20,000) is as follows:

C-232-A "Carmichael Junior High School" - Irrigation system is 90% complete. All
C-376 mains, laterals, and sprinkler head outlets are in. Grass seeding is 85% complete. Some loss was incurred during high wind of October 26 and 27. These eroded areas are being reseeded by Subcontractor. Erosion control will be taken care of by Subcontractor during winter months. Sprinkler heads and quick-coupling valves cannot be lowered until turf is established.

C-233 "Spalding School" - Irrigation system 95% complete. Heads are being low-
C-376 ered on pop-up system and quick-coupling valves on snap-on system. Lawn seeding 95% complete. A few spots remain to be filled, patched, etc. Final inspection can be held some time during latter part of November.

C-282-R "Grass Seeding" - Work was started on soil conditioning at Columbia Play-
field. Mulch and manure were brought in from animal farm in outside area to be mixed with soil. Additional soil was added to field to correct undesirable soil condition.

Levee 2-C: Work to be started during November.

C-351-R "Irrigation - Public Grounds - Frankfort Playground" - Irrigation system
at Frankfort is complete with exception of small area and some backfill. Subcontractor has requested permission to seed this area with understanding that loss incurred through erosion will be his responsibility. This site consists of very good soil and is less subject to erosion than more sandy areas.

In event sprinkler system is run during winter months, its operation will be supervised and adequately drained to prevent breakage due to freezing.

Columbia Playfield: Irrigation system about 10% complete. Work started on installing mains. Installation of irrigation system will be in progress during month of November. Inclement weather has slowed down operation and has caused some delay in work. Grass seeding in this area may be delayed until Spring, due to inclement weather.

Riverside Park: Pipe is on hand for installation but no work has been done as yet.

C-353 "Richland Water Study" - Notice to proceed has been issued to consultant. Report received that consultant will visit Richland during first week in November.

C-356 "Recreation Facilities, Schools and Parks" - Drinking fountain at Jefferson School installed. Horseshoe court and shuffleboard courts started by project forces. Picnic tables 90% complete. Preparing electrical plans and specifications.

C-357 "Additional Capacity of Richland Sewage Lift Station" - Expediting Section of Purchasing and Stores Divisions stated October 31 as date Diesel engines from General Motors were being shipped to Chicago for assembly by Chicago Pump Company, who state that it will require approximately one week for assembly. It would require approximately two additional weeks to receive material at Hanford.

Engineering and Contracts Division (continued)

- C-359 "Duane Avenue Street Improvement" - Approximately 50% completed. Contractor has completed all grading and has approximately 50% of curb and gutter completed. He is also putting on base course and leveling course. All storm sewers and drainage ditches completed.
- C-363 "Exterior Rehabilitation of Prefabs" - Bids opened 10-26-50. Waiting for approval of recommendation for award.
- C-367 "Moving Ten Prefabs From Columbia Camp to Richland" - Field engineering continuing. Subcontract modified to include field change. Work approximately 95% complete.
- C-372 "Exterior Painting of Houses" - Work progressing. 13% complete.
- C-374 "Casey Street Improvement" - 80% complete. Contractor has all grading, base rock, and leveling course completed. He is finishing up valley gutters. He has a few sections of sidewalk and curb at the radii to complete, as well as all clean-up work and paving.
- C-376 "Marcus Whitman School" - Site work necessary for drainage and included as part of irrigation installation job has been started. Work will be in progress on this part of job during November. Installation of irrigation will start late in November or early in December, weather permitting.
- C-382 "Additional Water Supply, Well 1100-D" - The 8" well is presently drilled to depth of 62 feet. Recommended to go to depth of 75 feet, and at this point will perforate 8" casing, develop and test pump the well. Water bearing formations encountered in drilling 8" well are very favorable. It is felt that it will be profitable to drill 20" well in this new location. Request for modification of Directive submitted for changing scope of work and redistribution of approved funds.
- C-386 "Street Patching and Seal Coating" - Started 10-10, finished 10-24. Approximately 10 miles of streets were seal coated. Also seal coated were four residential parking compounds in District 7, Campbell's parking compounds, 761 parking compound, and Derussy parking compound, as well as strip along George Washington Way across from the Municipal Building. Rain did some damage to seal coating on Goethals between Gillespie and Knight.
- C-387 "Interior Painting of Dormitories" - Specifications complete and issued.
- C-400 "Re-roofing, Painting and Siding - 700 Area Buildings" - Plans and specifications 95% complete. To be ready for approval signatures 11-3-50.
- C-405 "Asbestos Siding, A & J Houses" - Project proposal disapproved by AEC and returned 10-27-50.
- C-407 "Bathtub, Tileboard, and Linoleum Installation" - 206 conventional-type houses - Project proposal revised and submitted for approval. A & B Committee approved project and forwarded to AEC 10-31-50.
- C-408 "Shelterbelt Planting and Irrigation" - Project proposal approved by A & B Committee with exception of Paragraph 8. Project proposal to be revised as requested.

Engineering and Contracts Division (continued)

The status of "I" projects (under \$5,000) is as follows:

I-307 "Guthrie-Williams 8" Water Main Connection Loop" - Specifications and drawings completed. Manager's appropriation request submitted. Funds approved for job. Specifications transmitted to Contract Section and drawings ordered from Blueprint Section.

The status of Suspense Items is as follows:

Code 7856, WO F-03527 - "Site Grading, Columbia Playfield" - Site grading has been completed and areas turned over to Subcontractor for irrigation installation.

MUNICIPAL DIVISIONS

SUMMARY

OCTOBER

ORGANIZATION AND PERSONNEL:

	<u>BEGINNING OF MONTH</u>		<u>END OF MONTH</u>	
	<u>Exempt</u>	<u>Non-Exempt</u>	<u>Exempt</u>	<u>Non-Exempt</u>
Fire	57	1	56	1
Parks & Recreation	9	23	10	23
Patrol	16	31	16	29
Public Works	20	118	18	107
Public Safety	<u>2</u>	<u>1</u>	<u>2</u>	<u>0</u>
	104	174	102	160

E. A. Pfistor was transferred from the Public Works Division to the General Services Division on October 16, 1950.

L. Stanfield was transferred from the Public Works Division to the General Services Division on October 23, 1950.

H. W. Strock attended the International Police Chiefs' Association Conference in Colorado Springs, Colorado, from October 9 to October 12, 1950.

C. R. Bergdahl attended the Public Works Congress in New York City from October 15 to October 18, 1950.

P. O. Crowder attended the National Safety Congress from October 13 to October 20, 1950.

PUBLIC WORKS DIVISIONS
MONTHLY REPORT
OCTOBER 31, 1950

ORGANIZATION AND PERSONNEL

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of Employees on Payroll:			
September 30, 1950	20	118	138
October 31, 1950	18	107	125

Personnel Changes Made During Month:

Transfers from Transportation		1	
Transfers from Parks and Recreation		1	
Transfers to Health Instrument		1	
Transfers to Transportation		1	
Transfers to Parks & Recreation		1	
Transfers to General Services	1	1	
Transfers to "S" Division		1	
Transfers to Power Division		2	
Transfers to Real Estate Division	1		
Terminations		6	
Leave of Absence		1	

GENERAL

On October 2nd, for the first time in Richland's history, the residential garbage and trash collection service was reduced to one pickup weekly. Collections previously were twice-a-week for garbage and a separate trash collection. It is contemplated to return to a twice-a-week combined collection in May, 1951. The first month of the once-a-week service has brought only a trivial number of complaints and, likewise, only a very few minor operational defects.

The Community Chest Campaign, managed in Public Works by John R. Goggin, was completed with 95.2% employee participation and contributions within 77.5% of the established quota. This compares to over-all Community Divisions' participation of 89.6% and a 83.1% of the quota. Over-all Hanford Works' figures are 89.5% and 84.8%, respectively.

Public Works safety was marred by a sub-major, (#187), injury on October 18th. A millwright moving a well-pipe elevator sustained a broken right big toe when it was struck by a falling part of the elevator, the bail. The injured lost no time from work and is now apparently fully recovered. Minor injuries were seven with frequency rate of 3.12.

Municipal - Public Works

GENERAL (CONTINUED)

Plans have been formulated for relocation of Public Works offices in a re-conditioned hutment to be placed in the central water utilities operating area just west of the high school stadium. It is contemplated this work will be completed in November.

Plans have also been formulated by Public Works Roads and Streets for construction of detours and necessary signs, barricading and road striping to be performed in November to handle traffic over Yakima River and highway approaches preparatory to bridge construction by AEC's contractor.

MAINTENANCE SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
<u>Organization and Personnel</u>			
Number of Employees on Payroll:			
September 30, 1950	4	22	26
October 31, 1950	3	22	25
Personnel Changes Made During Month:			
Transfers from Transportation		1	
Transfers from Sanitation and Erosion Control		1	
Transfers to Parks & Recreation		1	
Transfers to Sanitation and Erosion Control		1	
Transfers to Real Estate	1		

Miscellaneous

Routine lubrication, minor repair and adjustment of all mechanical equipment in Utilities Section facilities was performed on a weekly basis throughout the month, and routine maintenance of irrigation system was performed up to October 6, 1950, at which time this system was shut down.

Winterizing of the irrigation system is now in process and is approximately 70% complete. The grade of piping in this system does not allow for gravity drainage, and requires that all lines be blown out with compressed air. Winterizing of air coolers on 69-X and all Public Works buildings was completed during the month.

Municipal - Public Works

MAINTENANCE SECTION

Miscellaneous (Continued)

Pumps and discharge piping which had been installed at Sewage Treatment Plant and Sewage Lift Station for use during flood season were removed and returned to storage.

Four leaks developed in well-header line on Wellsian Way and excavation and welding was completed on emergency basis.

An abandoned concrete weir box and pumphouse located on irrigation ditch in ranch house area were removed. These had become a safety hazard and nuisance to residents of this section.

Installation of an extension to the drainage ditch 30" culvert at Lee Blvd. was completed, a 6" storm sewer was installed at 1311 Haupt, and a broken 12" storm sewer at intersection of Judson and Wilson was excavated and replaced.

Three sections of curb, gutter, and sidewalk at 1932 - 1934 Hetrick, and a section of concrete walk at the Malt Shop on Greenway were replaced during October.

Moving of a hutment from LDS Church to 1182 Area was completed at end of month, and alterations as necessary to remodel this hutment for use as a Public Works Headquarters are now in process. Completion is scheduled for the latter part of November.

Work completed at Sewage Treatment Plans included the sand-blasting and painting of two digester coils and three digester mixers; numbering of all pumps and motors for identification with corresponding numbers on switch panels; installation of new design propeller shields and bearings; cutting in of a 6" valve on #1 digester sludge line; and repair of #3 and #4 pumps, and one unit heater.

Altitude valves on #1 and #2 high tanks were repaired and adjusted for service.

Routine sign work was carried on and included repair or replacement, and installation of approximately 90 street and traffic signs.

Work performed for Parks and Recreation Division included repair and installation of two oil stoves; plumbing repair at Burlin Camp; welding and cutting in connection with transfer of lawn mower shop; barricading of Columbia Field for football games; and installation of 10 horseshoe courts and 10 shuffleboard courts which is about 50% complete.

Municipal - Public Works

MAINTENANCE SECTION

Miscellaneous (Continued)

Installation of a new blueprint machine in Building 760; construction of concrete steps, hand-rails and cat-walks at Building 722-A; and miscellaneous sign work was completed for the General Services Divisions.

The winterizing of domestic water irrigation lines, removal of weeds from up-town shopping district, and repair of a hot water tank at Bus Depot and steam line at George Washington Apartments was performed for, and at the request of Real Estate Divisions.

A listing of work performed at request of Engineering Division includes: installation of ten 1" domestic water service connections for ten pre-fabs moved to Wright Ave., a 2" service tap at Carmichael School, a 2" domestic water service at N. W. United Protestant Church, and a 6" valve and service for irrigation line on Duane Ave., and a hose riser on Benham Ave.; and repair of leaks in a water main and a fire hydrant line on Duane, which were caused by sub-contractor activities.

SANITATION AND EROSION CONTROL SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
<u>Organization and Personnel</u>			
Number of Employees on Payroll:			
September 30, 1950	3	43	46
October 31, 1950	3	35	38

Personnel Changes Made During Month:

Transfers to Maintenance Section	1
Transfers to Health Instrument	1
Transfers to Transportation	1
Transfers to "S" Division	1
Transfers to Roads & Streets Maintenance	6
Transfers from Parks & Recreation	1
Transfers from Roads & Streets Maintenance	1
Transfers from Maintenance	1
Terminations	2
Re-activated from Leave of Absence	1

Municipal - Public Works

SANITATION AND EROSION CONTROL SECTION (CONTINUED)

Miscellaneous

Removal of weeds from open areas within the City Limits has progressed satisfactorily this month, and weeds were generally disposed of by burning. This program is now 65% complete.

Assistance is being lent to other Divisions for removal of weeds blown in by the high winds of October 28th. The removal of several trees downed by the wind was completed on work orders received from the responsible divisions.

Loading of top-soil for General Services and Real Estate Divisions is being performed on a work order basis at the request of these Divisions.

Some site work has been done on Columbia Playfield, Marcus Whitman Playfield, Carmichael Playfield, and Frankfort Playfield, this work being chargeable to Projects and Work Orders.

Semi-annual removal of weeds and discing of shelterbelts is 80% complete.

Planting of replacement trees has started on Duane shelterbelt. Approximately 150 trees are required to replace dead stock in this area.

Garbage and Trash Collection was changed to winter schedule of once-weekly collection at residences on October 2, 1950, and the transition was accomplished in an orderly and efficient manner. Present experience indicates that the collection routes in the pre-fab section are too heavy for one-day completion, and a study is being made on minor adjustments necessary to balance the work load.

Work at the sanitary cover site is progressing satisfactorily and according to schedule. The seeding to rye of part of this area and shaping up the fill slope has added much to the general appearance of this site.

Garbage and Trash collected during October totalled 857 tons as compared with 959 tons collected in September on a twice-weekly schedule at residences.

Municipal - Public Works

ROADS AND STREETS MAINTENANCE SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
<u>Organization and Personnel</u>			
Number of Employees on Payroll:			
September 30, 1950	2	16	18
October 31, 1950	2	18	20

Personnel Changes Made During Month:

Transfers from Sanitation and Erosion Control		6	
Transfers to Sanitation and Erosion Control		1	
Terminations		3	

Miscellaneous

The Roads and Streets Maintenance Section continued during the month on routine maintenance of roads, streets, side-walks, and parking compounds.

In addition to routine maintenance, the patching of 10.8 miles of asphalt streets was completed prior to the application of a "seal-coat" by a sub-contractor.

All snow removal and sand-spreading equipment has been inspected and placed in operating condition, and is now held in readiness for winter weather duty. Approximately 500 cu. yds. of sand have been screened for use on icy streets, and a supply of sand has been placed at Yakima River bridges on George Washington Way and at Enterprise for immediate spreading by Patrol or Roads and Streets Section when required.

The street sweeping program has been temporarily interrupted by failure of the rotary broom on the power sweeper. Repair materials are in transit, and this program will be reactivated as soon as possible.

Approximately 7 miles of class "C" roads were graded and repaired.

An earth ramp was installed at relocated AEC boat dock south of Riverside Park, at request of Parks and Recreation Division.

Municipal - Public Works

ROADS AND STREETS MAINTENANCE SECTION

Miscellaneous (Continued)

Work performed at parking compounds included the installation of an addition to the compound north of Swift Blvd., and just west of men's dormitories; the extension of, and preparing for "seal-coat" of the lot at south end of DeRussy Place; and the repair of 5 residential parking lots prior to "seal-coating" by contractor.

Work is now in process on the repair of roads and walks in the 700 Area, and this work is at the request of, and for the account of General Services Divisions. Completion of this work is scheduled for November.

UTILITIES SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
<u>Organization and Personnel</u>			
Number of Employees on Payroll:			
September 30, 1950	9	36	45
October 31, 1950	8	31	39
Personnel Changes Made During Month:			
Transfers to Power Division		2	
Transfers to General Services	1	1	
Terminations		1	
Leave of Absence		1	

Domestic Water

Normal operations were carried on throughout the month with average daily water consumption dropping to 5 million gallons per day.

On Friday, October 27, 1950, during a high windstorm, the incoming electrical power feeder to the Richland wells single-phased. The No. 14 well pump was in operation at this time, and because the motor protection failed to operate some damage was done to the motor windings. The motor has not yet been opened up to determine the extent of damage.

Municipal - Public Works

UTILITIES SECTION (CONTINUED)

Domestic Water System

	<u>Well Production</u> <u>Million Gallons</u>	<u>Avg. Daily</u> <u>Production</u>	<u>Total Consumption</u> <u>Million Gallons</u>	<u>Avg. Daily</u> <u>Consumption</u>
Richland	85.7669	2.7667	102.9727	3.3217
No. Richland	22.2350	0.7173	31.7943	1.0256
Columbia Field	50.7222	1.6362		
300 Area			<u>25.2225</u>	<u>0.8136</u>
Totals	158.7241	5.1202	159.9895	5.1609

Sewerage System

Routine normal operations were carried on throughout the month.

The mixer units on the primary digester of #2 Disposal Plant were pulled and remodeled according to recommendations of the Dorr Company. They supplied necessary materials and assistance in making the alterations. Two of the mixer units were completed and re-installed. On the third unit a propeller was broken in handling. Alterations of this unit were completed and the unit will be re-installed as soon as the propeller can be replaced.

Heat exchangers at the Disposal Plant #2 were opened up and cleaned thoroughly during the month.

Sewerage

	<u>Total Sewage</u> <u>Flow</u> <u>Million Gallons</u>	<u>Average Daily</u> <u>Flow</u> <u>Million G.P.D.</u>	<u>Average Rate</u> <u>Flow</u> <u>Gals. per Min.</u>
Plant No. 1	37.200	1.200	369
Plant No. 2	<u>68.762</u>	<u>2.218</u>	<u>682</u>
Totals	105.962	3.418	1051

Irrigation System

Irrigation systems operation was discontinued on October 6th. There was sufficient moisture from rain that irrigation water was no longer needed. Irrigation canals were shut down from penstock to Richland on this date. Work has been progressing on the cleaning of the canals since that time. The remainder of irrigation canal was shut down on October 27th.

MUNICIPAL DIVISIONS

PARKS AND RECREATION DIVISION October, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll

Beginning of month		32
Additions	4	
Transfers	<u>3</u>	
End of month		33

SCHOOLS

The following is a tabulation of full-time paid School District #400 personnel as of October 31, 1950:

Administration	6
• Principals & Supervisors	15
Clerical	23
Teachers	249
Health Audiometer	1
Building Custodians	46
Cooks	31
Nursery School and Extended Day Care	11
Bus Drivers	2
Farm Manager	<u>1</u>
	385

CLUBS AND ORGANIZATIONS

As of October 31, 1950, organizations' personnel included:

Boy Scouts	1
Camp Fire Girls	2
Hi-Spot Club	2
Girl Scouts	2
Justice of the Peace	1
Y.W.C.A.	<u>1</u>
	9

The Recreation Advisory Committee held their regular monthly meeting on October 17, 1950. The minutes of the September 19, meeting were approved by the Atomic Energy Commission on September 26, 1950. The Patrol Athletic League was recommended for approval by Management subject to proper security clearance. It was also recommended that Everett Tornfelt be approved so that he can secure space in the schools for private trumpet instruction.

On October 9, the Kiwanis Club presented their Fifth Annual Teacher's Dinner in the Carmichael Junior High School with 352 persons in attendance. This dinner was to welcome all School District #400 teachers and administration personnel.

Parks and Recreation

On October 13, the Community Chest Concert was presented in the Carmichael Junior High School under the sponsorship of the Red Feather Agencies. Participants in the program included the Richland Symphony, Meistersingers, SPEBSQA, Treble Clef, Minnesingers, Richland Light Opera Company, and Columbia High Chorus. Several guest soloists were also on the program.

On October 24, the United States Navy Band presented three concerts in the Columbia High School Boys Gymnasium under the sponsorship of the Northwest United Protestant Church. Net profits of the concert will be used in the church building program. The first matinee performance was presented before 2100 children; the second matinee concert was presented before 1600 children and adults; and the evening concert was attended by over 1500 adults. Approximately 1850 adult tickets were sold and 3300 childrens' tickets were sold. The boy's gymnasium proved to be a very satisfactory auditorium for music presentations.

The United Nations Celebration held on October 22, in the Plaza presented several local dignitaries on the program. It was estimated that over 200 people attended this ceremony. The Parks and Recreation Division obtained a lowboy for use as a stage and secured the use of the United Nations flags.

On October 25, Dr. Wilson Compton, President of Washington State College, spoke before a combined meeting of the Kiwanis and Rotary Clubs on his United Nations experiences. There were only 34 people in attendance at the evening lecture which was presented in the Carmichael Junior High School. This low attendance was due to conflicting events in the community.

"Life With Father" was presented by the Richland Players in the Columbia High School auditorium on October 27, and 28, before near capacity houses.

The Recreation Division is the coordinator for the Christmas decorations and programming for the coming Holiday Season. The Richland Greater Chamber of Commerce is going to decorate 19 intersections in Richland. The Richland Junior Chamber of Commerce plans to decorate the Plaza and the Girl Scouts are making decorations to install on poles throughout town. The Recreation Division has obtained permission from the U. S. Forest Ranger in Walla Walla to cut 40 trees for decoration of the Plaza.

On October 31, the Lions Club sponsored a costume parade and bonfire for the children of the community. Following the prize awards and the bonfire, a dance was held in the Community House. Arrangements for the parade and the bonfire were made by the Parks and Recreation Division.

The number and types of organizations presently served by the Parks and Recreation include:

Business and Professional Clubs	20
Churches & Church Organizations	25
Civic Organizations	5
Fraternal Organizations	24
Music & Art Associations	8
Recreation & Hobby Groups	42
Schools & Parent Teachers Assoc.	13
Social Clubs & Organizations	11
Veteran & Military Organizations	12
Welfare	6

Parks and Recreation Division

Youth	Boy Scouts	20
	Camp Fire Girls	36
	Girl Scouts	49
	Misc.	10
Miscellaneous		9
	Total	<u>290</u>

RECREATION

Mr. Hugh Purcell was transferred on October 23, from the Recreation Division to the Health Instrument Division. Miss Amidon of the Library staff has been temporarily assigned to aid in the direction of the Community House until a new Athletic Leader is employed.

On October 31, the "Report of Summer Activities " was completed. Copies will be forwarded to all interested persons.

Mr. Berst and Mr. Anderson attended the National Recreation Congress held at Cleveland, Ohio, October 2, through October 6. A complete report of this trip is being compiled and will be transmitted to all interested persons.

Mr. C. F. Barnes attended the American Institute of Park Executives Conference in Dallas, Texas, from September 23, through October 1. A complete summary of the conference is being compiled and will be submitted in the near future.

On October 17, representatives of the Recreation Division and the Youth Council spoke to the Marcus Whitman P.T.A. on the community recreation program. An exhibit of arts and crafts was presented and the Minnesingers provided entertainment with several solos and duets.

Complete arrangements have been made with the Columbia High School to erect archery backdrops for adult and youth archery programs. The schools will also be able to utilize this equipment in their Physical Education classes.

An average of 125 boys have attended four Saturday classes at the football school sponsored by the Recreation Division in cooperation with the School Athletic Department. These classes will continue through November 11.

Recreation activities that are being offered during the month of November include: general art, leatherwork, textile painting, weightlifting, Junior Basketball Official's Clinic, and archery instruction.

Attendance figures for the month of October were as follows:

COMMUNITY HOUSE

	<u>Boys</u>	<u>Girls</u>	<u>Total</u>
Physical Activities Room (26 days)	1062	149	1211
Finger Painting - Juveniles (3 classes)	36	51	87
General Crafts- Juniors (3 classes)	33	30	63
Metal Crafts- Intermediates (4 classes)	8	13	21
General Arts - Juniors (3 classes)	16	14	30
		<u>1412</u>	SUB-TOTAL

Parks and Recreation

BOMBER BOWL

	<u>Boys</u>	<u>Girls</u>	<u>Total</u>	
Jr. Football School - 14 and under (5 sessions)	685		685	SUB-TOTAL

COLUMBIA HIGH SCHOOL

Minnesingers Boys Chorus - ages 8 - 14 (4 sessions)	296		296	SUB-TOTAL
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LEWIS AND CLARK GYM

Square Dancing - all youth (4 sessions)			1350	SUB-TOTAL
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SPALDING GYM

	<u>Adults</u>	
Women's Night (5 sessions)	45	
Men's Night (5 sessions)	85	
Co-Recreation Night (4 sessions)	81	
Badminton Night (4 sessions)	52	
Fencing (5 sessions)	19	
	<u>262</u>	SUB-TOTAL

SERVICEMEN'S CENTER

	<u>Rec. Count</u>		<u>Actual Peak Count</u>		
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	
October 1	45	17	18	7	
October 8	50	0	20	0	
October 15	50	15	20	6	
October 22	50	12	20	5	
October 29	70	17	28	7	
	<u>265</u>	<u>61</u>	<u>106</u>	<u>25</u>	325 SUB-TOTAL
				<u>4371</u>	GRAND REC. TOTAL

COMMUNITY LIBRARY

The Community Librarian, Miss Maryan E. Reynolds, has been employed and will report for duty November 15, 1950. The three clerical employees have also been secured. Applicants for the three assistant librarian positions are being interviewed.

The librarian spent two days in Richland on October 23, and 24, developing plans and interviewing applicants. It is planned to open the new library to the public on approximately March 1, 1951. The Village Library will be operated jointly by General Electric and Villagers, Inc., until the Community Library is open.

The five member Library Advisory Board has been appointed by the Manager, Hanford Operations Office. Appointments were based on recommendations submitted by General Electric with the concurrence of the Community Council.

Parks and Recreation Division

PARK DEVELOPMENT AND MAINTENANCE

Site Development at Columbia Playfield which was started July 17, 1950, is now approximately 85% complete. The parking lot at Columbia Playfield was started September 17, 1950, and is now approximately 55% complete.

The following is a tabulation of the status of irrigation installations and grass seeding at the various areas:

<u>AREA</u>	<u>IRRIGATION INSTAL- LATION STARTED</u>	<u>PERCENTAGE COMPLETE</u>	<u>GRASS SEEDING STARTED</u>	<u>PERCENT COMPLETE</u>
Carmichael Playground	9/15/50	90%	10/10/50	80%
Marcus Whitman Playground	10/16/50	2%		
Columbia Playfield	10/17/50	15%		
Frankfort Playground	10/23/50	90%	10/27/50	5%
Spalding Playground		100%	8/22/50	95%

Engineering Service Requests were issued during the Month of October as follows:

1. October 2, 1950 - To prepare a project to cover park development (Playground Equipment and Other) - 1951.
2. October 2, 1950 - To prepare a project to cover park development (Site Work, Irrigation, Planting and Seeding) - 1951.
3. October 6, 1950 - To prepare recommendations and cost estimates for new heating system for park maintenance headquarters (1125 Warehouse).

All playground equipment which has been ordered by the Parks and Recreation Division was received during the month. The installation of this equipment will begin in the Spring of 1951.

The following arrangements were made by the Parks and Recreation Division for all football games held in Bomber Bowl during the month:

Janitorial services provided lavatories before and after games, barricading of parking area at the north end of the Columbia High Playfield, and Patrol assistance during the games.

For the Homecoming Game held on October 26, arrangements were made to provide wood for a bonfire at the Columbia High Playfield, and the Richland Patrol and Fire Divisions were notified of the time and place of this event.

A total of 40 Work Orders were issued during the month. Fifteen of these Work Orders were to repair damages caused by the high winds of October 27. Some of the damage caused by this high wind was as follows: roof on the Park Maintenance Headquarters Building, damage to the bandstand, scoreboards, swing sets, basketball goals, softball backstops, fences, gates, broken tree limbs, and general clean-up around the areas of the trash and debris that was left by the wind.

MAJOR EVENTS DURING MONTH OF OCTOBER

October 9 Kiwanis Teachers Welcome Dinner
9 Grandview vs. Richland - football

Junior High School
Bomber Bowl

Parks and Recreation Division

October 13	Red Feather Concert	Junior High School
14	College of Puget Sound - Army - football	Bomber Bowl
16	Kennewick Jr. Hi. - Carmichael Jr. Hi. - football	Bomber Bowl
22	Eastern Wash. State College - Army - football	Bomber Bowl
22	United Nations Program	Plaza
24	U. S. Navy Band Concert	Columbia Hi. Sch.
25	United Nations Program - Pres. Wilson Compton	Junior High School
27-		
28	"Life With Father" - Richland Players	Columbia Hi. Sch.
27	Pasco vs. Richland - football	Bomber Bowl
28	Fort Lawton vs. Army - Football	Bomber Bowl
31	Lions Club Halloween Celebration	Community
Sept. 25		
through		
Oct. 31	Community Chest Drive	Community

Community Chest collections are \$32,776.27 as of October 31, compared with a budget of \$37,707.

MUNICIPAL DIVISIONS
RICHLAND FIRE DEPARTMENT

October 1950

Organization and Personnel

Number of Employees on Payroll:

Beginning of month	58
Transfer to another division	- 1
End of month	<u>57</u>

Response to Alarms

Fire Loss (Estimated): Hanford Works	15
Personal	\$2,054.00
Total	<u>544.00</u>
	\$2,598.00

Investigation of minor fires and incidents	11
Safety Meetings	8
Security Meetings	5
Inside Drills or Schools	43
Outside Drills	32
Fire Alarm Boxes Tested	<u>183</u>

Miscellaneous Fire Department Activities:

Grass and weeds removed from vicinity of eleven fire hydrants.

Engine Co.'s 1, 2, 3 and Truck 1 given pump delivery and service tests.

Following the recent severe windstorm, all fire alarm circuits were checked for cutouts due to twisted wires and tree interference. Truck 1 dispatched to remove broken limbs from high tree at George Washington and Haines.

Fire Prevention

Inspections:

700 Area Buildings	89
1100 Area Buildings	52
Commercial Facilities	126
Schools	6
Clubs	3
Residences	5
Dormitories	25
Tract Houses	4
AEC Airport Buildings	10
Hospital and Medical Buildings	<u>6</u>
Total	<u>326</u>

Fire Extinguishers:

Inspected	672
Refilled	12
Installed	2
Relocated	3

Fire Exit Drills and Tests:

Meeting held October 5th with fire wardens of 703 Building.

Conducted fire drill and assimilated evacuation of patients at Kadlec Hospital on October 6th.

Demonstrations and Lectures:

The following fire extinguisher demonstrations were given:

- October 16th to 65 employees of Project Engineering Division.
- October 17th to 28 employees of Central Files Group.
- October 23rd to 40 employees of Project Engineering Services.
- October 24th to 38 employees of Project Engineering Field Group.
- October 25th to 34 employees of Transportation Division.
- October 26th to 9 employees of Plant School and Library Group.

Miscellaneous Fire Prevention Activities:

At the request of hospital administrator O. R. Bakko, assisted a representative of the Washington Surveying and Rating Bureau on a complete fire prevention survey of Kadlec Hospital.

Surveyed fire alarm and sprinkler systems in 703 Building to determine changes necessary to bring these facilities up to national code requirements, findings reported to B. R. Hennigar, Contact Engineer.

Fire prevention survey made of photo badge and film storage facilities in 705 Building.

Caused "NO PARKING" signs to be installed in Sacajawea School service driveway.

Accompanied Community Engineers and Public Health officials on final acceptance inspections of Uptown Theatre, New C & H Market, Uptown Tavern and By's Burger.

Fire Prevention Week Activities:

Assistance was given the Chamber of Commerce in planning and executing a city-wide Fire Prevention Week campaign. The Chamber of Commerce prevailed upon the Richland Safety Council, through its representative on the council, to coordinate the program. The Fire Department actively participated in the greater part of the program as follows:

- (1) Procured 40,000 pieces of promotional material and assisted on distribution.
- (2) Posted promotional signs and posters on buildings, buses and special vehicles.
- (3) Assisted on special evacuation drill at Kadlec Hospital and simultaneous drills in all schools, 703, 705, 713, 720, 760, 761 and 762 Buildings.
- (4) Fire apparatus demonstrations at schools for 1125 students and teachers.

- (5) Five fire prevention talks in schools by firemen.
- (6) A public Fire Department demonstration in Riverside Park.
- (7) Open house at both fire station with 559 people conducted on explanatory tours of the stations.
- (8) An address by a Fire Department Captain at the Rotary Club luncheon.
- (9) Extensive fire inspections of a large number of public, commercial and project buildings.
- (10) Examined seven Boy Scouts for Firemanship Merit Badge.

A scrap book of all Fire Prevention Week activities is to be prepared by the Fire Marshal's office, after which it will be presented to the Chamber of Commerce for submission to two national contests.

MUNICIPAL DIVISIONS

RICHLAND PATROL

OCTOBER, 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:	<u>Exempt</u>	<u>Non-Exempt</u>
Beginning of month	16	31
End of month	<u>16</u>	<u>29</u>
Net Decrease:	0	2

Reason: 2 Transferred to Security Patrol
1 Transfer from Engineering

GENERAL

Effective October 1, 1950, Eugene E. Miller was transferred from the Engineering Division and assigned to the Traffic Control Section as Sergeant.

Chief H. W. Strock attended a conference of the International Association of Chiefs of Police in Colorado Springs, Colorado, from October 6 to 14.

On October 13, 1950, a temporary post was established near the Village Theater for a short time before and after the Saturday matinee movie to provide greater safety for children entering the theater.

Members of the Richland Patrol attended a meeting of the Yakima River Peace Officers Association held at Walla Walla, Washington, on October 21. The program included a tour of the prison, lunch in the prison cafeteria, entertainment by prison inmates, and a panel discussion with Warden John H. Cranor acting as moderator.

During the month, 24 pairs of uniform trousers were received and added to stock for replacement purposes.

The Patrol force was doubled in strength to provide added police protection on Halloween. A total of six patrolmen worked an additional eight hour shift.

A Kodak copying stand assembly with two lights was added to the crime laboratory. Chemicals and equipment, including a hot plate, were obtained for performing Lunge's Nitrate (Powder) Test and tests for obliterated stampings on metal.

Clip boards with lights were installed in all Patrol cars to aid in taking notes during the hours of darkness.

At the request of the Washington State Patrol, Richland Patrol began forwarding finger print cards on persons processed through the Jail to the State Patrol. Forms were provided by that office for this purpose. This is in addition to finger print cards forwarded to the Federal Bureau of Investigation.

A records survey is now being made by the Office Methods Division for the purpose of determining duplications and forms used and eliminating repeated operations, if any. This survey should be completed during the month of November.

Richland Patrol - Continued

Patrol received a new Willys jeep during the month, replacing an older model jeep which has been in use on Patrol for some time. All emergency equipment was transferred to the new vehicle.

Arrangements were made with Civil Defense authorities to have an unlisted telephone installed at the Patrol desk to be used specifically for receiving notifications of air raid warnings. This phone was designated as the central point of contact for Benton County. Notifications of Civil Defense personnel for Benton County will be made by this office after notification has been received.

During the month, 93 traffic violations reports were received. These consisted mainly of speeding, illegal parking, accidents, and no drivers license. A total of 52 other reports were received. These consisted mainly of larceny, public intoxication, and car prowling.

During the month, a total of 164 letters were received, compared to 111 last month. These consisted of 147 inquiries on arrests and 17 requests for assistance.

During the month, 13 prisoners were processed through the Richland Jail.

During the month, 42 gun registrations were recorded.

During the month, 62 bicycle registrations were recorded.

TRAFFIC

There were 13 reportable accidents for the community of Richland during the month of October. This was four less than the preceding month. There were no personal injuries reported as a result of traffic accidents for the month.

One of the above accidents was caused as a result of a motorist driving while intoxicated, one as a result of Reckless Driving, five were caused as a result of Negligent Operation, two were caused by Failure to Yield Right of Way, two by following the preceding vehicle too closely and two by Failure to Stop at an Arterial Stop Sign.

There were no fatalities as a result of traffic accidents in Richland for the month.

Property damage as a result of traffic accidents was reduced \$1,677.50 from the previous month. Total property damage for October was \$2,908.50.

The School Boy Patrol is completely organized and equipped. A member of the Traffic Section met with each school group twice during the month.

Two safety films were shown at safety meetings during the month.

A survey was made to determine existing traffic hazards and recommendations made to correct the ones found.

A survey was made by members of the Traffic Section which indicated a serious need for lights on bicycles being operated on the streets after dark. Attention to this subject was presented to the parents of children by publications in the local newspapers. All children will be contacted in school assembly meetings, and should this course fail, it is recommended that the subject be approached from an enforcement angle.

During the month of October, 22 new traffic control signs were installed as directed by the Traffic Section, 20 were replaced, 19 were straightened or repaired, and 19 removed to permit new street construction.

Richland Patrol - Continued

Work on the 13 traffic control signal lights began October 12. Present plans call for completion by January 1, 1951.

TRAINING

Subjects covered in the lieutenant's training classes for the month were as follows:

Self Defense
Note Books
Statements
Interrogation
Evidence in Court

Advance training for Patrol members at the small arms range for the period in field instruction was as follows:

Pistol 2 hours

Qualifications on the F. B. I. Course were as follows:

Unqualified	2	33%
Marksman	0	0
Sharpshooter	3	50%
Expert	1	17%

Qualifications on the Army-L Course were as follows:

Unqualified	1	9%
Marksman	1	9%
Sharpshooter	4	36%
Expert	5	46%

A total of 17 men reported to the Range for training.

ACTIVITIES AND SERVICES (RICHLAND)

	<u>August</u>	<u>September</u>	<u>October</u>
Check on absentees	2	1	1
Persons assisted*	139	135	154
Doors and windows found open	103	24	31
Lost and found children	10	21	4
Ambulance runs	25	21	20
Ambulance driver provided			5
Lost dogs reported	2	0	8
Dog, cat, loose stock complaints	60	35	46
Persons injured by dogs	13	8	7
Bank escorts and details	46	37	39
Fires investigated	20	15	20
Miscellaneous escorts	11	37	41
Complaints investigated	46	39	42
Deaths reported	0	1	6
Lost and found articles	<u>36</u>	<u>19</u>	<u>20</u>
Totals	513	393	439

*Includes: Assisting other departments, assisting outside police agencies, assisting private persons, delivering emergency messages, etc.

RICHLAND PATROL DIVISION
RICHLAND JUSTICE COURT CASES
OCTOBER 1950

VIOLATION	NO. OF CASES		NO. OF CONV.		NO. OF FORF.		CASES CONT.		CASES PEND.		CASES DISM.		WARR ISS.		SEN ¹ JAIL		SEN ¹ SUSP		LIC REV		ORIG. PREV. MON.		INCL. OTHER VIOL.		BAIL FORF		FINES		FINE SUSP	
	17	4	8	1	5	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00
Dr. Lic.	4	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Def. Equip.	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
F.T.S.A.I.	2	2	2	2	7	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
F.T.Y.R.O.W.	22	3	13	3	7	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Illeg. Parking	3	2	3	2	7	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Imp. Passing	2	8	7	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Lic. Plates	5	3	3	3	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Neg. Driving	29	9	15	3	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Reck. Driving	9	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Speeding	3	2	2	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Stop Sign	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Illeg. U Turn	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Drunken Driving	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Grand Larceny	4	4	4	4	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Public Intox.	4	4	4	4	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Public Nuis.	4	4	4	4	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Vagrancy	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
Exhibiting & poss. of obscene pictures	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	2	5	37.50	42.50	\$	\$	15.00	
TOTALS	120	71	32	11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	19	10	10	10	\$274.50	\$733.00	\$	\$	\$118.00	

NOTE: One Drunken Driving taken to Superior Court.

MONTHLY REPORT
RICHLAND PATROL DIVISION
OCTOBER, 1950

OFFENSES	KNOWN	UNFOUNDED	CLEARED ARREST	CLEARED OTHER*
<u>PART I</u>				
1. Murder	0	0	0	0
2. Rape	0	0	0	0
3. Robbery	0	0	0	0
4. Aggravated Assault	0	0	0	0
5. Burglary-Break & Enter.	2	0	0	0
6. Larceny—Over \$50.00	5	0	0	2
Larceny—Under \$50.00	25	1	4	10
Bicycle Theft	20	0	1	18
7. Auto Theft	<u>4</u>	<u>0</u>	<u>2</u>	<u>2</u>
TOTAL PART I CASES	56	1	7	32
<u>PART II</u>				
8. Other Assaults	1	0	1	0
9. Forgery & Counterfeit.	0	0	0	0
10. Embezzlement & Fraud	1	0	1	0
11. Stolen Prop:Buy:Rec:Poss:	0	0	0	0
12. Weapons:Carrying:Poss:	1	0	1	0
13. Prostitution	0	0	0	0
14. Sex Offenses	1	0	1	0
15. Offense Ag.Fam. & Child.	2	0	2	0
16. Narcotics—Drug Laws	0	0	0	0
17. Liquor Laws	3	0	3	0
18. Drunkenness	4	0	4	0
19. Disorderly Conduct	6	0	6	0
20. Vagrancy	2	0	2	0
21. Gambling	0	0	0	0
22. Driving While Intoxicated	2	0	2	0
23. Violation Rd. & Dr. Laws:				
Speeding	29	0	29	0
Stop Sign	3	0	3	0
Reckless Driving	5	0	5	0
Right of Way	2	0	2	0
Negligent Driving	6	0	6	0
Defective Equipment	2	0	2	0
24. Parking	22	0	22	0
25. All Other Traffic Viol.	17	0	17	0
26. All Other Offenses:				
Public Nuisance	4	0	4	0
Prowlers	8	1	1	4
Pickup For Outside Agency	2	0	2	0
Dest. of Pers. Property	3	0	0	3
Malicious Mischief	4	0	0	4
Vandalism	5	0	1	1
Car Prowl	2	0	0	0
Dest. of Gov't. Prop.	2	0	1	1
27. Suspicion	<u>6</u>	<u>0</u>	<u>2</u>	<u>3</u>
TOTAL PART II CASES	145	1	120	16

(Continued on Page Two)

PAGE TWO—MONTHLY REPORT, RICHLAND DIVISION—OCTOBER, 1950

OFFENSES	KNOWN	UNFOUNDED	CLEARED ARREST	CLEARED OTHER*
<u>PART III</u>				
28. Missing Persons	2	0	0	2
Lost Persons	8	0	0	8
Lost Animals	5	0	0	5
Lost Property	3	0	0	3
29. Found Persons	7	0	0	7
Found Animals	3	0	0	3
Found Property	<u>25</u>	<u>0</u>	<u>0</u>	<u>25</u>
TOTAL PART III CASES	54	0	0	54
<u>PART IV</u>				
30. Fatal Mot.Veh.Traf.Acc.	0			
31. Pers.Inj.Mot.Veh.Traf.Acc.	0			
32. Prop.Dam.Mot.Veh.Acc.	13			
33. Other Traffic Acc.	0			
34. Public Accidents				
35. Home Accidents	No Accurate Statistics Kept			
36. Occupational Accidents				
37. Firearms Accidents				
38. Dog Bites	2	0	0	2
39. Suicides	0			
40. Suicide Attempts	1	0	1	0
41. Sudden Death & Bodies Found	0			
42. Sick Cared For	0			
43. Mental Cases	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
TOTAL PART IV CASES	17	0	1	3

COMPOSITE TOTALS

PARTS I, II, III, IV CASES	272	2	128	105
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*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 only in that there are no arrests.

Property Reported Stolen \$3,083.99 (20 bikes)
Property Recovered 2,041.70 (18 bikes)

JUVENILES INVOLVED

3 P.L. Cases Ages 12, 15, & 17. (1 Male)
2 Mal. Misch. 6 ages 8, 9, 10, 11 & 13. (All Males)
2 Liquor Laws—6 Juv. ages 16, 18, & 20 (All Males)
1 Dis.Ord.Cond.1 Juv. age 16 (Male)
1 Susp.1 Juv. Age 16 (Male)
1 Bike Theft—1 Juv. age 10 (Male)
1 Msg. Person—1 Juv. Age 15 (Male)
1 Pickup for Outside Agency—1 Juv. Age 15 (Male)
1 Vandalism—2 Juv. age 8 (All Males)
1 Vandalism & Dest. of Gov't Prop.—8 Juv. Ages 15, 16, & 17 (All Males)

No Colored Persons Involved.

RICHLAND AND NORTH RICHLAND
PATROL DIVISION
OCTOBER, 1950

Number of offenses known to police per 25,000 inhabitants in cities of 25,000 inhabitants:									
Wash. Oregon & Calif.									
Class.	Six Months		One Month		Richland		North Richland		North Richland
	(July-Dec. 1949)	Average	(July-Dec. 1949)	Average	Six Months	Sept. 1950	Six Months	Sept. 1950	Sept. 1950
Murder	.68	.11			0	0	0	0	0
Robbery	18.95	3.15			0	0	0	0	0
Assault	8.37	1.39			0	0	0	0	0
Burglary	200.7	33.4			27	1	1	1	1
Larceny	654.07	109.01			175	2	2	2	1
Auto Theft	76.8	12.8			2	19	30	7	2
Eike Theft					109	0	4	0	3
						17	20	1	1

Number of offenses known to police per 25,000 inhabitants regardless of whether offenses occurred in cities or rural dist:									
State of Washington									
Class.	Six Months		One Month		Richland		North Richland		North Richland
	(July-Dec. 1949)	Average	(July-Dec. 1949)	Average	Six Months	Sept. 1950	Six Months	Sept. 1950	Sept. 1950
Murder	.91	.15			0	0	0	0	0
Robbery	25.7	4.4			0	0	0	0	0
Assault	7.5	1.2			0	0	0	0	0
Burglary	167.3	27.8			27	1	1	1	1
Larceny	509.0	84.8			175	2	2	2	1
Auto Theft	81.2	13.5			2	19	30	7	2
Bike Theft					109	0	4	0	3
						17	20	1	1

The portion of offenses committed by persons under the age of 25 years, is shown by the following:

National Average									
Six Months									
Class.	Six Months		One Month		Richland		North Richland		North Richland
	(July-Dec. 1949)	Average	(July-Dec. 1949)	Average	Six Months	Sept. 1950	Six Months	Sept. 1950	Sept. 1950
Robbery	54.1				0	0	0	0	0
Burglary	59.5				3	0	0	0	0
Larceny	44.8				43	5	3	0	0
Auto Theft	67.0				1	0	0	0	0

Note: Statistics of juvenile offenses throughout the United States were taken from the Uniform Crime Report published by the Federal Bureau of Investigation, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower group because of the practice of some jurisdictions not to fingerprint youthful offenders."

PATROL DIVISION - TRAFFIC CONTROL STATISTICS

October, 1950

MOTOR VEHICLE ACCIDENTS:

	Total Number		Fatalities		Major Injuries		Minor Injuries	
	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.
Richland	17	13	0	0	1	0	2	0
North Richland	6	6	0	0	0	0	1	2
Totals	23	19	0	0	1	0	3	2

ACCIDENT CAUSES:

	Negligent Driving		Failure to Yield Right of Way		Reckless & Drunken Driving		Other Causes	
	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.
Richland	4	7	2	2	3	2	8	4
North Richland	0	1	2	1	1	0	3	4
Totals	4	8	4	3	4	2	11	8

PLANT WARNING TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Parking		Imp. License		Def. Equipment		Other Violations		Totals	
	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.
Richland	0	1	2	0	51	51	2	4	6	9	0	0	61	65
North Rich.	0	0	0	0	31	46	0	0	0	2	0	0	31	48
Totals	0	1	2	0	82	97	2	4	6	11	0	0	92	113

TRAFFIC CHARGES AND COURT CITATION TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Drunken Dr.		Reckless Dr.		Right of Way V.		Neg. Dr.		Parking V.		Other V.		Totals	
	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.	Sept.	Oct.
Richland	41	26	8	9	0	2	5	5	3	2	14	6	15	22	22	24	108	96
N. Rich.	3	2	5	7	3	2	1	1	2	0	1	3	0	6	11	21	26	26
Totals	44	28	13	16	3	4	6	6	5	2	15	9	15	28	35	129	122	122

TRAFFIC VOLUME: No Traffic Counts were taken during the month of October, 1950.

Note: Traffic Control Statistics show ORIGINAL CHARGES ONLY.

Public Safety Division
Monthly Report
October—1950

The month of October was almost entirely devoted to fire prevention activities. "Fire Prevention Week" October 8 through October 14, was sponsored by the Greater Richland Chamber of Commerce and coordinated by the Richland Safety Council plus the supporting service of several service clubs, the Richland Fire Division, the Plant Safety and Fire Protection Division, Public Safety Division, and the General Electric Public Functions and Services Division.

The Public Safety office was the center of activity during Fire Prevention Week. The majority of Fire Prevention Material was sorted and distributed from this office, and records were maintained of all activities. Reports from all Committee Chairmen were forwarded to this office at the end of the program for assemblage into book form for submission to National Fire Protection Association.

In addition to the Fire Prevention Activities for the month, some traffic safety news items were released and an article on Bicycle Safety. Two new 24 sheet posters entitled "He Didn't Mean To" were ordered to be posted for the month of November.

"The Lady From Safetyland" radio program involving Fire Prevention was very successfully conducted during the month. A survey indicated that 40 percent of the school children up to age 10 listened to the program.

The Public Safety Supervisor attended the Annual National Safety Congress and served on a panel discussion covering child safety. Richland had the following exhibits on display at the Congress:

1. Child Safety Campaign Material.
2. Award Banquet Presentation.
3. Other safety activity materials prepared by this office.

Spot announcements covering child safety for the Halloween period was given during the evening of October 31 approximately every 30 minutes over Station KWIE.

A reorganized Traffic Control Committee was established by the Manager of Municipal Divisions.

The procedure for Municipal Sub-Contractors Safety Program which must be covered by the engineering group and this office is being processed.

MUNICIPAL, REAL ESTATE AND GENERAL SERVICES DIVISIONS

HOUSING AND REAL ESTATE MAINTENANCE DIVISIONS

October, 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll

October

Beginning of month

186

End of month

RICHLAND HOUSING

Housing Utilization as of Month End

Houses Occupied by Family Groups	Conven tional	Block	T	Pre Cut	Ranch	Pro Fab	Apt	Tract	Total
G. E. Employees	2206	259	9	378	842	1152	58	41	4945
Commercial Facilities	93	8	1	24	65	61	5	5	262
Medical Facilities	6	13	-	2	-	1	-	-	22
Community Activities	9	-	-	1	7	3	-	1	21
Post Office	7	-	-	1	3	10	-	3	24
A. E. C.	98	30	-	13	38	23	4	4	210
School District	41	-	-	5	12	48	1	-	107
Kellex Corporation	6	5	-	7	7	2	1	-	28
Atkinson-Jones	9	15	-	5	12	3	4	-	48
J. G. Turnbull	-	-	-	-	1	1	-	-	2
C. T. Main Company	2	-	-	3	2	-	1	-	8
J. A. Terteling	-	-	-	-	1	-	-	-	1
Newberry Neon	3	1	-	1	-	-	-	-	5
Vernita Orchards	-	-	-	-	-	-	-	4	4
Robert Filter	-	-	-	-	-	1	-	-	1
Fred J. Early Co.	-	-	-	-	1	-	-	-	1
TOTAL HOUSES OCCUPIED	2480	331	10	440	991	1305	74	58	5689
Houses assigned-Leases written	8	1	-	3	4	9	-	-	25
Houses assigned-Leases not written	8	1	-	6	4	7	-	-	26
Houses available for assignment	4	-	-	1	1	11	-	-	17
TOTAL HOUSES	2500	333	10	450	1000	1332	74	58	5757

Housing and Real Estate Maintenance Divisions

Housing Turnover During Month	Begin Month	Moved In	Moved Out	Month End	Difference	
Conventional Type	2478	46	44	2480	Plus	2
Block Type	333	1	3	331	Minus	2
"T" Type	8	2	-	10	Plus	2
Pre-cut Type	446	11	17	440	Minus	6
Ranch Type	996	22	27	991	Minus	5
Prefab Type	1298	46	39	1305	Plus	7
Apartments	74	4	4	74	-	-
Tract	57	1	-	58	Plus	1
Total	5690	133	134	5689	Minus	1

Dormitory Statistics

Dormitories		<u>Occupants</u>	<u>Vacancies</u>	<u>Total Beds</u>
Men	Occupied 14	548	18	***566
Men	Unoccupied			
Women	Occupied 12	*400	**181	581
Women	Unoccupied 2			

Women's Dormitories

occupied by:

G. E. Office	1
Education	1
Apartments	1
	<u>31</u>

* This includes space of 4 beds in W-9 used for supply rooms and dormitory offices.

** This includes 50 beds in "Standby Condition" in W-17.

*** This includes 50 beds transferred from Women to Men on August 2, 1950 in W-21.

GENERAL

Allocation Section Statistics	
Houses Allocated to new tenants	71
Exchanged houses	37
Moves (Within the Village)	37
Turnovers	4
Total Leases Signed	133
Terminations	58
Total Cancellations	134
Applications Pending	422
Voluntary Terminations	28
R. O. F.	3
Discharge	-
Transfers	9
Retirement	1
Houses assigned "As Is"	39
Move Off Project	8
Houses sent to renovation	59

Dormitory W-20 was released to the management of the Municipal, Real Estate and General Services Divisions as temporary office space. We are now relieved of the up keep of the building while it is under the Municipal, Real Estate and General Services Divisions.

TENANT RELATIONS

Processing of Service Orders, Work Orders and Service Charges

	<u>Issued from Oct. 1 to Oct. 31, 1950</u>	<u>Incomplete Oct. 31</u>	<u>Issued Previous Month</u>
Service Orders	2883	445	2069
Work Orders	1016	3304	506
Service Charges	197	56	169

ITEMS OF INTEREST

	<u>Total Outstanding</u>	<u>Total Outstanding -Previous Month</u>
Laundry Tubs	81	61
Bathtubs	20	178
Bathtubs (Sub-contract)	206	0
Tileboard (Alone)	51	287
Kitchen sink linoleum	168	178
Floor linoleum (Not bath)	13	26

Alteration permits issued during the month of Oct. totaled 84 compared to 67 in Sept.

Tileboard in bathroom	1	Clothes lines	1
Removal laundry tubs	1	Change range and refer.	3
Basement partitions	3	Basement excavations	7
Automatic washers	16	Fence construction	4
Drop ceiling in stairwall	1	Coal furnace to oil	9
Refinish floors	3	Additional wiring	8
Coal stoker	2	Thermostat on furnace	1
Sand stairs	1	Clothes dryer	8
Tool shed	2	Patio	1
Back door in prefab	2	Dog pen	1
Extend chimney	1	Dishwasher	3
Water softener	2	Trellis	1
Glazing sunporch	1	Raise threshold	1

1334 Inspections were made during the month of Oct. as compared to 896 made during Sept.

Alteration Permits	103	Bathtubs	94
Cupboards	33	Drainage	9
Driving on grass	3	Floor Boards	20
Grass seed	18	House siding	4
Jack and Shim	26	Leaking basements	40
Linoleum	210	Lot Lines	26
Paint	9	Porch and Steps	42
Screen Doors	33	Shades	48
Shower Stalls	33	Sidewalks	32
Sinks	23	Tileboard	100
Toilet Seats	33	Top Soil	26
Trailers	2	Walls	12
Windows	38	Miscellaneous	317

M. S. WAREHOUSE SUMMARY FOR Sept. 25, 1950 thru Oct. 25, 1950

TOTAL INV. \$100,363.11

INVENTORY ITEMS AMOUNT \$57,316.98

RECEIVED IN INVENTORY

CODE AMOUNT

ON STORE ORDERS \$ 628.66

ON PURCHASE ORDERS 630.01

FROM EXCESS

FROM HOUSING 61-20 1,885.63

FROM DORMS 64-20 1,166.23

TOTAL RECEIPTS \$4,310.53

INVENTORY DISBURSED

Misc. Chg. 245.34

TO SALVAGE

FREE ISSUE 61-20 1,234.88

CASH ITEMS 61-20 54.48

DORM SUPPLIES 64-20 748.30

DORM LINENS 64-20 259.09

DORM SHADES & REFLECTOR 64-20 27.37

DORM FURNITURE 64-20 138.15

WHSE. SUPPLIES 63-20 39.21

TOTAL DISBURSED \$2,746.82

INVENTORY ITEMS BALANCE

\$58,880.69

PLANT ITEMS AMOUNT \$43,415.08

CODE AMOUNT

RECEIVED \$2,724.84

DISBURSED 1,861.05

DISBURSED TO EXCESS

DISBURSED TO SALVAGE

TOTAL DISBURSED \$1,861.05

PLANT ITEMS BALANCE \$44,278.87

GRAND TOTAL INVENTORY \$103,159.56

PIECES

DORM FURNITURE EXCHANGED

59

RANGES EXCHANGED

11

REFRIGERATORS EXCHANGED

3

PREFAB HEATERS EX.

26

SENT TO MAINTENANCE

133

RECEIVED FROM MAINT.

110

DORMITORIES

They are now installing automatic controls to shut off air conditioners when fire alarm is pulled.

Exteriors of all dormitories have been repaired in preparation for painting.

COMMERCIAL AND OTHER PROPERTY DIVISION

OCTOBER, 1950

DIVISIONAL PERSONNEL:

Number of Employees on Payroll:	<u>October</u>
Beginning of month	13
End of month	13
Net difference	0

COMMERCIAL AND NONCOMMERCIAL PERSONNEL:

Number of Employees on Payrolls:

	<u>Commercial</u>	<u>Noncommercial</u>	<u>Total</u>
September	1,069	77	1,146
October	1,091	82	1,173
Net Increase	22	5	27

SUMMARY OF ROUTINE ITEMS PROCESSED:

Work Orders	84
Back Charges	4
Service Orders	28

CONTRACTS AND NEGOTIATIONS:

A. Commercial:

1. Supplemental Agreement:

- (a) Vance Properties, Inc. to provide for subleasing in the Facility.

2. Sublease:

- (a) G. N. and Margaret Felton, covering subleasing of warehouse building and facilities to Standard Oil of California.

3. Letters of Authorization:

- (a) Tidewater Associated Oil Company was authorized to resublet its service station, formerly under sublease to T. G. Thompson, to Charles A. Nevins and Oscar K. Hamblin, a partnership, for continued operation.

OCTOBER, 1950

- (b) Spencer-Kirkpatrick Insurance was authorized to sublease space temporarily to the Women's Republican Club of Richland, by letter of agreement.
- (c) Amusement Enterprises, Inc. was authorized to sublease space to Mrs. Wilma C. Bell to operate a drive-in restaurant in addition to selling tickets for amusement facilities.
- (d) Midstate Amusement Corporation was authorized to sublease space to Mr. Don Jones for use as a store for the sale of men's wear and athletic supplies.
- (e) Midstate Amusement Corporation was authorized to sublease space to Mrs. Allene Winham for use as a gift shop.

4. Assignment and Acceptance of Contract:

- (a) The Mart - by William Ward to C. D. Newland and W. J. Howells, a partnership.
- (b) Village Pharmacy - by Fred R. Stipe to Fred R. Stipe and Dale J. Green, a partnership.

5. Termination of Contract:

- (a) Village Pharmacy - Mr. A. T. Lee terminated his sublease agreement covering the operation of a jewelry and watch repair shop.
- (b) The Desert Inn - Dent Chocolate Company terminated its sublease agreement covering the operation of a candy shop.
- (c) The Desert Inn - Mrs. Marian G. Lien terminated her sublease agreement covering the operation of a lingerie, hosiery and corset shop, known as the Marian Shop.
- (d) The Desert Inn - Mr. William J. Newell terminated his sublease agreement covering the operation of a barber shop.

SUMMARY OF OCCUPANCY AND EXPANSION STATUS:

A. Commercial:

	<u>September</u>	<u>October</u>
1. Number of Government-owned buildings	37	37
(a) Number of businesses operated by prime lessees	49	45
(b) Number of businesses operated by sublessees	8	12
(c) Total businesses operating in Government-owned buildings	57	57

COMMERCIAL AND OTHER PROPERTY DIVISION

OCTOBER, 1950

September October

2. Number of privately-owned buildings	32	34
(a) Number of businesses operated by prime lessees	36	33
(b) Number of businesses operated by sublessees	18	24
(c) Total businesses operating in privately-owned buildings	54	57
3. Total number of businesses in operation	111	114
4. Doctors and dentists in private practice, leasing space in Government-owned buildings	21	21
5. Privately-owned buildings under construction	6	4
B. Noncommercial:		
1. Government-owned buildings		
(a) Churches	4	4
(b) Clubs and organizations	10	10
(c) Government agencies	3	3
Total	17	17
2. Privately-owned buildings		
(a) Completed and in use	4	5
(b) Completed and not in use	4	4
(c) Sites tentatively allocated or leases in process of negotiation	6	10
Total	14	19
3. Grazing leases	43	43

GENERAL:

A. Commercial:

1. Spencer-Kirkpatrick Insurance - The Richland Women's Republican Club opened temporary headquarters.
2. McVicker Investment Building #2 - C & H Food Store #2 commenced operating on October 20, 1950.
3. Midstate Amusement Corporation - The Uptown Theater commenced operating on October 26, 1950.

B. Noncommercial:

1. Church of Jesus Christ of Latter Day Saints - construction has been completed with minor exceptions.
2. Christ the King (Catholic Church) - Contract of Sale, covering Government-owned equipment approved by Atomic Energy Commission.

COMMERCIAL AND OTHER PROPERTY DIVISION

OCTOBER, 1950

COMMERCIAL PROSPECTS:

A number of applicants, the majority of which were not interested in constructing privately-owned buildings, expressed an interest during the month to establish and operate businesses in Richland. Inquiries were received covering the following types of establishments:

Auto Agency
Drugstore
Fresh Egg Route
Golf Driving Range

Men's Wear
Paint Shop
Popcorn Stand
Sporting Goods Store

GENERAL SERVICES DIVISIONS
MONTHLY REPORT
OCTOBER, 1950

ORGANIZATION AND PERSONNEL

Number of Employees on Roll:

	<u>Beginning of Month</u>	<u>End of Month</u>
North Richland Patrol Division	20	20
North Richland Fire Division	37	36
Maintenance and Operation Division	<u>72</u>	<u>73</u>
Total	129	129

Personnel changes during month:

	<u>Exempt</u>	<u>Non-Exempt</u>
Transfers from Municipal	1	2
Transfers from Plant Maintenance		1
Transfers from Plant Electrical		1
Transfers from Security Patrol		1
Transfers to Manufacturing Power		2
Transfers to Real Estate		1
Transfers to "S" Division		2
Terminations		1

General

Steps were taken to encourage passage of legislation, at the next session of the State Legislature, which will permit the School District to operate and maintain the cemetery and/or transfer its operation to a perpetual care association.

Studies are being conducted on the anticipated life of the Steam Plant and Distribution System, to determine whether it appears logical to request reappraisal of depreciation schedule.

STEAM OPERATION AND GENERAL MAINTENANCE DIVISION

Organization and Personnel

Number of Employees on Roll:

	<u>Exempt</u>	<u>Non-Exempt</u>
Beginning of Month	7	65
End of Month	9	64

Personnel changes during month:

Transfers from Municipal	1	2
Transfers from Plant Maintenance		1
Transfers from Plant Electrical		1

	<u>Exempt</u>	<u>Non-Exempt</u>
Transfers to Manufacturing Power		2
Transfers to Real Estate		1
Terminations		1

Effective October 11, C. H. Bell was advanced from Machine Shop Foreman to General Foreman.

Effective October 16, E. A. Pfistor, transferred from Municipal Divisions, was appointed Senior Supervisor, Steam Operation and Steam Maintenance.

Effective October 16, M. M. McCartney was advanced from Machinist to Machine Shop Foreman.

General Maintenance

Roof repairs to new wing of 703 Building were performed by sheetmetal men of Real Estate Divisions and carpenters of General Services Divisions. This work was delayed several times by weather conditions but is now nearing completion, a small amount of hot tar work remaining on the south roof. Repair of roofs damaged by recent wind storm is 80% complete.

Several glass window panes were broken by awnings in 700 Area buildings during the wind storm. Awnings have since been removed.

Several dirt driveways in 700 Area were spread with gravel, roadways repaired, and weeds and trash cleaned up. This work was performed by other Divisions. Trash clean-up is still being done as a result of recent wind storm.

Winterizing of desert coolers is nearing completion; closing of louvers and air ducts is yet to be done.

Watering and mowing of lawns is completed for the season and equipment has been picked up and stored; equipment repairs will be made during winter months.

Approximately 50 safety relief valves were handled over test table in annual testing and repair program and returned to service.

Steam heating coil at Elite Shop was repaired and condensate lines and traps rearranged to eliminate line noise.

Bruning Whiteprint Reproduction machine was removed and replaced with similar new equipment for the Reproduction Section in 760 Building.

Power-operated jointer in Carpenter Shop has been made safer by installation of a foot-operated brake, thus reducing the hazards of operation.

Twelve coal and oil stoves have been repaired and set up for service for the coming heating season. Several electric heaters have been installed and other orders are pending, awaiting arrival of additional heaters and material.

Erection of metal shelving in 712-B Records Hutment is 85% complete.

Work on 50 Scotchlited whistling-post signs for railroad crossings and one trash wagon was completed for Transportation Division.

Work on S. S. Cradle Stretcher and equipment for Therapy Tank for Kadlec Hospital is 60% complete.

Interior office painting is nearing completion in 703 Building. A portion of night crew has started painting work in 762 Building. One hundred and fifty compressed gas cylinders were painted and stenciled for Stores Division. Sign painting work for the month consisted of name plates for offices, area road signs, miscellaneous signs, plaques, bulletins and stencils, including work for 300 Area.

Glazing services were furnished for cutting and polishing glass for outer Plant Areas and Technical Division. Approximately 100 pieces of window glass were replaced and 40 Pre-Fab front windows stripped and reupitted.

Several Hauserman Metal Partitions were installed in 703 and 762 Buildings.

Miscellaneous electrical work consisted of rebuilding four A-B Ranges, 19 floor lamps and 52 Pre-Fab electric heaters.

Building at 500 Thayer Drive is being rewired for electrical heat; 8 heaters have been installed to date, to prevent freezing at nights and on week-ends. These will be supplemented by oil heaters for normal heating.

Considerable trouble was encountered earlier in month with Fire Alarm System at Stores Division Pasco Warehouses. This has been cleared up and operations are now normal.

Crating of surplus materials still requires 10 to 14 man-days per week.

New inventory codes have been received and all material previously held by Community Public Works has been divided among the Division groups and stored separately. A materials inventory was taken as of October 31 and responsibility for each inventory stock was assigned.

Emergency overtime worked during the month - 13.2 hours.

Crew days' work on hand:

Carpentry	56	Glazing	13	Millwright	112
Painting	58	Electrical	21	Welding	24
Sign Painting	11	Machinist	25	Sheetmetal	106
				Pipefitting	31

Power Operation

Steam Plant operation was normal for the month. Two boilers were in operation in the 700 Area and one at 1131 Area. The 1131 Area boilers began a three-shift operation October 17.

Coal deliveries for the 700 Area have been increased to 15 cars per week in order to stock pile a maximum amount of coal in event of severe winter weather. A Tank Car of acid was received in midmonth. Work is in progress for installation of a Steam Meter and Economizer at 723 Laundry. The Commercial Laundry is expected to be providing its own steam supply very shortly.

GENERAL SERVICES DIVISIONS

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Steam generated - 21,785.6 M lbs. Steam leaving plant - 18,410.5 M lbs. Coal consumed - 3,351.6 M lbs.

NORTH RICHLAND FIRE DIVISION

Organization and Personnel

Beginning of Month

End of Month

Number of Employees on Roll

37

36

Personnel changes during month:

Transfers to "S" Division - 1.

General

Response to Alarms	12
Fire Loss (Estimated) Hanford Works	\$ 2.00
Personal	\$43.48
Investigations of Minor Fires and Incidents	4
Safety and Security Meetings	4
Inside Drills or Schools	16
Outside Drills	43
Fire Alarm Boxes Tested	74

Miscellaneous Fire Department Activities

Tested and graphited 186 fire hydrants.

Inspections of Area were made by supervision.

Engine Companies #1 and #2 gave demonstration at John Ball School during Fire Prevention Week.

All fire apparatus winterized.

Group of 14 Girl Scouts conducted on tour of fire station.

Group of children from Richland Nursery conducted on tour of fire station.

Foam extinguisher replaced at Bath House #7, 3rd Street and "E" Avenue.

Installed a glass in auxiliary evacuation box at Building 88 on Stevens Drive.

First Aid class held for all companies on A and B shifts.

One copy of "Requisites of a Fireman" distributed to each employee.

Hose load changed on Truck #2908 and Truck #2609.

Tested and washed 2,500 feet of 2½ inch hose.

NORTH RICHLAND PATROL DIVISIONOrganization and Personnel

Beginning of Month
End of Month

Exempt

5
5

Non-Exempt

15
15

Personnel changes during month:

Transfers from Security Patrol
Transfers to "S" Division

1
1

General

Current North Richland Population:

Bremerton Houses - 645; Trailer Camp - 2,629; Barracks (Men) - 809; Barracks (Women) - 45; Total - 4,128. Total occupied lots in Trailer Camp - 944.

Ten posts are being maintained - five fixed posts and 5 re-posts.

All facilities, warehouses, buildings and the John Ball School were checked on the #1 and #3 shifts daily, and on all shifts on Sundays and Holidays.

A staff meeting was held in the North Richland Patrol Headquarters on October 11.

All Fire, Safety and Traffic hazards observed by North Richland Patrol during the month of October were reported to proper authorities.

Unusual Incident Reports

Public Intoxication	4	Drunk and Disorderly Conduct	1
Drunken Driving	3	Prowler	1
Reckless Driving	1	No Operator's License	1
Theft of Car	1	Strong Arm Robbery	1
Operating Vehicle without		Possible Stolen Property	1
Driver's License	1	Death of Trailer Camp Occupant	1

Special Services Performed

Emergency Messages Delivered	44
Emergency Long Distance Telephone Calls	53
Western Union Telegrams	3
Pacific Telegraph Telegrams	2
Fires	3
False Fire Alarms	9
Unusual Conditions Reported to Maintenance	8
Patrolmen Used for Ambulance Detail	1
Escort to First Aid	3
Children Lost	1
Children returned to Parents	1
Bicycles Found	3
Bicycles Returned to Owner	1
Bicycles Reported Stolen	2

GENERAL SERVICES DIVISIONS

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Stolen Cars Reported	2
Cars Recovered	1
Children Hit by Car	1
Personnel Locked out of Rooms	4
Man Bitten by Dog	1
Dogs Reported Stolen	1
Firearms Checked into Contraband Room	13
Firearms Registered with Arsenal officer	18
Soldiers Fingerprinted	7

Open Doors and Windows

John Ball School - 9 doors open, 6 windows open.
Facilities - 10 doors open, 2 windows open.
Buildings - 5 doors open, 2 windows open.
Hospital - 4 doors open, 2 windows open.

Complaints

Miscellaneous	7
Grand Larceny	3

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DESIGN & CONSTRUCTION DIVISIONS

I. ORGANIZATION AND PERSONNEL

Employees on D&C Payroll

	<u>Beginning</u>	<u>October</u> <u>End</u>	<u>Net Change</u>
	641	665	24
Employees on Loan or Under Contract from:			
Instrument Division	7	9	
Fluor Corporation	8	7	
Project Engineering	2	1	
Schenectady, N. Y.	<u>1</u>	<u>1</u>	
	18	18	
Total D & C Divisions	659	683	24

II. INVENTIONS AND DISCOVERIES

All persons engaged in work that might reasonably be expected to result in inventions or discoveries have advised 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 such inventions or discoveries.

<u>Inventor</u>	<u>Subject</u>	<u>Report of Invention (Date)</u>
Phil P. Smith	Combined Process Tube Collet and Seal	10-6-50

ACCOUNTING DIVISION

I. SUMMARY

During the month consideration was given to requirements for control of bulk steel and other materials shipped from steel mills and from Hanford to fabricators of process and allied equipment for incorporation in final product to be shipped to Hanford.

A representative of the D&O Accounting Division made a trip to Detroit in connection with informal inquiries from Government Accounting Office regarding Subcontract G-151 with Giffels & Vallet. All matters were resolved and formal reply will be made to Atomic Energy Commission during November.

Total Cash disbursed during the month of October was \$3,355,449 compared to \$2,765,196 disbursed during September.

II. STATISTICAL AND GENERAL

Accounts Payable Distribution Summary follows:

	<u>October</u>	<u>September</u>
General Electric Purchases	\$ 420,850	\$ 332,112
Reimbursement - Atkinson-Jones CPTF		
Subcontract - Construction	1,971,636	2,236,756
Reimbursement - Atkinson-Jones CPTF		
Subcontract - Service	45,780	
Reimbursement - Other CPTF Subcontracts		
(Architect Engineers)	434,517	353,343
Partial Payments to Lump Sum Subcontracts	139,476	79,975
Travel (General Electric)	1,616	2,287
Miscellaneous	<u>121,942</u>	<u>10,320</u>
Total Credited to Accounts Payable	<u>\$ 3,165,817</u>	<u>\$ 3,014,793</u>

During the month an additional advance of \$100,000 was made to Kellex Corporation in accordance with the subcontract. This makes the total advances to subcontractors \$400,000, all with Kellex.

The total number of employees reported by CPTF Construction Subcontractors October 30, was 4,395 which includes 279 assigned to the Service Contract, a total decrease of 55 under 4,450 reported September 30. CPTF Subcontractor's payrolls (including architect engineers) totaled \$1,906,895. Of this amount \$1,593,057 is for CPTF Construction Subcontractors, which includes \$65,996 for the Service Contract, and covers a four-week period averaging \$398,264 per week. The average weekly earnings for construction workers decreased from \$92.60 to \$90.81 per employee.

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Budget Review Committee meetings were held during the last week of October. Details of the results of these meetings will be published shortly.

III. PERSONNEL

Employees on Payroll

Month		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
73	70	-3

CONSTRUCTION SERVICES DIVISIONI. SUMMARY

No major changes were made within the Construction Services Division during the month.

II. STATISTICAL AND GENERALNORTH RICHLAND CAMPPopulation *

Trailers	2,503	
Barracks	853	
Houses	<u>650</u>	
Total	4,106	Net Increase 43

*Note: This does not include U.S. Army personnel.

ARMY

On October 17, 1950 there were fourteen Pasco type barracks, occupied by the U.S. Army. At the end of the month, the Army assigned facilities were as follows:

39 Pasco type barracks, 17 Hanford type barracks, Barracks #120, Mess Hall #1, Buildings 43, 39, 72 and 74, Gas Station except for stove oil storage, old A-J Paint Shops and one Hutment.

Maintenance

On the night of October 26th, high winds attaining a velocity up to 60 miles per hour did considerable damage to roofs, windows, fences and buildings in the 3000 area. This damage required considerable repairs.

Steam Generating Plant

Steam generated, M lbs.	36,570
Oil consumed, gals.	10,464
Coal consumed, tons	2,309.63
Boiler efficiency, average %	74.1

*Steam cost, per M lbs. \$0.916

*Note: Computation of unit cost of steam is based on estimated cost of coal of \$8.60 per ton and estimated indirect cost applicable to the steam plant.

Water consumption for the month was 31,360,600 gallons, or an average daily consumption of 1,045,353 gallons.

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ARMY: Information was furnished to J. L. Alexander of Knappen, Tippets and Abbott Co. pertaining to electrical distribution. This firm is performing services for the Army in the 3000 Area.

Commercial Facilities

There were nineteen commercial facility operators doing business during the month of October.

Community Activities

The winter recreational program was started. The response to the program has been fairly good.

OFFICE SERVICES

The services performed by this section have materially increased.

Moving and consolidations have eliminated any available office space for Lump Sum contractors in the 3000 Area office buildings.

SECURITY

During the month, 415 meetings were held at which Security topics were discussed. A total of four Security Bulletins were issued.

Statistical Information

Total lost badges during October	25
Total number of Subcontractor and Vendor employees as of October 26, 1950	4,848
Total hires	592
Total terminations	476
Visitor clearances requested this month	81
Total clearances requested this month	758
Total clearances received this month	504

SAFETY REPORT

<u>Construction Injuries</u>	<u>Contractors</u>
Major Injuries	9
Sub-Major Injuries	8
Minor Injuries	430

III. PERSONNEL

Employees on Payroll

<u>Month</u>		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
138	138	0

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CONSTRUCTION DIVISION

I. SUMMARY

The Construction Division, D&C, commenced operation September 1, 1950 and a CPFF Subcontract was entered into with the Guy F. Atkinson Company and J. A. Jones Construction Company, G-133, Modification 21, Sub-subcontracts with Newbery-Neon Electric, Modification 16, and Urban Smyth and Warren, Modification 22. The subcontracts were approved August 29, 1950 and cover the furnishing of laborers (construction, electrical, plumbing and steamfitting) and mechanics, together with field supervision to the extent required by General Electric, to perform work and services for General Electric under General Electric's over-all or immediate supervision.

The first construction personnel, numbering 41, were placed on the Service Subcontract payroll September 5, 1950. Maintenance of the 3000 Area, with Construction Division forces, began September 25, 1950.

Minimum number of personnel as specified in the subcontract were on the rolls September 25, 1950.

No inventions or discoveries were reported.

II. STATISTICAL AND GENERAL

Six procedures were issued which established functions and responsibility for operation of this division.

Forces and Equipment Forecast

Service Subcontractors Manual

In addition to the above procedures, intra-divisional procedures covering material control, work order control, receiving and disbursing and small tools control have been started.

(a) Stores

Several meetings were held which resulted in the establishment of a Central Stores to accommodate requirements of Construction Services Division, Project Engineering Division and the Construction Division. The materials to be stocked are to be predicated on material lists prepared by each of these divisions. The Construction Division will establish facilities, operate and control the Central Stores.

Initial stock of construction and stores material, and small tools were procured from existing excess stocks.

(b) Control Engineering

Sixteen jobs were estimated of which thirteen have been authorized

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to start work.

Seven jobs assignments were completed.

Personnel started layout work for D&C Separations Division in 200-E and 200-W Areas and Power and Mechanical Division in the 300 Area.

(c) Field Superintendent

Temporary facilities for equipment servicing, repair and warehousing facilities have been set up in the M&M Shops in White Bluffs. Additional work is required to have a complete and operating shop area. To accomplish this a project proposal is now being prepared.

Considerable difficulty was encountered in obtaining heavy equipment in sufficient time to perform work in the manner desired. This was due to the fact that processing and de-mothballing was done in existing facilities and numerous breakdowns occurred after equipment had been placed in the field.

MWI-13 Work started October 10, 1950 on the assignment of preparing AEC automotive and construction equipment in Excess and reserve storage for shipment off the project. Work is to be performed in 3000 area and White Bluffs storage yards and our shop at White Bluffs.

Field lubrication and servicing of Construction Division equipment is now being performed by Division personnel. Field repair and shop repair work will gradually be taken over as facilities are established to handle this.

Electrical Electrical line crews have been engaged on construction work in the 200-W Area and 300 Area and Camp Maintenance in 3000 Area.

The construction work to be performed is as follows:

200-West - New electrical line to service 242-T Building work was completed October 25, 1950.

300 Area - Fence lighting relocation
Temporary construction line and transformer bank

Work on fence lighting is scheduled for completion November 15, 1950. Work on the temporary line and transformer bank will be completed shortly thereafter.

Construction Construction forces other than electrical line crews have been engaged in work in 100-D, 200 West and 300 Areas. The majority of work performed to date has been the preparation of Hanford Laboratory Area in the 300 Area. All work assignments are on schedule.

The following work assignments for 300 Area are:

Relocation of Fence -
 Work completed October 9, 1950
 Removal of Burial Ground
 Work completed October 9, 1950
 Removal of Guard Tower
 Work completed October 9, 1950
 General Site Grading
 Work is 70 percent complete
 Relocating Water Lines
 Work is 98 percent complete
 Temporary Railroad and Construction Road
 Work started October 26, 1950

The work in 100-D consisted of "Installing New Motor Drive Units" in the 115-D Building. This work is 70 percent complete. Work assignment to Construction Division is completed to a point where it is necessary for operating forces to complete their work beyond the barricade wall before we can effect final completion.

III. PERSONNEL

Employees on Payroll

Month		Net Change
<u>Beginning</u>	<u>End</u>	
6	18	/12

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CONTRACT DIVISION

I. SUMMARY

Contract modifications are in process of negotiation for the balance of construction work to be performed on the TBP Program. The balance of the Redox Construction Program is being negotiated with Atkinson-Jones and subcontracts under Atkinson-Jones on this program are progressing on schedule. Review and negotiations are in progress to obtain a CPFF subcontractor under Atkinson-Jones for Thermal Insulation. A review is in progress to determine future concrete aggregate requirements so that action may be taken prior to completion of present aggregate contract.

II. STATISTICAL AND GENERAL

Twenty-five contract items, totaling \$3,437,788.79, were completed during October.

Amount per contract type is indicated below:

CPFF	\$3,000,000.00 (Letter Order)
Fees	24,000.00 (Estimated)
L.S. & U.P.	413,788.79
Total	\$3,437,788.79

Five contract items showing an increase of \$45,500.56 and two contract items showing a decrease of \$14,680.75 were estimated to be completed in October.

Thirty-seven contract items remained open at the end of the month.

III. PERSONNEL

Number of employees on payroll:

<u>Month</u>		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
33	31	-2

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ENGINEERING SERVICES DIVISION

I. SUMMARY

The work-load of all Sections of the Division was heavy during the month. The drafting load exceeded available manpower, and arrangements were made with Schenectady to lend drafting assistance. The demands for reproductions were extremely heavy. The square feet of reproductions produced was up some forty percent and reached an all-time high, the surface produced was equivalent to seventeen acres.

With the advance of construction on projects, seventeen new charts to show status of cost and progress were prepared and are now displayed in the Chart Room.

Significant progress was made in determining unit costs of the current construction work.

II. STATISTICAL AND GENERAL

DRAFTING SECTION

Drafting Production:

New Drawings	165
Miscellaneous	6
Drawings revisions	88
Drafting efficiency index, man-days/drawing	8.3

ESTIMATING AND STANDARDS SECTION

Estimating:

Estimates scheduled	18
Estimates completed (Total value \$37,000,000)	10
Estimates cancelled	2
Estimates to be completed	6

Unit Cost:

Results of approximately 40 time studies of elements of construction by the Unit Cost Teams have been summarized.

REPRODUCTION SECTION

Production Group Activity:

	<u>October</u>
Originals handled	19,304
Prints produced	162,810
Square feet of production	742,685
Average square feet per employee	37,134

Control Group ActivityOctober

Number of orders processed	2,365
Number of Prints carded	66,399
Number of tracings handled	17,287

PERSONNEL, RECORDS AND HISTORY SECTIOND&C Payroll Additions, Terminations and Transfers

Additions	44
Terminations	17
Transfers within D&C Divisions	7
Transfers out of D&C Divisions	3

Secret and Confidential Documents Processed

Documents issued, routed or destroyed	1107
---------------------------------------	------

Procedures Issued

D&C Instructions issued	6
-------------------------	---

Status of Histories:

Histories ready for issue	12
Others in process	107

Reports Issued:

Nine covering weekly and monthly force, visitors, destroyed and reclassified documents.

PROJECT COST AND PROGRESS ANALYSIS SECTIONForecasts Issued:

Monthly Total Construction Force through December 1951.

Reports Issued:

Five monthly Narrative and Progress Reports.

Charts Prepared:

Seventeen charts, showing D&C Projects Progress.

Charts Revised:

Ratio of CPFF Indirect Costs to Direct Labor Costs
Construction Equipment Utilization

Project Analyses Issued:

DR Waterworks C-342
Redox Laboratory C-187-E

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Special Studies and Reviews:

Composition of Average Hourly Labor Rates
Craft Supervision to Working Force Ratio
Effect on Direct Labor Cost of Ratio between Skilled and Unskilled
Force with Respect to Job Completion Status
Correction Factor for Man/Month Direct Labor Cost
Division Budget Review
Review of A-J Voluntary Quit Experience

III. PERSONNEL

Employees on Payroll

Month		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
160	169	9

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PRINCIPAL ENGINEERS

I. SUMMARY

The activities of the Principal Engineers consisted of reviewing and commenting on drawings, Design Instruction Letters, Specifications, preparation of special reports, and recommendations on utilities such as steam, water, electric power serving several projects in one operating area, special advisory and consulting services requested by Design & Construction and other Divisions, also participated in civilian defense and technical school programs.

The above services were rendered for the following projects:

No inventions or discoveries were reported.

II. STATISTICAL AND GENERAL

PRINCIPAL MECHANICAL ENGINEER

Special Reports

None

Review and Comments

Project C-394 - Plot Plan & Utilities for Laboratory Area:

As an assistance to the Works Laboratory Project Engineer, reviewing preliminary Design Criteria for increased capacity in 384 Steam Boiler Plant; establishing the new demand in conjunction with interested parties; and writing boiler specification for proposal purposes.

Project C-362 - Waste Metal Recovery Plant:

- a. 283-W Filter Plant Expansion.
- b. Exhaust gas filter for 291-UR.
- c. Fan equipment for 291-UR.
- d. Steam supply system for 221-U.

Project C-342 - Design & Construction of DR Water Works:

Made recommendation on the basis in providing spare parts for 190-DR equipment.

Consulting and Advisory Services

- a. Participated in H. W. Standards Program. Discussed the importance of establishing the relationships between this program and D & C Divisions Standards and Specification work.

PRINCIPAL ELECTRICAL ENGINEER:Special Reports

RDA-D&C-1 - Design and Development of New Pile Area "G":

Additional tests were conducted to determine the effects of supply voltage disturbances on Beckman instruments. The data will be included in a report on Design Criteria for electrical systems in future reactor Buildings.

Project C-361 - Metal Conversion Facilities:

A report was prepared and submitted on the results of discussions with manufacturers relative to design features of electric decomposition furnaces.

Review and Comments

Project C-187-D - Redox Production Plant:

The general plans and description of the proposed application of variable frequency drives to the pulse generators of the Redox Plant.

Project C-394 - Plot Plan & Utilities for Laboratory Area:

Proposed additions and revisions to the normal and emergency electrical systems in the Power Plant in the 300 Area, Building 384.

Project C-295 - Enlarging 251 Substation:

Drafts of project memoranda on Project C-295.

Consulting and Advisory Services

Project C-362 - Waste Metal Recovery Plant:

- a. The feasibility of heating a stainless steel process pipe line by passage of alternating current through its walls was given a preliminary investigation.
- b. The effects on design schedules of the contracting of electrical drafting work on parts of utilities for Project C-362 were evaluated.
- c. A follow-up recommendation was made on the economic undesirability of using concrete trenches for electrical services in the short-lived portions of Project C-362.

Project C-381 - Design of Radiochemistry Bldg.:

Project C-385 - Radiometallurgy Building:

Recommendations were made on certain features of the electrical systems in the Radiochemistry and Radiometallurgy Buildings.

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DECLASSIFIEDPRINCIPAL CIVIL ENGINEER:Special Reports

1. Report on Design Stops Prior and During Preliminary Design and The Involved Design Criteria. (Incomplete)

A study of present modus operandi for the purpose of defining the design documents and instruments necessary and desirable for the performance of design by the Design & Construction Divisions, and maintaining proper relations with Architect-Engineers and other General Electric Hanford Works Divisions.

2. GET-17 - Pile Technology Building (Incomplete)

Study of building and site plans for correlation with applicable Uniform Building Code requirements.

3. Central Mix Plant Future Concrete Aggregate Requirements

A report including recommendations for the extension of existing contract for operating of aggregate plant to provide for future Central Mix Plant aggregate requirements.

Consulting and Advisory Services

1. Project History

Five Project Histories were reviewed and certain suggestions offered.

2. GET-17 Pile Technology Building for Hanford Works Laboratory Area - C-385 Radiometallurgy Building for Hanford Works Laboratory Area

Explanation of Uniform Building Code requirements applicable to title projects.

3. C-187-E Analytical and Plant Assistance Laboratory, specifically Waste Disposal Facilities - Retention Basin

Review of P&M design and consultation on construction procedures.

4. C-385 - Radiometallurgy Building for Hanford Works Laboratory Area

Discussion of design criteria for specification of mechanical work involving the entire building.

5. GET-17 - Pile Technology Building for Hanford Works Laboratory

Discussion of building classification under Code provisions for title building.

6. Microfilming of Engineering Data Requisite for Reproduction of Certain Process Area Works

Recommendations regarding drawings, specifications, purchase requisitions, etc., necessary for the reproduction of existing process facilities in the event of major catastrophe. (Wesley Clark, Records Office, AEC, October 11, 1950.)

7. C-257 - Health Instrument Control & Development Laboratory

Discussion of variance in Design from requirements of Uniform Building Code and recommendation that specific AEC approval be obtained to cover such variances.

8. 384 Power House Extension, 300 Area

Consultation on and evaluation of presently proposed plans of increasing 300 Area steam producing and 300 Area Power house facilities. Limited primarily to structural problems.

9. C-353 - Richland Water Study

Explanation of scope of Architect-Engineer's work as set forth by Subcontract G-330.

10. C-204-E Extension of Existing Kefauver Hospital and Medical Arts Bldg.

Explanation of effects of building paper forming vapor seal on outside of exterior wall, and recommendation against the addition of vapor resistant paper over exterior sheathing for Medical Arts Building, including draft of letter of recommendations for J. R. Kelly.

11. 107-H Retention Basin

Examination of failure of basin floor slab and loads therein, recommendations for further investigation and considerations for repair thereof.

12. Miscellaneous Consultations

R. E. Davison, October 3, 1950 and October 10, re. Architect-Engineer Standard Fee Schedules.

Clyde Bergdahl, October 4, re. appraisal of new 1100 Area well.

O. H. Pilkey, J. H. Black, J. G. Carriore re. Force and effect of Plant Standards, Design Criteria, Design Specification, and Guide Specifications for performance of engineering design by Architect-Engineer's under Contract and by General Electric Design Division.

E. W. Sockendorff, M. H. Arndt, re. existing survey data for Richland and Process Areas and status of ties to North American Datum and USGS Level Circuits, October 23, 1950 and subsequent.

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Special Assignments

1. Town Planning Board. Served as member of Town Planning Board. Attended all October meetings.

III. PERSONNEL

Employees on Payroll

Month		Net Change
<u>Beginning</u>	<u>End</u>	
4	4	0

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POWER AND MECHANICAL DIVISION

I. SUMMARY

The work load assigned to Engineering Design sections remained heavy at about the level of the previous month. Approximately 75% of the total work accomplished was performed for other divisions.

Work load in the Construction sections declined due to substantial completion of DR Water Works and lack of other major construction projects.

No inventions or discoveries were reported.

II. STATISTICAL AND GENERAL

Following is a brief summary of active projects:

C-199, Expansion of 300 Area Sanitary Sewer Disposal System: Part II Project Proposal, after revision, was transmitted to C. N. Gross on October 13, 1950.

C-204-B, Additions and Alterations to Kadlec Hospital & Medical Arts Building: Work on the Medical Arts Building extension and outside facilities is now approximately 70% completed.

The design of the additions and alterations to Kadlec Hospital is under way within the Division, and scheduled for completion December 1, 1950.

C-257, Health Instrument Control Laboratory: Construction plans and specifications are being advertised on a lump-sum basis. Opening date for bids is November 15, 1950.

C-289, Additional Laundry Facilities, 200-West: Construction on this project is 84% complete, and will be completed in accordance with contract requirements.

C-295, Enlarging 251 Substation: Project Proposal Part II, revised, was approved by the Atomic Energy Commission Directive HW-92, Mod. #2, dated October 3, 1950, and design work is in progress in the Power & Mechanical Division. Present indications are that plans and specifications suitable for advertising for lump-sum construction will be completed by December 15th. The present plan is to have the major portion of construction performed by a lump-sum contractor, the balance being either by G.E. Electrical Division or G.E. Construction Division.

C-353, Richland Water Supply: The letter notice to proceed dated October 2, 1950, was sent to the Architect-Engineer selected, Alvord, Burdick & Howson. The gathering of historical data to be used by the Architect-Engineer is under way and will be presented at a conference to be held shortly.

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C-364, Aquatic Biology Laboratory: Fee offered to the first Architect-Engineer selected, Young & Richardson, Carlton & Detlie, was not acceptable. Preliminary negotiations have been carried on with Barrett and Logan of Portland, Oregon. Fee has been informally accepted and a contract mailed to the Architect-Engineer.

C-381, Radiochemistry Building: Preparation of final plans and specifications is approximately 60% complete on the part of Leland S. Rosener.

C-385, Radiometallurgy Building: A modification to subcontract G-304 with Leland S. Rosener, is in process, which will incorporate the design of this building.

C-394, Plot Plan and Utilities - Hanford Works Laboratory: Tentative agreement has been reached between Leland S. Rosener and the General Electric Company for the design of the Plot Plan and Utilities, and a modification to subcontract G-304 is in process. The design of the steam plant addition is not to be done by Rosener, the present intention being to contract for this work on a "furnish and erect" basis.

The work on fence relocation, removal of burial ground, railroad construction, and relocation of underground lines, is complete. The overall completion of the work thus far authorized is approximately 75%.

C-342, DR Water Works: Except for a small amount of thermal insulation, completion of gas blower installation, and the completion of punch list items for which work orders have been issued, all construction work is substantially completed. It is expected that all subcontractor's forces will have left the job site early in November. "As-built" drawings are substantially complete and the last of the Chas. T. Main, Inc., personnel will leave Richland on November 17th.

GET-17, Pile Technology Building: It is expected that a project proposal will be submitted to the A&B Committee about November 17, recommending lump-sum design and reserving recommendation as to the contractual basis of construction. Permission has been requested to negotiate with Chas. T. Main, Inc., for Architect-Engineer services.

GET-18, Mechanical Development Building: A Project Proposal submitted on October 2, 1950 was returned for revision by the Appropriations and Budget Committee. It was re-submitted on October 18, 1950.

III. PERSONNEL

Employees on Payroll

Month		Net Change
<u>Beginning</u>	<u>End</u>	
68	56	-12

REACTOR DIVISION

I. SUMMARY

In general the development and test program has been proceeding according to schedule. A review of future tests was undertaken this month with a view toward placing purchase requisitions for long term delivery materials and equipment so as to insure liquidation of all major commitments well within the third and fourth quarters.

A Progress Report for the first quarter, fiscal 1951, was prepared and issued during the month (HW-19182). In addition to quarterly progress, this report included a resume of background information of preceding phases of the development program so as to provide completeness to the series of quarterly reports which will be prepared under RDA-D&C-1.

The following inventions were reported by Reactor Division personnel:

<u>Inventor</u>	<u>Subject:</u>	<u>Report of Invention (Date)</u>
Phil P. Smith	Combined Process Tube Collet and Seal	10-6-50

II. STATISTICAL AND GENERAL

1. Process Tube Heat Transfer Tests

Several preliminary runs were made with the full scale uniform wall heater. The tests did not yield data of the required accuracy and therefore, it was necessary to check and recalibrate some of the instrumentation. This work is continuing.

2. Charging and Discharging Machines

The development tests of the slug ejector were completed satisfactorily after a few minor changes were made. These tests indicate that it will be possible to remove the slugs from a process tube under full header pressure without disturbing water flow.

Test set-up will be dismantled and the equipment removed from the 105-F flow laboratory to the 189-D Building where the completed discharging and charging machines will be tested when available.

An order was placed for the prototype charging machine. Bids were received for the manufacture of the full scale discharging machine and the order will be placed November 1.

3. Control Rod Drive Assembly

The tests of the rod drive assembly to date have been very satisfactory. The drive has demonstrated its ability to lift a rod assembly of 750 pounds which is 150 pounds greater than the weight of the rod assembly for "G". The maximum capacity of the drive has not been established but appears to be adequate at this time. The automatic cycling tests will be started on approximately November 1.

REACTOR DIVISION

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4. Moderator

The investigation of the anticipated graphite temperature and associated growth characteristics was continued. The results obtained from the electrical analogue to date are very encouraging and are summarized in document HDC-1910.

5. Recirculation Water Test

The pump which was the last item required to complete the installation was received from the vendor this month. It is estimated that installation work will be resumed approximately November 1.

An alternate test system is being designed to permit using heavy water. Necessary drawings are tentatively scheduled to be completed and available for procurement in approximately one month.

6. Water System Design

We have just been informed that the flywheel evaluation tests that were to have been performed in 190-F on November 6 will be delayed at least one month because of the postponement of the shutdown of F. All of the necessary equipment and instrumentation are available.

Several proposals have been received for a pneumatic accumulator which is being considered as a means of storing energy in place of the flywheels which are now used on the pump-motor assemblies.

7. Gas System

A G.E. dew point recorder has been ordered and will be tested in 105-H. This machine has promise of providing a means of more rapidly determining a change in humidity of the gas system. Thus, with proper sampling lines and valves, we expect to be able to isolate a leaking process tube much more rapidly than can be accomplished at present. This instrument will also serve as a controller to operate the gas driers.

The heater design for the C-CO₂ gas reaction test was completed.

The design of the in-pile heater was completed for the Technical Divisions. Detailed drawings were started.

8. Maintenance Tool Survey

A study was made of some of the maintenance problems that exist in the present reactors. The results are summarized in report HDC-1901. Design studies are now being made of means to overcome some of these difficulties in the "G" reactor.

9. Control Rod Assembly

The inverted thimble which also serves as a pneumatic decelerating device has been received. The control rod and piston assembly are being manufactured at the Bremerton Navy Yard. The test tower is being reinforced for the tests of the complete control assembly.

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10. Control Rod Cooling

A major portion of the full scale control rod cooling tests were completed at the White Bluffs test tower. The test data is now being analyzed. It is expected that the test assembly will be removed in November at which time the tower will be prepared for the complete rod assembly.

11. Shielding

The bulk pour tests of the heavy aggregate Brookhaven concrete in steel crates were completed satisfactorily. This assembly will be used for thermal cycling tests.

The necessary equipment is on hand and the samples available for the concrete irradiation tests to be performed in the "Z" test hole at 100-H. These tests are intended to determine the effect of irradiation on the physical properties of the heavy aggregate concrete intended for the "G" shield.

12. Materials Development

A. Zirconium

The one-hundred pounds of crystal bar machine turnings sent to BMI for melting and casting that previously were reported as useless have been recovered and will be used for the tube development program. In addition, BMI has agreed to furnish some scrap normal grade zirconium (25 to 50 lbs.) for tube development. Hanford has been informed 250 lbs. of TAM graphite melted ingots are available for immediate shipment. The properties of this low-hafnium material have been obtained and although the hardness is greater than desired, these properties have been forwarded to KAPL with a request for evaluation.

Zirconium tubing 0.753" O.D. by 0.023" wall has been obtained from KAPL and arrangements completed for creep testing at Hanford. Corrosion testing will start soon.

BMI creep tests on crystal bar zirconium sheet are reported in HDC-1900.

B. Control and Safety Rods

Document HDC-1905 was issued summarizing the present status of Reactor Division control and shim rod programs.

Alloying of gadolinium and titanium is now in progress at BMI.

Specifications for boron-stainless steel alloy safety rods have been changed from 1/8" wall to 1/4" wall (see HDC-1905). This will delay final contract arrangements.

Installation of the gas corrosion furnace is now complete. Test runs of the apparatus will last about one month. Actual

corrosion tests will start in December.

HW-19325-*Ref*

Arrangements have been completed for KAPL to develop by powder metallurgy, gadolinium-nickel alloys.

III. PERSONNEL

Employees on Payroll

Month		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
45	48	3

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SEPARATIONS DIVISIONI. SUMMARY

Arrangements are being made through the Purchasing Division to establish warehousing facilities in the East for storing, handling and cutting stainless steel purchased by General Electric for equipment vendors in order to expedite the procurement of items of engineered equipment for Projects C-361 and C-362.

One man from D&C and two from other divisions have been loaned to the Purchasing and Stores Division as special assistants to expedite materials and equipment in vendors plants.

Active projects in the field progressed satisfactorily with the exception of the Waste Tank Farm. The Redox Production Plant attained 28.1% completion, about 1% ahead of schedule, and the Redox Plant Assistance and Analytical Laboratory is 59% completed, about 12% ahead of the Atkinson-Jones schedule. Construction of the Tank Farm by Early was 18% complete at the month end, compared to an estimated 41% scheduled. This delay is occasioned by lack of tank liner steel, a matter that is being actively pursued with the Fred J. Early, Jr. Company.

Detailed design of Phase II of Project C-362 was released to Kellex on October 31.

Negotiations with Atkinson-Jones for construction of Phase III of C-362 were completed, and the estimate was transmitted to the AEC for determination of fee. Atkinson-Jones and their subcontractors are currently preparing a cost estimate covering Phases II, IV and VI of C-362 and all of C-361 for fee purposes. Construction of Phase I of C-362 was released to the D&C Construction Division and to Atkinson-Jones on October 26. The former will perform that portion of this work which is subject to Health Instrument control.

A Part II Project Proposal containing a revised estimate based on substantially complete detailed design was completed for C-187-D, Redox Production Plant.

II. STATISTICAL AND GENERALA. Project C-187-D - Redox Production Plant

The Kellex job completion is approximately 91% compared to the scheduled 88%. As of October 27, of a total of 2051 drawings scheduled to be made, all had been received (2059) and of these 2057 had been approved and forwarded to the field. As of October 31, Kellex had scheduled 397 drawing revisions of which approximately 100 have been received, approved and forwarded to the field. Every effort is being made to eliminate unnecessary revisions, specifically where vendors of engineered equipment might be affected.

Design work by the Power and Mechanical Division is approximately 95% complete compared to 99% scheduled. As of October 27, of a total of 257 drawings to be made, 231 (90%) had been approved and issued to the field.

Separations Division Design Work is approximately 97% completed compared to 100% scheduled. As of October 27, of a total of 127 drawings to be made 118 (93%) had been approved and forwarded to the field or to the Fred J. Early, Jr. Company.

The Redox estimate based on complete design and material take-off has been received. The Part II Redox Project Proposal containing the revised cost estimate based on essentially complete design and approximately 25% complete construction was completed on schedule, October 31.

CONSTRUCTION PROGRESS STATISTICS

Improvement to land	0.20%
Temp. Construction	55.00%
202-S Building	23.00%
211-S Building	
240-S Building	18.00%
276-S Building	0
277-S Building	84.35%
282-W Building	27.00%
284-W Building	26.50%
291-S Building	36.78%
2702-S Building	98.00%
2726-S Building	0
Waste Facilities	46.05%
Electrical Distribution	31.40%
Water Distribution	33.50%
Steam Distribution	61.00%
Railroads	50.00%
Overall Redox Production Facility (A&J)	28.10%

The construction work on the 241-S Tank Farm and associated facilities under sub-contract G-302 is approximately 18% complete (compared to an estimated 41% scheduled). The major reason for the delay has been the lack of tank liner steel. Gilmore Steel Company's (Early's sub-sub-contractor for steel fabrication) supplier for the steel was two months late in delivery. In addition, Gilmore has experienced considerable difficulty in fabricating the tank liner components, particularly the knuckle plates.

Early has met with representatives of Gilmore and GE to take action on this situation and a firm schedule for delivery of fabricated steel to the job site and completion of tank liners was established.

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B. Project C-137-E - Redox Analytical and Plant Assistance Laboratory

All drawings and purchase requisitions for the Laboratory Waste Disposal System have been completed and issued. A Contract modification extending the boundaries of the construction area to include the process waste sewer for the Waste Disposal System was prepared and approved during the month. This modification did not affect the scope of work.

A new cost estimate is being prepared for submittal November 15. This estimate will be based on costs and data accumulated as of October 1, at which time construction was 45% complete, and design 100% complete.

Construction of the Laboratory is 59% complete at month's end, 12% ahead of schedule. The roofing is complete and all siding is in place except where openings are required to permit entrance of supply and exhaust fans and motors. Ventilation and electrical work is proceeding satisfactorily. Installation of the ceiling began October 25. Painting of building siding and interior painting, where possible, is underway.

Construction of the Waste Disposal System is 3% complete. The floors of the Retention and Neutralization Building and Retention Basin have been poured, and forming and reinforcing steel are being placed for the walls. Large amounts of stainless steel material required for these facilities are being obtained from the 211-U Building as it is dismantled.

C. Project C-198 - 234-5 Building Program

Progress statistics for the month of October are as follows:

	Percent Complete		
	<u>Basic Design</u>	<u>Overall Design</u>	<u>Construct</u>
Phase II & III (Richland)	65	47	11
Phase III (Schonecatdy)			90

The following units of work were released to construction forces this month: Maintenance Shop D (preparation of room only), Mechanical Development Shop and Health Instruments were released to the sub-contractor; work on the Instrument Shops was released to the construction Division, D&C; and work on Room 161 was resumed by Project Engineering. The Crucible Shop, Locker Room and Area Clean-up are features of Phase II and III which remain to be released at a later date.

Emphasis was placed on painting and barrier work in the process area during the month in order to begin placement of Task I equipment as quickly as possible. Preparatory work for control wiring for

the R.M. Line equipment is well underway. Replacement of the concrete floor has been completed.

D. Project C-361 - Metal Conversion

Progress statistics at the end of the month are as follows:

Scope.....	100%
Design.....	39%
Construction.....	0%

E. Project C-362 - Waste Metal Removal and Recovery

Progress statistics at the end of the month are as follows:

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>TOTAL</u>
% Scope	100	85	100	100	100	100	96
% Design	70	10	50	16	100	10	25
% Construction	0	0	0	0	65	0	0

Continued emphasis was placed on the procurement of stainless steel and equipment during the month. One man in the Project Group has been assigned the direct responsibility of following procurement, and a correlation of the stainless steel ordered with the various equipment requirements is being made to assist Purchasing in the ultimate shipping and warehousing of this steel.

III. PERSONNEL

Number of employees on payroll:

<u>Month</u>		<u>Net Change</u>
<u>Beginning</u>	<u>End</u>	
105	106	/1

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PROJECT & RELATED PERSONNEL

OCTOBER 1950

	<u>9-29-50</u>	<u>10-31-50</u>
<u>GOVERNMENT EMPLOYEES</u>		
Civilian Personnel - Atomic Energy Comm.	340	335
Civilian Personnel - G. A. O.	8	7
Total	348	342
<u>RICHLAND VILLAGE PERSONNEL</u>		
Comm. Facilities (Includes No. Richland)	1069	1091
Organizations, Clubs, Etc.	68	-
Government Agency, Churches Clubs etc.,	-	82
Schools	385	385
Churches	24	-
Organizations	-	9
Total	1260	1567
<u>CONSTRUCTION SUB-CONTRACTORS</u>		
Atkinson & Jones	3392	3319
Newberry Neon	352	313
Urban, Smyth, Warren Co.,	308	146
Hanley & Company	261	359
Kellex Corp.	517	524
Charles T. Main Inc.	22	6
No. Electric Mfg. Co.	2	2
J. Gordon Turnbull	6	5
Flour Corp.	11	7
Booz, Allen & Hamilton	2	2
Edmond P. Erwin	26	26
Creamer Electric	2	4
Estep Electric	1	-
J. P. Head	10	9
Royal Company Inc.	18	3
Phare Paint Store	1	2
Combustion Engr. - Superheater Inc.,	2	-
E. J. Bartell	16	11
P. S. Load	4	-
Fred J. Early, Jr.	52	97
Steel Const. Co., & Gilmore Fabricators Inc.	22	33
Valley Roofing	4	4
Lewis & Queen	16	9
Bergman & Lampson	2	-
J. G. Shotwell	8	12
V. S. Jenkins	29	21
Sound Elevator Co.	1	1
Custodis Const. Co.	5	8
Monterey Plumbing Co.	3	-
Empire Electric Co.	8	12
Morrison & Knudsen Co. Inc.	38	52
Leland S. Rosener	20	20
Associated Engrs. Inc.	24	23
Algot C. Grant	6	5
American Steel & Wire Co.	4	5
Rust Engr. Co.	5	5

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L. A. Hopkins	13	16
J. R. Strasser Drilling Co.	2	-
C. E. Const. Co.	41	338
F. O. Repine Co.	19	19
Pasco Electric Shop	4	-
Asbestos Supply Co. of Seattle	-	6
Johnson Service Co.	-	1
 Total	 5279	 5425
 General Electric Total	 7795	 7838
 Grand Total	 14968	 15172

END

**DATE
FILMED**

5 / 18 / 92