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HW 14338 DEL

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1 - H. A. Winne
2 - Zay Jeffries, Pittsfield
3 - C. G. Suits, Schenectady
4 - G. R. Prout
5 - J. R. Rue
6 - C. N. Gross
7 - A. B. Greninger
8 - F. R. Creedon
9 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
#10 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
#11 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
#12 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
#13 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
#14 - Hanford Operations Office
Attention: R. W. Richardson, Historian
#15 - 700 File
#16 - 700 File
#17 - 700 File

September 19, 1949

HANFORD WORKS

MONTHLY REPORT

AUGUST 1949

This Document Consists of

284 Pages. No. 9

of 17 Copies. Series [redacted].

[redacted]

HW 14338
September 19, 1949

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GENERAL SUMMARY

AUGUST 1949

Manufacturing Divisions

A total of 62 tons of metal was discharged from the three piles at an average concentration of 363 MWD/ton. The operating efficiency was 80 percent and the nominal power level of 275 was maintained at B and F piles with D pile continuing to operate at 305 MW. A total of 44 tons of Class V metal was discharged at an average concentration of 404 MWD/ton. One severely warped piece apparently was the cause of difficulty in discharging one tube of Class V material.

A total of 69 tons of acceptable slugs was canned with a yield of 91.6 percent. The machining yield was 71.3 percent. The melt plant produced 29 tons at a yield of 66 percent. The yield was adversely affected by the necessity of melting TXB material which had not been pickled.

Forty batches were started in the Canyon Buildings, with 36 being processed through Concentration and 41 through the Isolation Building. The average purity of completed batches at Isolation was 98.5 percent.

Work has continued on Redox, Rala, 100-H facilities and 100-DR additional facilities 100-H Area is nearing completion; however, the actual date for the transfer to Operations has not yet been established.

A directive was issued at mid-month for Rala, authorizating the expenditure of $262 000 for design only. It included the allotment of $86 000 of the above sum for mechanical development studies. The time schedule specified design completion by March 1, 1950.

Technical Divisions

Extraction of tritium from lithium aluminum alloy slugs was begun August 26.

A heat of graphite has been produced whose purity exceeds that of any previous production.

The concentration of carbon dioxide in the B Pile gas was increased to 60% after being held at 40% for 15 weeks. There has been a significant decrease in the rate of expansion of the B Pile during the past three months.

Measurements of the vertical bowing of the top central tube at the D Pile show that the graphite near the front face continued to expand during the past year although at a decreased rate while the graphite along the vertical center line did not expand.

Outward movement of the far side shields of the D and F Piles appeared to have stopped during August.

Examination of thimbles removed from the D and F Pile have shown extensive corrosion at the lower end of the rod guide. It is expected that many of the thimbles will need to be replaced in the near future.

Tests have indicated that neutron thermopiles will be satisfactory power level control instruments for H Pile.

The campaign of improving material balances and product accountability throughout the Separations Plants is being accelerated. Production testing of less expensive grades of anhydrous HF is in progress in the Concentration Process. Equipment run-in and calibration testing, as well as process performance analysis, are being carried out concurrently with production operations in the 234-5 Building.

Additional Redox development studies in packed column operation have established performance data for 1-inch Raschig ring packing as compared to the long-used 1/2-inch rings. Installation of the new canyon ventilation system in Building 321 is approximately 80% complete. Both the Scale-Up Unit and the new cascaded Demonstration Unit were operated with no serious difficulties encountered. Simultaneously successful testing has continued on the Submerged Turbine Pump No. 2, the Submerged Motor Turbine Pump, and the Model 1011 Roth Pump, and testing has been initiated on the Peerless Model LA and the Kellex IB2 Diaphragm Pumps. A feasible process for the preparation of Al $(NO_3)_3$ salt from aluminum oxide has been developed. The effects of trace elements in uranium on solvent-aqueous disengagement has been investigated.

In the research laboratory, the existence and behavior of two species of ruthenium have been established and favorable process applications of these data confirmed. Additional zirconium hydrolysis and hexone reaction data have been obtained. Small-scale laboratory studies of the pulse column have been continued. Additional possibilities of increasing phosphate removal in the preparation of solvent extraction feeds from metal wastes have been scouted. Redox-plutonium metal production coupling studies have been continued, as have studies of methods of obtaining 234-5 supernatant recycling.

The 234-5 process development laboratory pilot line has been revised to permit the testing of sulfate-free plutonium peroxide. Laboratory studies have been carried out to develop methods of recovering plutonium from non-regular hold-up points in the wet chemistry portion of the 234-5 production line. Oxidation measurements and hydrofluorination studies have been carried out on stored test buttons of plutonium.

Stack gas treatment studies have been devoted to measurement of particle removal efficiencies for No. 55 and No. AA "Fiberglas" and iodine removal efficiency of a test model silver reactor. New iodine and active particle material balances have been obtained on the dissolver off-gas system.

Production of Li-Al alloy billets was continued, and two shipments (totalling 16 billets) were extruded by the Detroit Gasket and Manufacturing Company. Rods from the August 16 extrusion have been returned to Hanford and are being machined into slugs.

All the preparatory work, except for lead-dip canning, was completed on the induction heat treated alpha rolled and gamma extruded rods for PT 313-109-M. After this heat treatment, the metal in both types of rod appears structurally equivalent to the present alpha rolled, tripple-dipped standard.

Laboratory investigations indicate that barium and aluminum, as well as chromium, should be investigated further as grain refining additions to uranium.

Technical Divisions (Cont'd)

A program for the development of 300°C uranium rolling was initiated, with Battelle to do the primary laboratory work. Assistance was given Project Engineering in reviewing the rolling mill planned for Hanford (C-339) so as to make all possible provision for ultimate operation at low temperature.

A start was made on Al-Si canning scrap reclamation. Tin removal by molten washing with lead was given a first laboratory trial, but results were inconclusive.

Development and adaptation of wet chemical analytical methods for application to Rala continued to make satisfactory progress. Preliminary spectrographic studies proceeded, but application of the methods to highly active materials must await the acquisition of the spectrograph and special shielding and remote control devices; preliminary plans for construction of the latter are under way.

Redox Analytical Methods were thoroughly reviewed with Dr. Flagg (from KAPL), which included a survey of the status of all pertinent methods. The fields requiring further study were sharply defined. In general, good agreement was found to exist between the two sites on the adequacy of methods so far developed and tested, and also on the matter of time requirements for the control application of these methods.

Health Instrument Divisions

Personnel additions and removals from the roll balanced resulting in no change in the force total. There were two Special Hazards Incidents, neither involved significant exposure. Confirmation was received from Los Alamos of the suspected plutonium deposition in one individual.

The Operationsal Division report indicated an increase in the frequency of skin contamination. Several relatively hazardous jobs were completed safely. In one case, departure from the 50 mr/day standard was justified.

In the Development Division atmospheric monitoring and land and vegetation contamination results were at normal levels. The study of stack effluents from the Melt Plant, 300 Area, is nearing completion. In Bioassay, three significant Pu results from the previous month were not confirmed by resamples run during this period. The maximum uranium content found in urin of 300 Area workers was 38 ug/liter.

Biological monitoring revealed increased activity in aquatic life in the Columbia River.

Plant Security and Services Divisions

There were no lost time injuries during the month. This further increases the number of consecutive injury-free days to 129.

Industrial fire losses for the month were $110.

Volume of process laundry increased from 135,628 pounds in July to 155,162 pounds in August. The increase is attributed mainly to the introduction of operating clothing from the 234-5 Area.

Plant Security and Services Divisions (Cont'd)

By agreement with the local Atomic Energy Commission Security Office on August 5, 1949, the administration of security, as applied to the Kellex Corporation facility in New York, will be handled through the Hanford General Electric Company and the Atomic Energy Commission Security Office, rather than the New York Atomic Energy Commission District Office as in the past. The Atomic Energy Commission Security Office at the Knolls Atomic Power Laboratory will accept Personnel Security Questionnaire forms, etc. from the Kellex Corporation for original processing.

Employee and Community Relations Division

Open requisitions decreased from 267 at the beginning of the month to 206 at the end of the month. Total plant roll increased during the month from 7,385 to 7,522. Turn-over rate, including terminations due to lack of work, during August was 1.73%. Turn-over rate, exclusive of terminations due to lack of work was 1.50%. Arrangements were made for recruiting stenographic help and comptometer operators in Portland, Oregon and Seattle, Washington.

Four employees retired during August, two of which were on optional retirement. One hundred thirty-nine visits were made to the Kadlec Hospital for the purpose of contacting employees confined because of illness. A visit was made to the Department of Labor and Industries and also the Boeing Aircraft Company with respect to compensation matters. Three meetings were held with Training and Program Development Group members, as well as Community Relations representatives, on the proposed General Electric Health Insurance Plan to be presented to employees in the near future.

Thirty-five meetings in which 760 supervisory employees participated, were held by the Training and Program Development Group on the Revised Nonexempt Rating Plan. There were 264 employees given orientation during the month of August.

The Activities of the Labor Relations and Wage Rate Division during August were primarily concerned with interpretations of the GE-HAMTC Contract, processing of grievances, completing the necessary records to convert classifications and wage rates. The Office Workers International, Building Service Employees and the Architects and Technical Employees Unions contacted this Division relative to negotiating contracts and were advised of Company policy on such matters. A petition was received from the NLRB for investigation and certification of the Office Workers International. A conference was held with the NRLB relative to the Guards Union setting forth the intent of the Company to extend certain benefits to union employees of the HAMTC to nonunit employees. Reimbursement order was signed for bargaining unit employees. A special report was prepared covering planned activities in recognition of Mr. C. E. Wilson's 50th Anniversary with the Company. Another report was prepared covering organizational accomplishments and objectives of this Division. Two meetings were held with the Council Grievance Committee. New wage rate manuals were distributed together with Instructions Letters for both unit and nonunit employees. No new reimbursement authorizations were submitted during August. Classification reviews were conducted in several divisions. Numerous meetings were held with supervisors on the new wage rate procedure. Several meetings were held with HAMTC representatives negotiating job classifications and definitions.

The Charles E. Wilson 50th Anniversary Program of the General Electric Company provided an opportunity for the Nucleonics Department to participate [illegible]

Employee and Community Relations Division (Cont'd)

over-all Company event, and a considerable amount of time was spent by the Community Relations personnel in preparing the tentative Nucleonics Department Plan. A copy of this plan was forwarded to the Advertising and Publicity Coordinator for the Wilson 50th Anniversary Program, and the minor revisions were subsequently made in the tentative plan as a result of suggestions received from members of the Nucleonics Department Steering Committee.

During the month of August, 19 informative releases were sent to 10 newspapers and three radio stations which comprise the "Local List", maintained by the Nucleonics Department News Bureau. Also during the month 11 news releases of more general nature were sent to 67 daily newspapers and, in some instances, to 120 weekly newspapers in the Pacific Northwest.

Special Programs contributed advertising and publicity services on a wide variety of projects during the month. The outstanding ones, because of their important effect upon the operation of Hanford Works by the Nucleonics Department included the production of 6,000 GE-HAMTC Agreement Booklets. Upon completion of the printed booklets, they were distributed through designated individuals within each division included in the bargaining unit.

Many favorable remarks have been received concerning the Special Programs booklet produced as a recognition of the completion of a fourth year of operation without a lost-time injury by the 100-B Area. The 28-page booklet, contained in a two-color cover, was written, the layout and art work produced, and necessary pictures and arrangements for printing through the Hanford Works print shop were all accomplished by Special Programs. "You and GE at Hanford Works" was placed in the hands of the printer as a result of the work of Special Programs during the month. This was accomplished in time to provide copies of the booklet for distribution during the middle of October, the date set in the Employee and Community Relations Plan for observance of the Charles E. Wilson 50th Anniversary Program.

The organization arrangements completed during the month which have resulted in the assignment of the woman employee who formerly served as Assistant to the Editor of the Works NEWS has resulted in an improved coverage of women's activities at Hanford Works from an information standpoint. This was accomplished by transferring to Employee Relations a number of the functions previously performed by Women's Activities. The duties remaining for the women's feature writer included preparation of the Women's Page for the Works NEWS each week, the recreation information for employee relations for the Works NEWS, and the column in the Works NEWS which lists rides available for Hanford Works people to distant points, and riders seeking transportation to various week-end and vacation points.

In addition, since the women's feature writer is assigned to the Nucleonics Department News Bureau, the remainder of her time each week is being spent on public relations work which consists of preparation of special request features for various newspapers in the Northwest.

Hanford Works NEWS played an important part in publicizing the GE Education Program during the month. A full page was devoted to listing the 1949 term catalogue of courses, and through the medium of the Works NEWS this information was made available to all Hanford Works employees.

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Employee and Community Relations Division (Cont'd)

Hanford Works NEWS also served as a medium for communicating with all Hanford Works employees concerning the decision to extend the same increase shift differential and isolation pay benefits which were included in the GE-HAMTC Agreement.

Purchasing and Stores Divisions

Personnel of the Purchasing and Stores Divisions showed a net increase of 58 people. The Stores Division increased 59 people due to increased excessing activity and the agreement previously reached with the Transportation Division to handle their stocks of automotive spare parts. There was no change in the number of people in the Purchasing Division and the Traffic Section was reduced by one.

The work load in the Purchasing Division increased an additional ten percent over July.

Only one known claim is still open so far as 1948 Construction purchase orders are concerned.

The screening of purchase requisitions has resulted in approximately $5 000 per week being issued from excess materials rather than being supplied by direct purchase.

General Stores inventories were reduced $122 282.62.

Total savings in freight charges amounted to $13 898.95.

There were numerous increases in freight rates announced amounting to an over-all four percent which are to become effective September 1, 1949.

Community Divisions

Appropriation Request No. 64-Rev., Attic Duct Insulation, Pre-cut Houses, was approved by the Appropriations and Budget Committee and Project C-345-R was forwarded to the Commission for approval.

At the regular meeting of the Richland Community Council, held August 22, 1949, W. H. Roos was appointed Councilman-at-large replacing E. S. Bell who recently resigned.

A total of 28 part-time business permits were issued during the month of August, 1949.

Six new business establishments opened for business during August: Block's Shoe Store, C & H Food Market, Johnny's Minute Man Service Station, Parcell's Automotive Station, A & Z Specialty Shop and Johnson & Reutlinger.

Sales of basic items indicate no change in business activities as compared with July.

The waiting list for housing increased by 57 percent.

Fire alarms decreased from 39 during July to 22 in August.

Medical Division

The Medical Division's roll decreased by 13 from 425 to 412.

AEC Approval was obtained for increases in Hospital room rates, and for increases in x-ray, laboratory and other general services to bring these into line with average rates in this area.

Preliminary discussions were held with Army and AEC officials regarding Army use of GE hospital facilities in North Richland.

Incidence of contagious disease was the lowest on record for the project.

General Accounting Divisions

Atomic Energy Commission Reimbursement Authorization No. 63 was received in August authorizing revisions and additions to approved employment policies and salary schedules made necessary as a result of Agreement between Hanford Metal Trades Council and General Electric Company executed on May 31, 1949. The revisions and additions apply to employees within the Bargaining Unit as certified by the National Labor Relations Board.

Reimbursement Authorization to extend the provisions of the Union Agreement to those non-exempt employees not included in the Bargaining Unit has not yet been received. However, letters from the Commission dated August 22, 1949 and August 26, 1949 authorized the Company to extend the provisions of Reimbursement Authorization No. 63 to Non-bargaining Unit non-exempt employees with certain reservations, and to establish the proposed Progression Schedule and Procedure for Administration and revised and additional job classifications.

Payments to non-exempt weekly paid employees in accordance with the above have been made effective August 15, 1949 with the exception of shift differential and isolation payments which were made effective August 8, 1949. Payments retroactive to April 11, 1949 resulting from the Agreement will be distributed to employees as soon as possible.

Work in connection with the evaluation of plant assets which began in January 1949 was completed in August. The amount, as determined by AEC consultants as of June 30, 1949, reflected in Plant and Equipment accounts is approximately $580 000 000. Reserves totaling approximately $115 000 000 were also recorded.

Advances from AEC were reduced from $7 500 000 at the beginning of the month to $5 500 000 at the month end. Items comprising the balance advanced by AEC are:

Cash in Bank - Contract Accounts	$4 428 148
- Salary Accounts	55 000
- Travel Advance Account	50 000
Unliquidated portion of Advances prior to June 1, 1949	43 704
Advances to Subcontractors	475 000
Accounts Receivable - AEC	50 000
Cash in Transit	398 148
Total	$5 500 000

General Accounting Divisions (Cont'd)

Hanford Works and Nucleonics Department Financial Statements for the month of July were completed and distributed on August 17 and August 19, 1949 resepctively. General Divisions Operating Reports covering July operating costs were completed on August 15, 1949.

Based on experience and anticipated future costs, standard liquidation rates were used for the first time this month in making assessments to other divisions from General Divisions whose liquidation rates are based on applied labor costs. Resultant variances will be currently reviewed and rates may be revised if necessary.

[redacted]

STAFF

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

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HW 14338

FORCE REPORT
AUGUST 1949

	Non-Exempt		Exempt		Total	
	7-29-49	8-31-49	7-29-49	8-31-49	7-29-49	8-31-49
GENERAL	22	20	14	14	36	34
LAW DIVISION	2	2	3	3	5	5
DESIGN & CONST. DIVISIONS						
Administrative	21	18	6	6	27	24
Construction	96	93	119	110	215	203
Construction Accounting	59	58	9	9	68	67
Design	122	123	124	127	246	250
North Richland Realty	97	84	18	16	115	100
MANUFACTURING DIVISIONS						
General	3	3	7	7	10	10
Project Engineering	72	76	56	56	128	132
Manufacturing Accounting	43	44	7	7	50	51
OPERATIONS DIVISIONS						
"P" Division	248	250	68	67	316	317
"S" Division	281	296	73	72	354	368
Power	438	448	77	78	515	526
MECHANICAL DIVISIONS						
Maintenance	430	465	68	69	498	534
Electrical	227	228	45	48	272	276
Instrument	173	180	44	45	217	225
Transportation	624	645	62	64	686	709
TECHNICAL DIVISIONS						
General	1	1	6	6	7	7
Pile Technology	22	24	54	52	76	76
Separations Technology	59	59	97	97	156	156
Metallurgy & Control	308	308	117	116	425	424
MEDICAL DIVISION	335	323	90	89	425	412
H. I. DIVISIONS						
General	3	4	6	6	9	10
Operational	121	118	54	55	175	173
Development	69	74	26	25	95	99
Biology	22	20	17	17	39	37
ACCOUNTING DIVISIONS						
Accounting - Payroll	63	75	7	7	70	82
Accounting - All Others	77	77	12	12	89	89
EMPLOYEE & COMMUNITY REL.	49	53	26	27	75	80
PLANT SECURITY & SERV. DIV.						
Patrol & Security	524	518	57	57	581	575
Safety & Fire	110	116	35	34	145	150
General & Office Serv.	237	234	22	22	259	256
PURCHASING & STORES DIVISIONS						
Purchasing	35	33	26	27	61	60
Stores	160	222	22	22	182	244
COMMUNITY DIVISIONS	612	615	146	146	758	761
GRAND TOTAL	5,765	5,907	1,620	1,615	7,385	7,522

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PERSONNEL DISTRIBUTION - AUGUST 1949

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
GENERAL	-	-	-	-	-	-	-	-	-	-	14	14
Clerical	-	-	-	-	-	-	-	-	-	-	20	20
Total	-	-	-	-	-	-	-	-	-	-	34	34
LAW DIVISION	-	-	-	-	-	-	-	-	-	-	3	3
Clerical	-	-	-	-	-	-	-	-	-	-	2	2
Total	-	-	-	-	-	-	-	-	-	-	5	5
DESIGN & CONST. DIV'S.												
ADMINISTRATIVE												
Supervisors	-	-	-	-	-	-	-	-	-	-	5	5
Engineers	-	-	-	-	-	-	-	-	-	-	1	1
Clerical	-	-	-	-	-	-	-	-	-	-	15	15
Others	-	-	-	-	-	-	-	-	-	-	3	3
Total	-	-	-	-	-	-	-	-	-	-	24	24
CONSTRUCTION												
Supervisors	-	-	-	-	-	-	-	-	2	22	-	24
Engineers & Inspectors	-	-	-	-	22	-	4	-	6	37	11	80
Clerical	-	-	-	-	5	-	-	1	2	54	2	64
Others	-	-	-	-	7	-	1	-	14	12	1	35
Total	-	-	-	-	34	-	5	1	24	125	14	203
CONSTRUCTION ACCOUNTING												
Supervisors	-	-	-	-	-	-	-	-	-	8	-	8
Clerical	-	-	-	-	-	-	-	-	-	58	-	58
Others	-	-	-	-	-	-	-	-	-	1	-	1
Total	-	-	-	-	-	-	-	-	-	67	-	67

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
DESIGN & CONST. DIV'S.												
DESIGN												
Supervisors	-	-	-	-	-	-	-	-	-	-	14	14
Engineers & Estimators	-	-	-	-	-	-	-	-	-	-	113	113
Clerical	-	-	-	-	-	-	-	-	-	-	59	59
Others	-	-	-	-	-	-	-	-	-	-	64	64
Total	-	-	-	-	-	-	-	-	-	-	250	250
NORTH RICHLAND REALTY												
Supervisors	-	-	-	-	-	-	-	-	-	14	-	14
Engineers	-	-	-	-	-	-	-	-	-	3	-	3
Clerical	-	-	-	-	-	-	-	-	-	16	-	16
Others	-	-	-	-	-	-	-	-	-	67	-	67
Total	-	-	-	-	-	-	-	-	-	100	-	100
MANUFACTURING DIVISIONS												
GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	7	7
Clerical	-	-	-	-	-	-	-	-	-	-	3	3
Total	-	-	-	-	-	-	-	-	-	-	10	10
PROJECT ENGINEERING												
Supervisors	-	-	-	-	-	-	1	-	-	-	36	37
Engineers	-	-	-	-	-	-	3	2	-	-	14	19
Drafting Personnel	-	-	-	1	-	-	6	2	-	-	33	42
Clerical	-	-	-	-	-	-	1	-	-	-	17	18
Others	-	-	-	-	-	-	3	-	-	-	13	16
Total	-	-	-	1	-	-	14	4	-	-	113	132
MANUFACTURING ACCT.												
Supervisors	-	-	-	-	-	-	-	-	-	-	7	7
Clerical	-	-	-	-	-	-	-	-	-	-	44	44
Total	-	-	-	-	-	-	-	-	-	-	51	51

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
OPERATING DIVISIONS												
"P" Division												
Supervisors	11	12	1	13	8	-	-	15	-	-	7	67
Operators	41	47	-	44	13	-	-	92	-	-	-	237
Clerical	2	3	-	1	-	-	-	3	-	-	4	13
Total	54	62	1	58	21	-	-	110	-	-	11	317
"S" DIVISION												
Supervisors	-	-	-	-	-	23	39	-	-	-	10	72
Operators	-	-	-	-	-	102	175	-	-	-	-	277
Clerical	-	-	-	-	-	5	9	-	-	-	5	19
Total	-	-	-	-	-	130	223	-	-	-	15	368
POWER												
Supervisors	12	12	-	12	18	5	8	1	4	-	-	72
Engineers	-	-	-	-	-	-	-	-	6	-	-	6
Operators	86	79	-	87	70	25	47	10	1	-	-	405
Clerical	1	1	-	1	1	-	1	-	5	-	-	10
Others	6	6	-	6	5	1	8	1	-	-	-	33
Total	105	98	-	106	94	31	64	12	16	-	-	526
MECHANICAL DIVISIONS												
MAINTENANCE												
Supervisors	2	7	-	9	-	5	14	5	14	-	2	58
Engineers	-	-	-	4	-	-	-	-	1	-	6	11
Journeymen	21	43	-	39	-	35	85	46	108	-	-	377
Clerical	-	2	-	3	-	2	2	2	4	-	1	16
Others	2	3	-	8	-	4	16	9	30	-	-	72
Total	25	55	-	63	-	46	117	62	157	-	9	534

HW-13971

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
MECHANICAL DIVISIONS												
ELECTRICAL												
Supervisors	2	2	-	3	2	1	5	3	2	-	21	41
Engineers	-	-	-	-	1	-	-	1	1	-	4	7
Craftmen	14	11	-	17	5	11	20	18	-	-	89	185
Clerical	1	-	-	1	1	-	1	1	2	-	6	13
Others	-	-	-	2	1	-	3	1	-	-	23	30
Total	17	13	-	23	10	12	29	24	5	-	143	276
INSTRUMENT												
Supervisors	3	3	-	2	2	2	5	6	-	-	4	27
Engineers	2	1	-	-	-	-	2	9	-	-	4	18
Mechanics	4	3	-	4	4	3	16	15	-	-	3	52
Clerical	1	1	-	1	1	1	1	6	-	-	5	17
Others	9	9	-	9	5	11	17	41	-	-	10	111
Total	19	17	-	16	12	17	41	77	-	-	26	225
TRANSPORTATION												
Supervisors	2	1	-	2	-	1	1	1	23	-	29	60
Engineers	-	-	-	-	1	-	-	-	-	-	3	4
Drivers (Based on areas served)	2	3	-	4	-	3	5	6	172	-	40	235
Journeymen	8	3	-	4	-	-	5	-	11	-	75	106
Trainmen	-	-	-	-	-	-	-	-	28	-	-	28
Servicemen	3	2	-	14	-	3	5	7	45	-	32	111
Clerical	1	-	-	1	-	1	1	1	5	-	18	28
Others	5	5	-	4	1	1	9	3	67	-	42	137
Total	21	14	-	29	2	9	26	18	351	-	239	709
TECHNICAL DIVISIONS												
TECHNICAL GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	6	6
Clerical	-	-	-	-	-	-	-	-	-	-	1	1
Total	-	-	-	-	-	-	-	-	-	-	7	7

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
TECHNICAL DIVISIONS												
PILE TECHNOLOGY												
Supervisors	2	-	-	-	-	-	-	11	-	-	-	13
Chemists-Engr's & Technologists & Physicists	3	8	-	2	-	-	-	28	-	-	1	42
Tech. Grads	1	-	-	-	-	-	-	-	-	-	-	1
Laboratory Assistants	4	4	-	1	-	-	-	7	-	-	-	16
Clerical	-	1	-	-	-	-	-	2	-	-	-	3
Others	1	-	-	-	-	-	-	-	-	-	-	1
Total	11	13	-	3	-	-	-	48	-	-	1	76
SEPARATIONS TECHNOLOGY												
Supervisors	-	-	-	-	-	1	4	19	-	-	1	25
Chemists-Engr's & Tech. Grads	-	-	-	-	-	5	13	55	-	-	3	76
Clerical	-	-	-	-	-	-	2	7	-	-	1	10
Others	-	-	-	-	-	-	1	44	-	-	-	45
Total	-	-	-	-	-	6	20	125	-	-	5	156
METALLURGY & CONTROL												
Supervisors	1	2	-	-	-	5	8	31	-	-	5	52
Chemists-Engr's & Tech. Grads. & Metallurgists	4	3	-	1	-	15	18	90	-	-	1	132
Laboratory Assistants	3	6	-	-	-	39	23	75	-	-	-	146
Clerical	-	1	-	-	-	2	1	35	-	-	32	71
Others	-	-	-	-	-	-	-	23	-	-	-	23
Total	8	12	-	1	-	61	50	254	-	-	38	424

HW-12057

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
MEDICAL DIVISION												
Supercisors	-	-	-	-	-	-	-	-	-	1	39	40
Physicians	-	-	-	-	-	-	-	-	-	6	24	30
Dentists	-	-	-	-	-	-	-	-	-	1	8	9
Technicians	-	-	-	-	-	-	1	1	-	2	22	26
Clerical	1	-	-	1	1	-	-	1	-	12	77	93
Others	2	2	-	4	4	4	5	2	-	9	182	214
Total	3	2	-	5	5	4	6	4	-	31	352	412
H. I. DIVISIONS												
GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	5	5
Engineers	-	-	-	-	-	-	-	-	-	-	1	1
Clerical	-	-	-	-	-	-	-	-	-	-	4	4
Total	-	-	-	-	-	-	-	-	-	-	10	10
OPERATIONAL												
Supervisors	-	1	-	2	1	3	5	8	-	-	1	21
Engineers	5	4	-	5	-	6	11	2	-	-	-	33
Clerical	-	-	-	1	-	-	-	-	-	-	1	2
Others	8	9	-	8	-	18	33	36	5	-	-	117
Total	13	14	-	16	1	27	49	46	5	-	2	173
DEVELOPMENT												
Supervisors	-	-	-	-	-	1	4	5	-	-	1	11
Engineers	-	-	-	-	-	5	5	5	-	-	-	15
Clerical	-	-	-	-	-	1	1	3	-	-	2	7
Others	-	-	-	-	-	13	30	16	-	-	7	66
Total	-	-	-	-	-	20	40	29	-	-	10	99

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
H. I. DIVISIONS												
BIOLOGY												
Supervisors	-	-	-	1	-	-	1	1	-	-	-	3
Engineers	-	-	-	7	-	-	7	-	-	-	-	14
Clerical	-	-	-	1	-	-	-	-	-	-	-	1
Others	-	-	-	12	-	-	7	-	-	-	-	19
Total	-	-	-	21	-	-	15	1	-	-	-	37
ACCOUNTING DIVISIONS												
ACCOUNTING - PAYROLL												
Supervisors	-	-	-	-	-	-	-	-	-	-	7	7
Clerical	-	-	-	-	-	-	-	-	-	-	75	75
Total	-	-	-	-	-	-	-	-	-	-	82	82
ACCOUNTING - ALL OTHERS												
Supervisors	-	-	-	-	-	-	-	-	-	-	12	12
Clerical	-	-	-	-	-	-	-	-	-	-	77	77
Total											89	89
EMPLOYEE AND COMM. RELATIONS												
Supervisors	-	-	-	-	-	-	-	-	-	-	26	26
Emp. Rel. Counselor	-	-	-	-	-	-	-	-	-	-	1	1
Clerical	-	-	-	-	-	-	-	-	-	-	44	44
Others	-	-	-	-	-	-	-	-	-	-	9	9
Total	-	-	-	-	-	-	-	-	-	-	80	80
PLANT SECURITY & SER. DIV'S												
PATROL & SECURITY												
Supervisors	5	6	-	6	5	5	9	7	10	-	4	57
Patrolmen	37	46	-	63	66	61	125	65	6	-	34	503
Clerical	-	-	-	-	-	-	-	-	12	-	1	13
Seamstress	-	-	-	-	-	-	-	-	2	-	-	2
Total	42	52	-	69	71	66	134	72	30	-	39	575

	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
PLANT SEC. & SERV. DIV'S												
SAFETY & FIRE												
Supervisors	7	-	-	-	-	-	4	5	10	-	8	34
Firemen	41	-	-	8	-	-	11	14	-	-	15	89
Inspectors	5	4	-	4	-	4	1	1	3	-	1	23
Clerical	-	-	-	-	-	-	-	-	2	-	2	4
Total	53	4	-	12	-	4	16	20	15	-	26	150
GEN. & OFF. SERV'S												
Supervisors	-	-	-	1	-	2	2	-	-	-	17	22
Laundry Operators	-	-	-	-	-	-	6	-	-	-	2	8
Janitors & Servicemen	4	6	-	7	1	6	13	12	-	-	37	86
Off. Mach. Operators	-	-	-	-	-	-	-	-	-	-	42	42
Clerical	-	-	-	-	-	-	-	-	-	-	44	44
Others	-	-	-	-	-	-	29	-	-	-	25	54
Total	4	6	-	8	1	8	50	12	-	-	167	256
PURCHASING & STORES DIV'S												
PURCHASING												
Supervisors	-	-	-	-	-	-	-	-	6	-	21	27
Clerical	-	-	-	-	-	-	-	-	-	-	33	33
Total	-	-	-	-	-	-	-	-	6	-	54	60
STORES												
Supervisors	-	-	-	-	-	-	-	-	-	8	14	22
Clerical	1	-	-	-	-	-	1	-	-	30	190	222
Total	1	-	-	-	-	-	1	-	-	38	204	244

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	100-B Area	100-D Area	100-DR Area	100-F Area	100-H Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
COMMUNITY DIVISIONS												
Supervisors	-	-	-	-	-	-	-	-	-	24	122	146
Patrolmen	-	-	-	-	-	-	-	-	-	27	28	55
Firemen	-	-	-	-	-	-	-	-	-	42	57	99
Journeymen	-	-	-	-	-	-	-	-	-	-	140	140
Servicemen	-	-	-	-	-	-	-	-	-	-	66	66
Truck Drivers	-	-	-	-	-	-	-	-	-	-	40	40
Power Operators	-	-	-	-	-	-	-	-	-	-	55	55
Clerical	-	-	-	-	-	-	-	-	-	-	87	87
Others	-	-	-	-	-	-	-	-	-	-	73	73
Total	-	-	-	-	-	-	-	-	-	93	668	761
GRAND TOTAL	376	362	1	431	251	441	900	919	609	454	2778	7522

[redacted]

MANUFACTURING DIVISIONS

AUGUST 1949

SUMMARY

Operations Divisions

A total of 62 tons of metal was discharged from the three piles at an average concentration of 363 MWD/ton. The operating efficiency was 80 percent and the nominal power level of 275 was maintained at B and F piles with D pile continuing to operate at 305 MW. A total of 44 tons of Class V metal was discharged at an average concentration of 404 MWD/ton. One severely warped piece apparently was the cause of difficulty in discharging one tube of Class V material.

A total of 69 tons of acceptable slugs was canned with a yield of 91.6 percent. The machining yield was 71.3 percent. The melt plant produced 29 tons at a yield of 66 percent. The yield was adversely affected by the necessity of melting TXB material which had not been pickled.

Forty batches were started in the Canyon Buildings, with 36 being processed through Concentration and 41 through the Isolation Building. The average purity of completed batches at Isolation was 98.5 percent.

Expansion Problems Section

Work has continued on Redox, Rala, 100-H facilities and 100-DR additional facilities. 100-H Area is nearing completion; however, the actual date for the transfer to Operations has not yet been established.

A directive was issued at mid-month for Rala, authorizing the expenditure of $262,000 for design only. It included the allotment of $86,000 of the above sum for mechanical development studies. The time schedule specified design completion by March 1, 1950.

C. N. Gross

C. N. GROSS, MANAGER
MANUFACTURING DIVISIONS

[redacted]

[redacted]

MANUFACTURING DIVISIONS

PATENT REPORT SUMMARY
FOR
MONTH OF AUGUST, 1949

Richland, Washington
September 9, 1949

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
Rodney G. Hoff (Instrument Division)	Mercury Wetted Selector Switch (Rotary Jet Type) (Under development at present— not reduced to practice. Report may be delayed.)

C. N. GROSS

MANAGER, MANUFACTURING DIVISIONS

[redacted]

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MANUFACTURING EXPANSION PROBLEM SECTION

August, 1949

GENERAL

Work has continued on Redox, Rala, the 100-H facilities and 100-DR additional facilities as detailed below. The 100-H Area is fast nearing completion, and the question of a construction completion date for this area is receiving considerable attention.

ORGANIZATION

D. McDonald, temporarily on S Division operating work, has returned to the Rala Contact Engineering Group.

ACTIVITIES

1. Redox

The following major developments are noted in the continued scoping, by G. E., of the Redox dual-purpose plants:

Metal Recovery

The Technical Division is directing the Metal Recovery process work being conducted by the Kellex Corporation at their Jersey City Laboratory. They are also investigating the proposed Kellex process at this site, as well as doing scouting work on other processes. The Carbon & Carbide Corporation continues work on their UAP Process for Metal Recovery.

Design Progress

a. Scope Drawings

The following drawings have had complete approval, including A. E. C., and have been transmitted to the Kellex Corporation.

Eight Layouts, showing the basic architectural features of the Production Plant.

Seven One-Line diagrams showing the basic features of the Production Plant ventilation system.

One Area Plot Plan, showing location of Production Plant, Laboratory, filters, stack, and services entering the Area.

[redacted]

MANUFACTURING EXPANSION PROBLEM SECTION (Cont'd.)

Comment issue of all Engineering Flow Diagrams has been made and comment has been made on the majority of them. The comment issue of Instrument Flow Diagrams is in preparation. These above diagrams are scheduled for issuance to Kellex in September.

b. General Specifications and Design Instruction Letters

Eighteen Design Instruction Letters and fourteen General Specifications are in the comment stage of preparation for issuance to Kellex as part of the scope.. These will specify the standards for materials of construction, equipment, testing procedures, methods of construction, etc.

2. Rala

A directive was issued at mid-month authorizing the expenditure of $262,000.00 for design only of a Rala Plant as outlined in the recent Project Proposal. It included the allotment of $86,000.00 of the above sum for the mechanical development studies indicated as necessary in the Project Proposal. The time schedule specified was that design of the plant be completed by March 1, 1950, and that a five-month construction period be concluded by August 1, 1950. The possibility of reaching a satisfactory construction completion date by this time has been questioned, and a joint letter has been written by the Technical and Manufacturing Divisions to the A.E.C. on this subject.

3. 100-H and 105-DR (Production)

DR Area

One 36" check valve at 105-DR proved satisfactory on re-test, and will be accepted. Re-test on the other check valve was not satisfactory.

Repairs were completed to 107-DR. Subsequent testing resulted in acceptance of the east basin, but a higher rate of leakage in the west basin will necessitate an inspection of floor joints after drainage of the basin.

The performance of the Groves valve is still under question with reference to closing action under high flow conditions. Design is setting up a test procedure to clear up this question.

H Area

840 galvanized nozzles were on hand at month-end, with completion of this requirement promised on September 12. The aluminum nozzle vendor reports 400 machined at month-end, with a promise to machine 100 a day thereafter.

Repairs have been completed to 107-H and the 7 day leak test is being started.

[redacted]

[redacted]

MANUFACTURING EXPANSION PROBLEM SECTION (Cont'd.)

H Area (Cont'd.)

Progress of acceptance tests is considerably behind the schedule, which calls for completion of acceptance tests by August 31. At this time, 18 of a total of approximately 70 acceptance tests had been satisfactorily completed, and most of the rest were in progress.

The following items can be considered critical with respect to completion dates, in that they will probably take the longest time to complete:

a. Changes to Panellit gages resulting from change in the orifice pattern.

b. Changes in power level measurement instruments.

c. The extensive acceptance tests on safety rods, coupled with correction of unsatisfactory conditions they are revealing at present.

d. Remaining work on gas analyzer equipment after receipt of equipment.

e. Balancing of ventilation equipment after completion of other building work.

f. Instrument and electrical testing throughout 105 Area.

4. 100-H and 105-DR (Power)

H Area

A considerable amount of grading has been accomplished throughout the Area. Permanent roads are now being graded and surfaced. Service buildings throughout the Area have been accepted, except for the paint storage building, the garage, and the central shop building. Work on underground water lines, and sewers, is essentially complete, except that the 14" export line from Building 182 to Building 105 cannot pass the hydrostatic test, and is now being dug up. Outside steam lines are in service, although a large amount of lagging remains to be done on them.

During the month, the concrete floor of the west clear well failed in service, due to leakage compacting the earth backfill under the east end of the clear well. A lean concrete back-fill has been poured, a new floor poured, and this clear well will be tested and returned to service during the week of September 6. At this time, the east clear well will be drained and examined for a similar condition.

[redacted]

[redacted]

MANUFACTURING EXPANSION PROBLEM SECTION (Cont'd.)

H Area (Cont'd.)

The following items can be considered critical with respect to completion dates, in that they will probably take the longest time to complete:

182 Building - correction of leaks in 14" export line to 105.

183 Building - completion of repairs to West clear well, and inspection and possible repairs to East clear well.

184 Building - repairs to bearings of Line-Belt coal crusher; and completion and testing of emergency generator.

190 Building - checking and realignment of steam pumps in process pump sets, and correction of poor performance of butterfly valves at inlets to process water tanks.

General - completion of pipe lagging, and electrical and instrument testing throughout area.

5. Additional DR Facilities

During the month, the Design Division has prepared a job outline and listing of design criteria for use in selection of an Architect-Engineer for this project. This has been distributed to a large group of Architect-Engineers for their consideration and at month-end the choice has narrowed down to three. Further negotiation with these firms is now in progress, including an inspection of their facilities, and the recommendation of a choice to the A.E.C. is expected in Mid-September.

The scope of work for this project has been re-written, checked, and edited, and is now in process for final preparation.

Justification of the proposed gas wing facility, as requested by the directive authorizing design of the project, is currently under way. It will take the form of a simplified design of the additional gas wing facilities needed, and will be proposed as Part II of the original Project Proposal. The Design Division now has Part II in final preparation, and intends to include gas wing design, when approved, with the balance of the work done on this project by the Architect-Engineer selected.

The simplification of gas wing design consisted essentially of utilization of the 115-D Building by reducing the amount of spare equipment, however, the feature of separate gas streams to the two production units will be retained.

[redacted]

[redacted]

September 7, 1949

P DIVISION

AUGUST, 1949

I. GENERAL

The B and F piles operated at 275 MW and the D pile at 305 MW throughout the month, except for outages listed under Area Activities. "Time operated" efficiency for the three piles was 89.9% for the month.

A total of 61.76 tons of metal, at an average concentration of 363 MWD/ton, was discharged from the piles during the month.

On August 15, the operation of the 300 Area Melt Plant was reduced from a two-shift five day week to a one-shift five day week schedule. This change in schedule was possible as a result of working off the backlog of uranium scrap.

II. ORGANIZATION AND PERSONNEL

Number of Employees on Payroll - August	
Beginning of Month	316
End of Month	317
Net Increase	1

One operator terminated voluntarily and one operator was placed on leave of absence. One clerk was transferred from the Accountability Section and three operators were rehired to fill vacancies in the 300 Area.

The following changes in monthly roll personnel took place during the month:

[redacted]

[redacted]

P Division

Thomas M. Hall, Shift Supervisor, was placed on leave of absence as the result of personal injuries received in an automobile accident.

W. P. McCue, Chief Supervisor, was transferred from 100-D to 100-H Area on August 10 to assume charge of the startup preparation of that area. On the same date R. O. Mehann, Chief Supervisor, assumed 100-D Area responsibilities, vice Mr. McCue, in addition to his regular duties at 100-B Area.

A general reorganization of Area and Shift Supervisors in the 100 Areas was started during the month, in order to provide personnel for the start-up of 100-H Area. This reorganization will be completed early in September and will provide for the same Area Supervisor to have charge of the shift crews at B and D Areas, with a Shift Supervisor in each area reporting to him. Both F and H Areas will have an Area and Shift Supervisor on each shift as in the past.

M. Davis, Assistant Chief Supervisor, left August 29 for a weeks visit to KAPL in Schenectady.

III. AREA ACTIVITIES

PILE SUMMARY	PILE B	PILE D	PILE F
Time Operated (%)	90.9	87.1	91.6
Operating Efficiency (%)	88.5	85.0	90.4
*Power Level (MW)	275	305	275
*Inlet Water Temperature (°C)	20.5	20.6	20.5
*Outlet Water Temperature (Maximum °C., 10 tubes, 0.240" Zone)	61.1	59.9	60.4
Number of Scrams	1	0	1
Number of Purges	2	1	1
Helium Consumption (cu.ft.)	20,581	60,646***	21,677
Metal Discharged (tons)	19.03	29.58	13.15
Inhours Gained (this month)	-45**	-8	20
*Inhours Poisoned	521	525	547
*Inhours in Rods	53	70	86

* Month end figures.
** Apparent loss of inhours due to recalculation of poison column strength.
*** Includes 15,500 cu. ft. used at 105-DR.

[redacted]

P Division

PILE BUILDING

Outage Breakdown

Date of Outage	Scheduled Metal Discharged	Scheduled Maintenance	Unscheduled	Length of Outage (Hours)
8-2-49	B			23.8
(1) 8-2-49			F	.25
8-3, 4-49	D			50.2*
8-10-49	F			22.2
8-17-49	B			20.6
8-18-49		F		40.3*
8-23-49		B		21.6
(2) 8-24-49			B	±.5
8-24, 25-49	D			46.0*

* Includes outage to discharge temporary poison.
(1) Unit scrammed due to electrical outage.
(2) Unit shut down because of partial plugging of a process tube cone screen.

Operating Experience

Production tests having operational significance are reported below:

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

1.480"	1.485"	
4674-F	4574-B	4676-D
	4663-D	4684-D
	4671-D	

105-114-P (Van Stone Corrosion Studies)
The 100% aluminum rear dummy patterns in three tubes equipped with galvanized rear nozzles and 16 tubes equipped with aluminum rear nozzles were inspected for corrosion. No indication of nozzle corrosion was observed.

Borescopic examination of the front section of five tubes containing end supported front dummies and equipped with galvanized nozzles revealed corrosion products immediately downstream of the Van Stone flange. Further investigation is planned.

[redacted]

[redacted]

P Division

105-168-P (Replacement of Pile Helium Atmosphere with CO_2)
Beginning August 8, the B pile CO_2 concentration was increased from 40 to 60% at a rate of approximately 3% per day. At month end the concentration was being maintained at 60% and no unexpected changes in operating conditions were noted.

The CO_2 concentration was maintained at 40% at D pile and 60% at F pile throughout the month.

105-214-P (Supplement B) (Silica Feed Reduction)
Silicate addition to the process water was discontinued at all piles on August 5.

At F pile, where silicate addition was discontinued on May 18, 1949, an apparent equilibrium at 25 psi pressure drop has been reached in the rate of film formation and decomposition in the central tubes. The rate of pressure drop increase in the outer tubes appears to be substantially unchanged from that observed prior to silica feed elimination.

105-260-P (Increase in Power Level)
D pile operated at 305 MW throughout the month. No unusual or unexpected conditions have been observed at the higher level.

During the start-up following the August 23 outage at B pile, a low water pressure alarm necessitated an immediate pile shutdown. Investigation revealed the cone screen in tube 2189-B plugged with rust and scale. The screen was changed and normal operation resumed.

Tube 3678-B, which contained Class V (alpha rolled, triple dipped, completely transformed) material, was discharged with difficulty during the outage of August 2, 1949. Inspection of the discharged material revealed a severely warped piece which apparently had caused the difficulty. The balance of 43.9 tons of Class V material was discharged without incident at an average concentration of 404 MWD/ton. Maximum concentration reached was 418 MWD/ton.

During the month an attempt was made to segmentally discharge five tubes. Two tubes at B pile were discharged without incident; a third could not be backseated. On one tube at F pile the tape could not be inserted under the charge and on the other the gripper slug could not be removed from the tape after backseating.

Five process tubes were changed during the month (channels 0283-B, 3678-B, 1488-D, 3085-D and 3089-D).

[redacted]

[redacted]

P Division

Mechanical Experience

All horizontal and vertical safety rods are in satisfactory operating condition at month end.

Work of an unusual nature performed on safety rods during the month included the following:

1. The binding of #27-B vertical rod was relieved by the installation of a stainless steel rod and a new rod guide.

2. No. 36-D vertical rod failed to enter the unit on August 24. It was found that the second section of the rod was cracked. Replacement was made and operation was satisfactory.

3. The binding of #33-F vertical rod was relieved by installation of a shortened stop plug, a shortened off-set guide, and a flexible jointed rod.

During the month, one vertical rod thimble was replaced at D pile (#23-D) and two at F pile (#17 and 24-F). Three known leaking thimbles at F pile (#18, 23 and 31-F) are scheduled for replacement in September.

During the B pile outage of August 2, 1949, a reoccurence of the partial failure of the vertical safety rod control circuit was experienced. (See HW-14043-A for report of initial occurence). During the outage of August 17, the electrical leads to rod motors #16 and #17 were replaced. Although the exact cause of the failure has not yet been determined, the operation of the rods has been normal since the replacements were made.

Examination of the tube from channel 0283-B revealed the cause of the previously reported water leak (see HW-14043-A) to be a pin hole in the rear Van Stone flange.

During the August 23 outage a leaking weld on H Riser (B-pile rear face) was repaired. To facilitate these repairs it was necessary to reduce the process water flow to 2000 g.p.m. and divert it to the storage basin in order to drop the riser level below the leak. Although indications of metal fatigue in the area surrounding the leak made repairs difficult, the new weld appeared to be holding satisfactorily at the month end.

Pile Area Development

Investigation of the possibility of relieving the necessity for reducing power level because of high tube temperatures by raising the process water pressure was begun at F pile during the month.

[redacted]

From the data available it appears that elevation of pressure to 370 psi for several hours will reduce the extent of such cutbacks by approximately 3% of nominal level. Further investigation is planned.

A vertical safety rod thimble testing plug was fabricated and successfully used during the month. This device made possible the location of the position of the leak.

Gas Processing Building

Operation of these buildings was normal during the month.

The 115-B Building driers were returned to the regular 24 hour cycle when moisture in the circulating gas returned to normal following the replacement of the leaking process tube.

Special Hazards

No change was reported in the intensity of the beam at the top far edge of B and F piles. At month end the readings are:

B - 10 mr/hr
F - 4 r/hr

300 AREA - METAL FABRICATION

Production Statistics

Production for the month of August was as follows:

Billets Produced	29 Tons
Rods Machined	87 Tons
Bare Pieces Machined	62 Tons
Acceptable Pieces Canned	69 Tons

Melt Plant

The casting yields were as follows:

	July	August	To Date 1949
Billet	71.4	66.0	68.1
Solid Metal	87.8	84.6	85.7

Operation of the Melt Plant was continued on a two-shift five day week schedule until August 15, at which time the schedule was reduced to a one-shift five day week. The backlog of scrap had been consumed, permitting the change.

The yield for this month was adversely affected by the charging of a large number of complete charges of TXB from storage that had not been pickled and the limited amount of solid scrap available during the period in which the remaining backlog of scrap was consumed.

The 10,000th billet since startup of the Melt Plant was cast on August 6. The identification letter on the succeeding billets was changed from "B" to "H", starting with number one and numbering in consecutive order.

Test runs were made on the new Cochran Bly saw for billet cropping on August 29. As soon as minor revisions are completed to assist operation, the saw will be placed in service.

Machining

Machining yields were as follows:

% Yield		
July	August	To Date 1949
72.8	71.3	69.7

Poor surface quality and the large diameter of a number of rods attributed to the lower machining yield this month. It was necessary to scrap five rods from lot 186-J because they were eliptical and the minimum diameters were below slug dimensions.

A total of 953 slugs was machined in conformance with Production Test No. 313-109-M, (Heat Treating Uranium by Electrical Induction).

Chip Recovery

The Chip Recovery yield was as follows:

% Yield		
July	August	To Date 1949
91.1	90.5	90.5

The entire Chip Recovery process was operated six shifts and the press was operated an additional nine shifts. A total of 34,231 pounds of TXB was produced, of which 86.7 percent was processed from pickled chips.

The material burned in the Oxide Burner was as follows:

Weight Out - Pounds		
July	August	To Date 1949
31,899	41,831	185,144

P Division

Operation of the burner was continued on a two-shift five day week schedule.

Four trial runs were made to determine the feasibility of using the electric furnace, formerly used for outgassing, to burn oxides. Results indicated that free metal in oxides, ranging up to 13.6%, can be reduced to less than 2% after a total time of four to five hours at a maximum temperature of about 1400° F. Further tests are in progress.

Canning Operation

The canning yield was as follows:

	% Yield		
	July	August	To Date 1949
	91.8	91.6	91.2

Canning rejects, by cause, were:

	%		
	July	August	To Date 1949
Non seating	1.0	0.8	0.8
Marred Surface	2.3	2.5	2.5
AlSi on Outside of Can	1.5	1.6	1.1
Frost Test	1.4	1.5	2.1
Bad Welds	0.8	0.7	0.7
Miscellaneous	1.2	1.3	1.6
	8.2	8.4	8.8

Pieces canned on August 1 and 2 have been held up because about 1 to 2% of the caps used in processing this material were slightly off color after etching. Investigation indicated that these caps were brittle and contained 4% copper. Analyses of other caps in this same shipment were within specifications. Off-standard caps were carefully sorted after etching on August 3 and 4, after which the shipment was withdrawn from process and a subsequent shipment of standard quality substituted. It is planned to sort the canned pieces in question by re-etching and rejecting those having off-standard caps.

The following special request pieces were canned:

Request No.	Contents	No. of Pieces
65	Lithium Aluminum Alloy	112
ORNL (SX)	Uranium	50

[redacted]

P Division

In addition 468 lead slugs were canned.

Slug Recovery

	% Recovered		Average Wt. - Lbs.	
	August	To Date 1949	August	To Date 1949
Z Slugs	92.3	88.3	3.902	3.912
X Slugs	6.7	9.6	3.864	3.858
Rejects	1.0	2.1	—	—
	100.0	100.0		

Inspection and Testing

Autoclave rejects were as follows:

July	August	To Date 1949
0.00/M	0.08/M	0.06/M

Three complete autoclave failures occurred during the month.

Penetration within 0.010" of the outer can wall was found on the original test sample taken from canning line on August 1 and canning line on August 5. The three retest samples taken in each case did not show penetration within 0.015" and the pieces were released for normal processing.

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

	% Usable		
	July	August	To Date 1949
Aluminum Cans	95.9	94.9	94.7
Aluminum Caps	98.1	86.4	93.9
Steel Sleeves	*	*	87.5

* No new sleeves were inspected during the month.

A shipment of 942 aluminum cans received from Scoville Manufacturing Company was inspected and 96.1% were acceptable. The major cause for rejections was marred outer surface.

Material Handling

A total of 80,640 canned slugs was transferred to 100-DR for storage.

1209595

[redacted]

P Division

One hundred forty-four tons of alphaarolled rods were received from Simonds Saw and Steel Company.

305 Test Pile

Operation of the test pile was continued on a one-shift five day week schedule. A total of 88 tests was run on canned slugs, 106 on billet eggs, 599 on graphite bars, and the following on special work requests:

Request No.		No. of Tests
95	Irradiate gold foil for use on instrument calibration in connection with PT 105-226-P.	1
96	To check previous calibration of test stringer.	7

Special Hazards

No unusual conditions developed during the month.

Development

Experimental work was done during the month to determine a satisfactory method of leaching recovered flux. Results indicate that a weight reduction of about 70% can be obtained in twenty-four hours by introducing a slow flow of tap water into a container of flux and allowing it to overflow. The uranium concentration is increased from about 1% to 15-20% by this process. Arrangements are now being made to leach all recovered flux on hand in preparation for shipment off plant for uranium recovery.

[redacted]

S DIVISION

AUGUST, 1949

OPERATING SECTION

I. GENERAL

Forty batches were started in the Canyon Buildings, thirty-six batches were processed through the Concentration Buildings and forty-one batches were completed through the Isolation Building. The average purity for completed batches was 98.5 percent.

The over-all material balance for T and B Plants (including the Isolation Plant) averaged 98.2 and 103.2 percent, respectively, for a combined average of 99.6 percent. Waste losses for the two plants averaged 2.5 percent.

Canyon and Concentration Building Production Performance Data - (8-1-49 to 8-31-49, inclusive)

	B Plant	T Plant	Combined
Number of charges started	12	28	40
Number of charges completed	12	29	41
For completed charges:			
Percentage of starting product in waste:			
This month	2.7(a)	2.5(a)	2.5
Last month	2.4(b)	2.4(b)	2.4
Cumulative to date	4.4(c)	4.2(c)	4.3
Percentage of starting product recovered:			
This month	101.8	96.7	98.2
Last month	98.4	99.0	98.7
Cumulative to date	97.4	95.4	96.4
Percentage of starting product accounted for:			
This month	104.5	99.2	100.7
Last month	100.9	101.4	101.1
Cumulative to date	101.8	99.6	100.7

[redacted]

S Division

	B Plant	T Plant	Combined
Gamma decontamination factor (Log.)			
This month	7.47	7.45	7.46
Last month	7.56	7.54	7.55
Cumulative to date	7.36	7.34	7.35

(a), (b), (c): Include waste from processing recycle. The recycle wastes are estimated as: (a) 0.002%-T Plant; 0.011%-B Plant. (b) 0.004%-T Plant; 0.0107%-B Plant. (c) 0.105%-T Plant; 0.009%-B Plant.

Isolation Building Performance Data (8-1-49 - 8-31-49, inclusive)

	% of Incoming Product				
	Prepared for Shipment	Recycle	Waste	Retained Samples	Material Balance
Average for this month	92.6	6.25	0.07	-0.23*	98.7
Average for last month	94.3	4.73	0.007	0.005	99.0
Average to date	95.8	4.68	0.06	0.02	100.6

* 4.3 units to retain storage but 32.3 units were removed from storage. Retain storage account shows 28.0 unit decrease.

II. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	353
End of month	369
Net increase	16

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

4 transfers from other Divisions (weekly roll)
15 new hires or reactivations (weekly roll)
4 terminations (weekly roll)
1 returned from leave of absence (monthly roll)

Changes in Supervisory Organization:

W. A. Brown, Supervisor-in-Training, returned from leave of absence August 29, 1949.

III. AREA ACTIVITIES

PRODUCTION PERFORMANCE

T and B Plants

Extraction Waste Losses

Extraction waste losses increased only slightly during the month

with the only significant change appearing in T Plant results.

	T PLANT		B PLANT	
	August	July	August	July
Original analysis	0.84	0.71	0.84	0.84
Throw-away loss	0.55	0.45	0.48	0.52
Average MWD	276	287	298	262

The apparent waste losses (which include significant amounts of americium and curium) are expected to increase as the goal level of 400 MWD/T is attained.

Acid Washes - T and B Plants

An acid wash was completed through the Canyon and Concentration Buildings of both T and B Plants during August. Acid wash T-9-07-AW-1 in T Plant made an over-all product pick-up of 43.57 percent of a normal run; acid wash B-9-08-AW-1 in B Plant made an over-all product pick-up of 33.29 percent. Both acid washes were sent to the Isolation Building for processing.

Harshaw Single Distilled Hydrogen Fluoride - T Plant

Two thousand pounds of Harshaw Chemical Company single distilled hydrogen fluoride in cylinders, representing material containing the maximum impurities under the vendor's specifications, have been received and are being used currently for formation of lanthanum fluoride precipitates in the T Plant Concentration Building process on a production test basis (Production Test 224-T-12). If this test should show that this material has no adverse effect on the process, it is possible that present specifications may be relaxed to the limits of the vendor's specifications and a greater supply of satisfactory single distilled hydrogen fluoride will thus be assured. To date, 44,000 pounds of single distilled HF, meeting plant specifications, have been accepted, but there is no assurance that single distilled material of this purity will be available regularly. A saving of 9 1/2 cents per pound will result from all single distilled hydrogen fluoride that can be accepted.

Tank Calibration - B Plant

The calibration of the 6-3 tank, where the initial analysis of each batch is obtained and the basis for all future analyses of the batch through the process is set, was checked during the month. The results from the check were inconsistent and another check will be made during September.

WASTE DISPOSAL

241-BY Tank Farm - Project C-271

As reported previously, the sub-contractor's phase of this project has been completed. In the General Electric phase, drilling of the

seven scheduled test wells has been completed. Installation, testing and covering of the balance-off lines from the 109-BY and 111-BY tanks to the 252-C diversion box have been completed. The cascade lines between the 103-BX and 101-BY, 112-BX and 110-BY tanks were completed and tested, and the valves in the line at the 103-BX and 112-BX tanks were opened and secured.

TX Tank Riser Shielding

With the placing of 101-TX series tanks in metal waste service, it was found that shielding on the 4", 12" and 42" risers from those tanks is inadequate for the radiation field arising from this waste. Currently, plugs for the 4" and 12" risers are being moved from the 241-T and 241-U waste storage tanks, where they are not required, and placed as required on the metal waste storage tanks in the TX farm. A design for concrete shielding plugs to be placed in the 42" risers is being prepared by the Design Division. These plugs will be built and installed as required by the Maintenance forces as soon as the design is complete.

Waste Evaporator Design

A work order has been issued to the Project Engineering Division to prepare a design and a request for a project for waste evaporation facilities. Design is in progress and a few preliminary prints have been prepared.

Waste Status

The status of the Waste Storage Areas as of August 31, 1949, is shown in the following table:

B Plant

Bldg. 241 Tanks	Waste	Percentage Full			Reserve Capacity in Batches to Process			
		B	C	BX	B	C	BX	Total
x101,2,3	Metal	100	100	100	0	0	0	0
x104,5,6	Metal	-	100	64.8	-	0	129	129
x201,2,3,4	Metal	0	100	-	-	0	-	0
x112	Metal	-	-	0	-	-	122	122
x107,8,9	Metal	-	-	-	-	-	-	-
x101,2,3,4	Metal	-	-	-	-	-	-	-
x107,8,9	1st Cycle	100	100	65.8	0	0	151	151
x110,11,12	1st Cycle	-	100	-	-	0	-	0
x104,5,6	1st Cycle	-	-	-	-	-	-	-
x109,10,11,12	1st Cycle	-	-	-	-	-	-	-
x115,118	1st Cycle	-	-	-	-	-	-	-
x104,5,6	2nd Cycle	52.2	-	-	304	-	-	304
x110,11,12	2nd Cycle	100	-	-	0	-	-	0
x110,11	2nd Cycle	-	-	0	-	-	424	424

T Plant

Bldg. 241 Tanks	Waste	Percentage Full T	U	TX	Reserve Capacity in Batches to Process T	U	TX	Total
x101,2,3	Metal	100	100	-	0	0	-	0
x104,5,6	Metal	-	100	-	-	0	-	0
x105,6	Metal	-	-	0	-	-	323	323
x201,2,3,4	Metal	0	0	-	-	47	-	47
x112	Metal	-	-	-	-	-	-	-
x107,8,9	Metal	-	100	-	-	0	-	0
x107,8	Metal	-	-	0	-	-	323	323
x101,2,3,4	Metal	-	-	5.9	-	-	608	608
x107,8,9	1st Cycle	100	-	-	0	-	-	0
x110,11,12	1st Cycle	-	100	-	-	0	-	0
x104,5,6	1st Cycle	100	-	-	0	-	-	0
x109,10,11,12	1st Cycle	-	-	24.0	-	-	624	624
x115,118	1st Cycle	-	-	0	-	-	410	410
x104,5,6	2nd Cycle	-	-	-	-	-	-	-
x110,11,12	2nd Cycle	81.9	-	-	106	-	-	106
x110,11	2nd Cycle	-	-	-	-	-	-	-
x113,14,16,17	2nd Cycle	-	-	0	-	-	1123	1123

MECHANICAL PERFORMANCE

Flexible Sleeve for Canyon Cell Steam Lines - B Plant

In a search for a method of retrieving use of steam lines through concrete in the Canyon Buildings, which may fail at some future date due to the creeping of the lines in the concrete, a flexible, flanged sleeve has been obtained for trial installation and use. This sleeve was installed through a steam line from Section 17 to the pipe gallery, with only minor difficulties, and is now actively in use. It is planned to evaluate the use of this sleeve for several months.

Connector Failures - B and T Plants

Four connectors in the Canyon Buildings developed leaks and required replacing. These were:

1) The Section 14 first cycle product precipitator to centrifuge A jet assembly in B Plant.

2) The Section 14 first cycle product cake solution to Section 16 precipitator jet assembly in T Plant.

3) The 4-5L dissolver coating waste to Section 15 jet assembly in T Plant.

4) The Section 6 batch make-up tank (6-3) to Section 8 extraction

precipitator jet assembly in T Plant.

There was another leak, the Section 8 metal waste catch tank to Section 9 jet assembly. This leak was stopped successfully by re-impacting the connector heads.

Tank Repairs and Improvements - T Plant

Due to excessive leakage of the second cycle product precipitator heating-cooling jacket, the precipitator was exchanged with the centrifuge catch tank located in the same operating section after the jacket of the latter was reinforced with compression bands. Leaks in the jacket of the original precipitator were welded before it was placed in the catch tank position. The jacket of this tank had been welded on several other occasions, but each time it failed after only a few days' service. It is believed that the jacket on this tank will last much longer in the catch tank position where it is not subjected to heating with steam.

As part of the program for preparation of the T Plant Canyon for semi-parallel operation, compression bands were installed on the heating-cooling jackets of the precipitator tanks in Section 18 and Section 14. Since the reduction step for the second product precipitation will be carried out in the centrifuge catch tank of the second cycle by-product section and will require introduction of steam into the jacket for heating, compression bands were installed on the jacket of the 18-3 tank, also.

SPECIAL HAZARDS

Disposal of Contaminated Equipment - B and T Plants

In B Plant, thirty connector assemblies, one tank cover, six crane yokes, two dissolver buckets, six cell drain cover blocks and one crane cable were removed to the storage garden and buried. In T Plant, two 15 HP agitator assemblies and motors and eighteen connector assemblies were removed to the storage garden and buried. In all cases, the high levels of activity prohibited either repair or salvage.

Cell A Precipitator Agitator Shaft Water Seal - B Plant

A water seal installed in July on the agitator shaft of the Cell A precipitator gave satisfactory performance through the month. Contamination, which is usually experienced around the opening in the tank tops through which this shaft passes, has not been observed since installation of the seal.

Metal Waste Supernatant Sample Shipping Casks

Two 100-Gallon metal waste supernatant shipping casks were returned

from another site on August 29, 1949. Initial surveys of the express car in which the casks were returned indicate widespread surface contamination in the car ranging up to 3,000 mrep/hr. The casks were unloaded and stored in the 241-U waste storage farm. Disposition of the express car (NYC 9158) is pending.

SECURITY

In line with continuing effort to improve all aspects of security in the 200 Areas, the following has been done:

1) Steps were taken to limit access to the 212-N Area Buildings to the bare minimum of personnel.

2) Slug lifting tongs in the 212-N Area are locked up when not in use.

[redacted]

POWER DIVISION
AUGUST 1949

GENERAL

The transfer of personnel from the operating areas into the 100 H Area power organization was largely completed by the month's end. The power facilities in all buildings there have been operated intermittently throughout the month for flushing and trial purposes.

PERSONNEL AND ORGANIZATION

Number of employees on roll	August
Beginning of month	515
End of month	527
Net Increase	12

The indicated net increase of personnel is the result of the hiring of nine people, the transfer into the Division of eight weekly roll people and one monthly salary employee, the transfer out of the Division of five employees, and the termination of one employee.

At the end of the month, 94 people were located on the 100 H Area roll, consisting of 18 supervisors and 76 weekly roll employees.

One chief operator was upgraded to shift supervisor and one shift supervisor was upgraded to senior supervisor on an acting basis on August 1.

The standard operating crew was reduced by four men in each of the 100 B and 100 D Areas as a result of the elimination of sodium silicate addition to the process water. The 100 F Area personnel had been previously reduced by the same number.

100 AREA OPERATION

At the beginning of the month, permission was received by the Division to discontinue the feed of sodium silicate to the process water in all of the 100 Areas. This decision was based on extensive tests which have been run for several months under the direction of the Technical, P, and Power Divisions, and is of a semi-permanent nature pending observation over the next three months. Accordingly, on August 4 and August 6, the additive was discontinued in the 100 B and 100 D Areas, respectively. The feeding of the solution had been discontinued in the 100 F Area at an earlier date consistent with the general test program. Savings of a large magnitude are being realized.

[redacted]

[redacted]

Power Division

The emergency generator in the 100 D Area was out of service for four hours on August 24 and again for four hours on August 25, while repairs were made to the automatic steam admission valve.

Work has been completed in the transfer of Power Division chemical equipment from the 108 Chemical Mix Building to the 189 Refrigeration Building, and to the 185 Deaerator Building in the 100 F Area. Sodium silicate feed and storage equipment was not reinstalled since the use of this chemical in treating process water has been discontinued.

Process water pressure in 100 F Area was varied from 350 to 370 psi from August 20 to August 23, at the request of the P Division.

100 H AREA

Progress in the 100 H Area construction continues with completion indicated at an early date.

The 181 River Pump House has been completed except for two electric motor driven pumps and a few items of minor importance.

The 182 Reservoir Pump House has been completed except the steam engine driven air compressor, the surge suppressors and such minor items as painting, insulation, and testing of electrical equipment.

At the 183 Filtration Building the head house equipment, flocculators and filters have been completed, except the Redler chemical conveyor which requires further adjustment. The Filter Plant pump room equipment has been completed with the exception of one process pump motor. Work is in progress to repair the west clearwell floor which settled during the month.

The water flow control valves and chemical feed equipment in the 190 Tank Room have not functioned satisfactorily and remain to be corrected before this location can go into operation. Float gauge alterations and minor items, such as painting and pipe insulation remain to be done.

Work continues on the alignment and run-in of the 190 Process Pump House equipment. Approximately seventy-five percent of the water lines between this location and the Pile Building have been flushed.

The Nos. 3 and 4 boilers were fired and placed in service at the 184 Boiler House on August 17 and August 26, respectively. Other equipment which has been placed in service includes boiler feed pumps, heat exchanger, deaerator and the ash removal system. Alterations remain to be made on the coal handling equipment, and the emergency generator has yet to be tested. Boiler controls are to be placed in service when sufficient steam load develops.

[redacted]

[redacted]

Power Division

The outside water lines have been completed with the exception of the 14-inch export line to the Pile Building, while the outside steam lines are finished except for insulation.

200 AREAS

The 234-5 Building operation continues in a normal manner, with some improvement noted in the performance of the refrigeration equipment. Replacement of a faulty capillary tube in the control system of the air conditioning unit has resulted in satisfactory humidity control.

On August 9, all air supply fans in the 234-5 Building tripped out when an electrical short circuit developed. Complete ventilation service was restored within 25 minutes.

Mechanical trip devices to prevent reverse rotation were installed on the two turbine driven exhaust fans in the 291 Z Building on August 4. The installation of a new two and one-half inch emergency sanitary water line from the 234-5 Building elevated water tank to the 291 Z Building was completed and placed in service on August 12.

In the 200 East Area, on August 25, the 14-inch raw water line to the 271 Canyon Building was taken out of service to repair a leak which had been discovered on August 20.

300 AREA

Water service was interrupted for several hours on sections of the water system on August 1 and August 8 for the purpose of inspecting and repairing fire hydrants and repairing water lines.

Steam service was interrupted for several hours on various sections of the main steam line on August 8 and August 19 while connections for new services were made and leaks repaired.

Coal storage for the new boiler house has been moved to the recently completed new storage space and has been compacted to prevent fires.

101 AREA AND WHITE BLUFFS

Operations continue on a normal basis with 1,435,500 pounds of ice in storage at the ice plant at White Bluffs.

[redacted]

POWER DIVISION STATISTICS

From August 1, 1949

Through August 31, 1949

			AREAS			
			100-B	100-D	100-F	100-H
RIVER PUMP HOUSE (Bldg. 181)						
River state Feet above sea level		(max)	392.1	383.6	370.0	375.0
		(min)	388.1	380.1	366.7	372.4
		(avg)	390.2	382.0	368.3	374.4
River temperature	avg. °F.		64.9	65.3	65.9	65.7
Water to reservoir	gpm avg. rate		38959	40950	38137	10558
RESERVOIR (Bldg. 182)						
Water to Filter Plant	gpm avg. rate		33505	36218	33530	10113
Water to Condenser System	gpm avg. rate		3904	3057	3814	445
Water to Export System	gpm avg. rate		1550	1675	793	
	gpm nor. rate		4018	4018	4018	
Chlorine added #1 inlet	pounds		18607	17458	11000	0
FILTER PLANT (Bldg. 183)						
Filtered Water Power House	gpm avg. rate		234	248	246	102
Filtered Water to Process	gpm avg. rate		30852	29773	30545	0
Filtered water Fire & San.	gpm avg. rate		160	173	204	0
Chlorine for Water Treatment	pounds		5621	9645	5000	10000
	ppm avg.		1.73	1.86	1.17	2.65
Lime for Water Treatment	pounds		27207	42421	40000	15000
	ppm avg.		2.2	3.2	3.2	4.0
Coagulant Water Treatment	pounds		82688	130861	120000	60000
	ppm avg.		6.6	9.7	9.6	16.0
Raw Water pH	pH avg.		7.99	8.17	8.2	8.4
Finished Water pH	pH avg.		7.69	7.73	7.60	7.70
Alkalinity, M.O. - Raw	ppm avg.		61	59	58	
Finished	ppm avg.		57	55	55	
Residual Chl. - Settled	ppm avg.		.31	.34	.24	.86
Finished	ppm avg.		.09	.08	.11	.29
Iron - Raw	ppm avg.		.06	.06	.06	
North Clearwell	ppm avg.		.01	.02	.02	.02
South Clearwell	ppm avg.		.01	.02	.02	.02
Hardness - Finished	ppm avg.		74	69	79	
Turbidity - Raw	ppm avg.		2.5	3.0	2.0	
Filtered	ppm avg.		0	0	0	

[redacted]

Power Division

From August 1, 1949

Through August 31, 1949

		100-B	100-D	100-F	100-H
POWER HOUSE (Bldg. 184)					
Steam generated - Total	M pounds	88990	84391	89774	26000
Avg. rate	lbs./hr.	119610	113429	120664	34946
225 psi Steam plant (est.)	M pounds	75406	71506	76091	-
15 psi Steam plant (est.)	M pounds	58	58	37	-
Coal consumed	Tons	6845	6593	6801	3400
Coal in storage (est.)	Tons	28464	33566	22578	8399
DEAERATOR PLANT (Bldg.185)					
Water flow	gpm avg. rate	30602	29523	30295	0
Chemicals consumed:					
Dichromate	pounds	22550	21700	21000	3100
Sodium Silicate	pounds	10600	12825	0	0
Chemical Analysis:					
pH	pH avg.	7.62	7.63	7.60	-
Dichromate	ppm avg.	2.0	1.9	1.8	2.0
Silica	ppm avg.	2.5	2.5	0	-
Dissolved Iron	ppm avg.	.02	.02	.02	-
Free Chlorine	ppm avg.	.04	.09	.11	-
PROCESS PUMP ROOM (Bldg. 190)					
Total water pumped	gpm avg. rate	30427	29348	30120	0
	gpm nor. rate	31749	31924	31362	0
Water temperature	avg. °F.	67.6	68.0	67.7	-
VALVE PIT (Bldg. 105)					
Chemicals consumed:					
Solids	pounds	750	2000	1000	2000
Chemical analysis:					
A, B, C, & D Headers					
Standard limits					
pH 7.5-7.8	pH (max)	7.70	7.70	7.65	
	(min)	7.60	7.60	7.60	
	(avg)	7.64	7.63	7.62	
Si_02	ppm (max)	2.5	2.5	0	
	(min)	2.0	2.0	0	
	(avg)	2.5	2.3	0	
$Na_2Cr_2O_7$ 1.8-2.2	ppm (max)	2.0	2.0	2.0	
	(min)	1.8	1.8	1.8	
	(avg)	1.9	1.9	1.9	
Iron	ppm (max)	.03	.03	.02	
	(min)	.01	.01	.01	
	(avg)	.01	.02	.01	
Chlorides	ppm avg.	1.7	1.7	1.2	

[redacted]

Power Division

From August 1, 1949

Through August 31, 1949

		200 Areas	
		200-E	200-W
Reservoir (Building 282)			
Raw Water Pumped	gpm avg. rate	1553.	2478.
Filter Plant (Building 283)			
Filtered Water Pumped	gpm avg. rate	313	748
Chlorine Consumed	lb.	162	606
Alum Consumed	lb.	1535	4026
Chlorine Residual - Sanitary Water	ppm	.5	.4
Power House (Building 284)			
Steam Generated - Total	M lb.	13019	26611
Steam Generated - Ave. Rate	lb./hr.	17490	35760
Coal Consumed (Est.)	tons	1122	1898
Coal in Storage (Est.)	tons	11815	11694

		300 Area
Power House (Building 384)		
Steam Generated - Total	M lb.	5796
Steam Generated - Avg. Rate	lb./hr.	7790
Coal Consumed - Total (est.)	tons	517
Coal in Storage (Est.)	tons	1554
Sanitary and Fire System		
Water from 3000 Area	gal.	35,603,650
Well Water Pumped	Total gal.	32,000
Water Per Day	gal/day	1,149,530
Water	gpm avg. rate	798
Chlorine Residual	ppm	.46

[redacted]

INSTRUMENT DIVISION

MONTHLY REPORT

AUGUST, 1949

GENERAL

Difficulty has been encountered in obtaining experienced instrument personnel needed for the 100-H Area. Inexperienced personnel are being employed in an attempt to provide sufficient coverage.

To perform the necessary acceptance tests in the 100-H Area on schedule with the construction forces it has been necessary to work the 100-H Area group on a six day basis during this month.

100 AREAS (Reference Report HW-14372)

Installation of the B-61 motion indicator was completed in the 100-B Area; calibration will be done when elevator time becomes available.

Installation of slug size indicator was completed.

On August 6, 1949, a power surge occurred causing the 190 Building process water pumps to change speed and increase pressure to 355 psi. The operator on duty, not aware of the electrical disturbance, put the system on manual control. At this point, chart showed a pressure swing within limits of 325 and 370 psi. which caused the No. 4 over-pressure regulator to throttle the steam driven pump. While bringing pressure back to 350 psi, the same regulator (responding sluggishly due to plugged orifice) reset and caused an increase in pressure to 358 psi. No. 4 was then taken off the line and regulator has since been overhauled. Pressure surge did not affect pile operation.

On August 15, 1949, a sensitive galvonometer was set up in the control room and connected to thermopile in "F" hole, 100-F Area. Readings during start-up and shutdown indicate that system follows other power indicating instruments very closely. Check was made to determine if thermopiles will prove satisfactory substitutes for chambers in Quadrant Monitor system at 100-H Area.

Order was received for changing fuses in CR Beckman circuit to avoid "scram" due to amplifier fuse failure. Revised circuit will contain 3 fuses -- one for heater thermostat control and two in parallel to the amplifier.

[redacted]

Instrument Division

200 AREAS (Reference Report HW-14373)

The conductivity cell in 221-T became blocked on two occasions this month, probably due to the unusual amount of work being done in Cells 18 and 19. A temporary flushing line was provided on the sample line and the stoppage was easily flushed out. A proposal has been made that a permanent flushing line be provided. Since a majority of the trouble is due to stoppage this line should save a considerable amount of time spent in servicing these cells.

Two Beckman amplifier transormer failures were experienced in Building 221-T this month. Presumably all these transformers had been fused but these two were found without that protection. A survey is now being made to see if any others have not been so equipped.

A special GM tube holder was developed and fabricated in the 222-U Instrument Shop to facilitate thyroid checking of sheep. It was made in the form of a yoke, holding two GM tubes and providing a beta shield. This allows checking to be done by one person whereas formerly three were required.

An alpha scintillation counter is being given field tests in Building 222-U. The background is very low (0.02 counts per minute). Geometry has been found to vary between 8% and 23% dependent upon sample distribution. Results to date have been very encouraging.

Building 234-5 Production Instruments

Hood 8 - HF rotameters continue to be the prime source of difficulty. Installation of the steam chaser line has not yet been completed. Flexible couplings have been received for the addition of outboard bearings for Variac controls. A lucite top has been used to replace the top glass in the torsion balance case as the glass was badly etched by HF fumes.

Hood 19 - Two thermocouples were replaced in order to correct suspected faulty operation. The new couples make possible complete insulation of the wire rather than partial insulation as in original design.

Hoods 25 - 26 - Thermocouple installation was revised to meet requirements of new tripod arrangement. They now give satisfactory temperature control. Poppy probes have been installed in these hoods and put in operation. Leak detection on these hoods was concluded on August 22. As of that time the systems were tight and usable. The MSA gas detector was put in service with considerable difficulty. After leaks had been corrected it was found impossible to draw enough air to dilute sample gas for calibration in the desired range. A small sample gas rotameter was procured and calibration completed. Due to operating in the lower portion of its range the instrument is somewhat sluggish in response.

Hood 27 - The special poppy probes and cables have been installed along with the survey tables. It was necessary to refabricate parts of these tables to meet new design requirements.

200 AREAS (Cont.)

Instrument personnel have been following the detailed balancing of the ventilation system in Building 234-5. Due to the difficulty in obtaining a good pressure and flow balance in such a complex system the instruments used have been subject to much criticism. The 700 Area Instrument Shop has been keeping this test equipment repaired and calibrated to the best available standards. The instruments have been subjected to rough usage by inexperienced personnel. The Design Division is organizing revisions to the system to facilitate final balancing.

300-700 AREAS (Reference Report HW-14374)

One Neutron Survey Meter complete with operating and maintenance instructions, circuit diagram, and calibration charts was delivered to the AEC for shipment to an off-plant site.

Completion of Project C-219, Additional Health Instruments, is estimated at about 90%.

P-11 Project

Prototypes of the pre-amplifiers and amplifier for the proportional counters have been fabricated. Minor changes are being made in the amplifier circuit to reduce "overshoo" at high amplitudes. An El-Tronics scale of 256 counting unit was selected for application with this equipment.

A cost estimate for instrumentation on the project was prepared and submitted.

Three mechanical fingers and three mechanical jaws were manufactured for the 300 Area Technical Section. These are the first orders from the Technical Division assigned to the Instrument Shops under the new work allotment plan.

Work was begun on re-designing the 200 Area crane periscopes for the Redox program.

The National Technical Laboratories have been unable to furnish P-1 tubes for their Beckman amplifiers. A shop-made unit consisting of a 959 electrometer tube with a 10^{12} ohm leakage resistor is being field tested to determine its qualifications as a substitute. Tests to date are not encouraging and other possibilities are being investigated.

The Technical Division has requested the completion of design to modify present process tube temperature monitoring equipment at the 105-H Area. Signals are to be fed into an IBM machine for recording temperatures on punched cards. Drawings are now being prepared.

The Design and Construction Divisions have requested thatthe ranges and flow settings be modified on the Power Level Calculator for 105-H. New ranges will be 0-125, 0-250 and 0-500. The new flow dial will permit settings from 39,000 to 43,000. Values of required circuit components have been determined and modifications are in progress.

Four standard PC tubes and two miniature PC tubes were filled with enriched boron. The standard PC tubes were tested and found to be about

[redacted]

Instrument Division

300-700 AREAS (Cont.)

five times as sensitive as tubes filled with normal BF_3. Plateaus were approximately 200 volts in length. The miniature counters have not been tested.

The Plant Accounting Section is assuming the responsibility for future records of instrument inventory. During the month, approximately 60 new instruments were received.

Files on the Instrument Division Manuals have been re-organized and prints ordered for the compilation of eight new volumes.

DESIGN AND CONSTRUCTION (Reference Report HW-14375)

Some late changes in proposed operation of the 100-H Area required some revision in design of instrumentation. The chief items were:

a.) Change in inlet face orifice pattern to increase flow.
b.) Change in gas atmosphere to 100% CO_2.
c.) Changes in Bailey Power Calculator to cover higher power level.

These changes require modification to effected instrumentation which cannot be accomplished before Construction leaves the area. This work will be done by the Operations Instrument Division.

Instrument installation work in the 100-H Area is essentially complete. As Acceptance Testing proceeds, errors or omissions are brought to light and are being corrected by the Construction crews.

For the 100-G Area design, further work is being done on rapid scanning of process tube exit temperatures. A scheme of using a rotary mercury-jet for commutating in conjunction with regular Automatic Electric stepping switches is being tried. This looks very promising as the mercury-jet on stainless steel contacts give a very low switching noise level.

234-5 Building - Phase II

Design work for the Crucible Shop is complete and drawings are ready for issue. All purchase orders for equipment have been issued. Supply item requisitions will be placed when material list is ready.

Redox

The instrument engineering flow sheets are approximately 75% complete. These will be issued for comments about September 1, with all at this stage by September 16. It is expected that comments will be reviewed and incorporated and prints ready for approval about October 1, 1949.

[redacted]

MAINTENANCE DIVISION
MONTHLY REPORT
AUGUST 1949

GENERAL

The Maintenance Division backlog of work at the end of the month was 18,228 mandays of which 14,228 was Minor Construction work. The total backlog increased 28% over July.

100 AREAS

Because of damage due to stuck materials, process tubes #3085, #3089, and #1488 were replaced in the "D" pile and #0283 was replaced in the "B" pile due to a leak in the rear Vanstone flange.

Due to excessive scratching from loose chrome plating in the guide, #27 vertical safety rod in the "B" pile was replaced with a stainless rod and shortened guide. On the "D" pile, #23 vertical safety rod thimble developed a leak and was replaced. On the "F" pile, #33, #17 and #24 thimbles were replaced due to leaks. An eccentric rod guide and jointed rod were installed in #33 position.

200 AREAS

The area fabrication shops completed 12 process coil piping detail replacements.

Compression bands were installed on 4 "T" Canyon Building process vessel jackets to minimize failures due to heat expansion.

Replacement base plates were fabricated and installed for the vacuum bell jars in hoods #25 and #26 in the 234-5 Building. This change was made in order to eliminate a source of leak into the vacuum system. The press in hood #19 was realigned.

Minor Construction completed the work of installing the Decontamination Station, and the installation of special laboratory hoods in process control laboratories in the T and B Canyons. Installation of the radiography equipment in the 234-5 Building was also completed.

300 AREA

The routine patrol and continuous maintenance of the perimeter fences of the Project has been discontinued. Repairs hereafter will be made only upon request of the Security Division.

Installation of the X-Ray facilities, Building 3745-A, was completed.

[redacted]

Maintenance Division

101 SHOPS SECTION

General

A work order has been issued to 100-F Area Maintenance for repair of the 101 Building roofs. Considerable trouble is still being encountered with the roof.

Some experimental work on drilling graphite bars has been done during the past month. Present indications are that the feed and speed on these drills can be increased approximately 50%. After more extensive tests have been run, the balance of the drill lines will be revised to conform with test results.

One end milling machine on Line 6 has been redesigned in order to facilitate set-up. Tests on this machine indicate that set-up time will be reduced approximately 75% due to the change. Pending further tests on this machine, other end mills will be reworked to conform with the present design on the machine on Line 6.

Operation

During the past month final graphite shipments were received from the National Carbon Company. However, work will be continued on samples and testing. Samples are still being transported to the 300 Area for testing and raw materials moved into color storage as soon as allocation results have become available from the Technical Divisions.

Machining work has been commenced on the Nine-Tube Mock-Up simulating B, D, and F Units. Tests on the Nine-Tube Mock-Up will be conducted in the 300 Area.

Work has been commenced on an Ink Facility for Technical Division. Tests in connection with this facility will be conducted in the 101 Building.

Special Thermopile Holders and graphite were machined for installation in 105-H during the month.

[redacted]

ELECTRICAL DIVISION

AUGUST, 1949

GENERAL

The backlog of scheduled work for the Division at month end is 11,874 mandays. This is 251 mandays less than the previous month. This includes elimination of 895 mandays from the backlog by virtue of the fact that several projects, mainly C-177, are approaching completion with actual time expenditure being less than the original estimates.

The total Divisional personnel at the month end was 276, a net increase of four.

The load chart for the peak day of the month, August 15, is attached showing a peak of 53,850 KW for the entire system with coincidental demand of 17,250 KW for the combined 66 KV and 115 KV systems (Richland, 300 Area, and vicinity). The slight decrease from the previous month is in line with seasonal expectations.

Associated with the pile heat transfer study program, a preliminary study was made and assistance given to Design and Construction toward development of a temporary 4000 ampere direct current experimental power source by using four existing exciters in parallel. A permanent 15,000 ampere source using purchased generator with existing cabling and switchgear is also being developed.

The Richland distribution feeder system has been re-studied with the Project Engineering group, and final recommendations to provide a maximum of flexibility and inter-connection of feeders has been developed.

As requested by the Atomic Energy Commission for the U. S. Army, a review of abandoned pole lines was completed, including indication of those poles available for salvage and satisfactory for U. S. Army telephone service.

The report by the Subcommittee appointed by the Plant Standards Committee to develop cathodic protection standards has been completed and distributed.

The entire spare parts requirements for the 100-H Area electrical equipment was reviewed and requests made to Design and Construction for ordering parts against construction account.

AREA ACTIVITIES

Project C-334 (P-10 and P-10A) is 98 percent complete, awaiting minor change instructions as well as shipment of some explosion proof fixtures. All other project work in the 100 Areas is proceeding according to schedule.

In 100-H Area, the second (east) 220 KV tap into the area has been inspected and accepted. Inspection and testing of electrical equipment inside all buildings continues at a high rate and is nearing completion.

On August 9, in the 234-5 Building, a major short circuit in the West End Control Center, second floor, caused interruption to the ventilation system. The cause

[redacted]

was traced to construction identification tags, circular paper type with metal edge, shorting across control terminal board. All such tags are being changed out to non-metallic type. A number of minor improvements to the electrical system have been effected, and signal systems and electric door locks as required for air lock system have been completed. All construction power for 234-5 has been disconnected.

In the 200 Areas, Projects C-298 (Decontamination Stations, both areas), M-752 (Radiograph System in 200-Z) and hood installations in the 222-B Building are 100 percent complete electrically.

On August 23, in the 300 Area, a near-serious incident developed due to failure of electric hoist after lowering a basket of uranium chips into nitric acid pickling solution. Fire hazard exists after too long exposure. It was recommended to the operating division that a standby hand operated hoist be installed.

The loss of power supply which occurred on August 11 to the 321 Building was traced to a defective thermal relay on the circuit breaker which has been replaced.

Project C-189 (2 MEV X-Ray - Building 3745-A) is essentially complete and the Manufacturer's X-Ray Specialist has completed his work. Proper shielding for extension chamber, not included in the project, will be added.

Project C-308, Building 3732 - Process Development Laboratory, is complete electrically.

Maintenance of the fire alarm system in Richland was transferred to the Village organization.

TRANSMISSION AND DISTRIBUTION

Project C-177 (115 KV system), transmission line, section IV, (between stations in Richland), has been inspected. Acceptance will be made subject to realignment of two structures which are to be corrected by operating force on Construction work order. Construction of 115/2.3 KV substation in the 300 Area by operating forces is essentially complete, but no load has been tied in. Work on the 2.3 KV/440 volt substation has been started but is delayed for materials to arrive in September.

A test sidewalk guy structure was built and pulled to destruction. Based on test results, the Electrical Standards Committee has ruled that such structure cannot be used where pull is over 1200 pounds; this required partial modification of distribution plans for Richland North Commercial Area.

On August 2 at 4:20 a.m., a fire developed in a 230 KV structure two spans out from 100-B substation. The fire occurred at a position 35 feet beneath conductors and is the first instance of pole fire starting away from cross-arm position. Temporary repairs were made without outage. At the time, this structure had not yet been bonded. Bonding and grounding of 230 KV, Type D, angle structures as a measure to prevent pole top fires is now complete except for four associated with A-8 (Building 251) substation which must await planned outage, when possible, for the entire station.

[redacted]

Electrical Division [redacted]

A major system disturbance occurred on August 2, 1949 at 12:29 a.m., scramming 100-F Area due to heavy electrical storm near Bonneville lines in Covington area which opened the Midway-Bonneville lines.

The Village distribution work continues at a high rate, especially associated with new community shopping areas, light industrial area, and north commercial area development.

TELEPHONE SECTION

All arrangements have been made with the Community Accounting group relative to change-over to dial system in Richland now scheduled for October 7, 1949. The White Bluffs exchange serving 100-D, 100-H and White Bluffs has been scheduled for cut-over on September 23, 1949. The 200-E-W exchange cut-over date has not been specified but planned for early in December.

The installation of cable in the ranch house area is proceeding slowly and Design and Construction has been requested to expedite this work. Project C-144 for additional cable plant in the old sections of the Village is approximately 70 percent complete with splicing work constituting the major portion of work yet to be done.

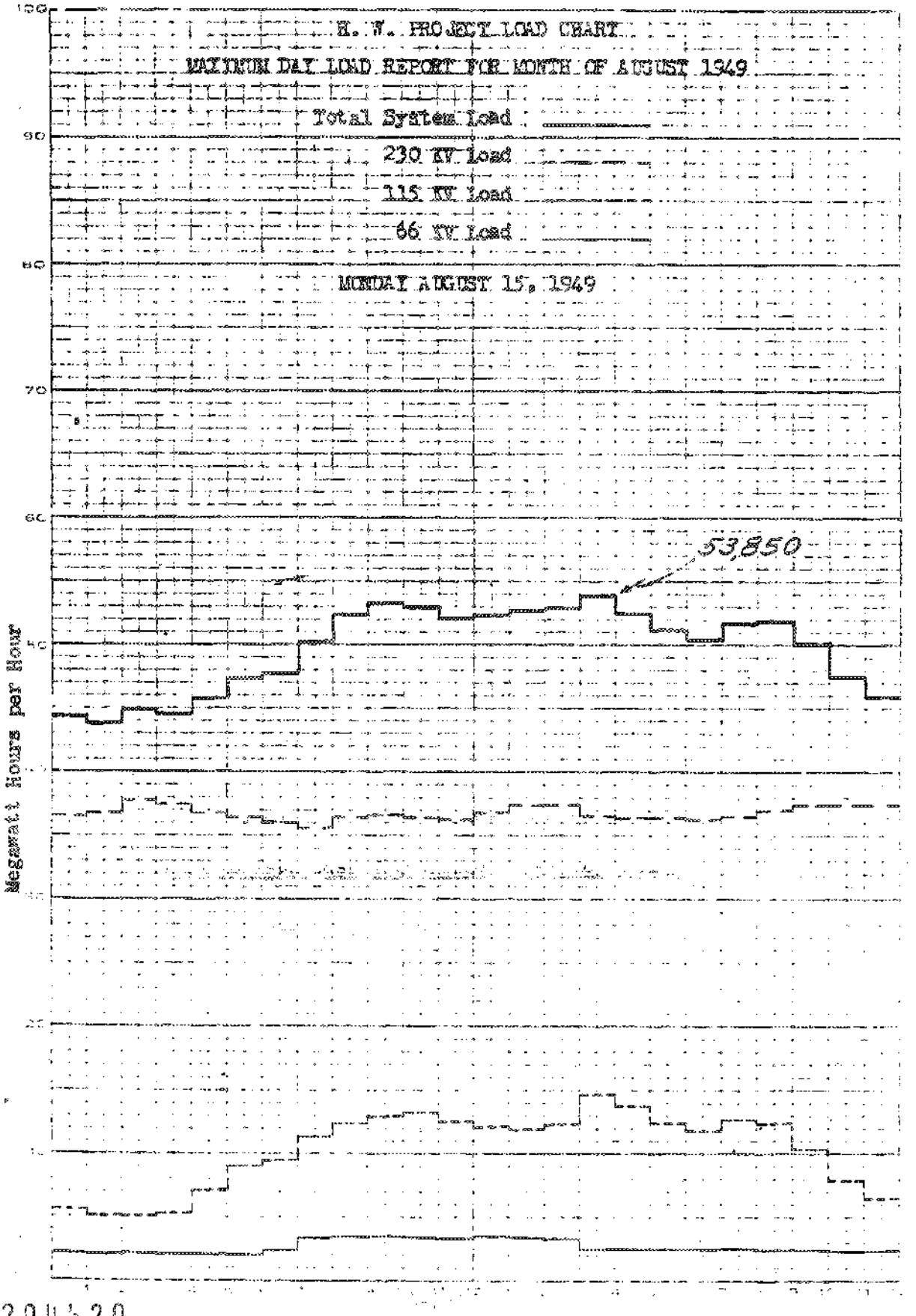
[redacted]

POWER STATISTICS - ELECTRICAL DIVISION
FOR MONTH ENDING AUGUST 31, 1949

ITEM		ENERGY - MW HRS. July	ENERGY - MW HRS. August	MAX. DEMAND - KW July	MAX. DEMAND - KW August	LOAD FACTOR - % July	LOAD FACTOR - % August
230 KV SYSTEM							
A-2 Out	(100-B)	7,110	7,270	11,200	11,300	85.3	86.5
A-4 Out	(100-D)	7,470	7,440	13,000	12,300	77.2	81.3
A-5 Out	(100-H)	648	1,368	900	4,950	96.8	37.1
A-6 Out	(100-F)	6,970	6,930	11,100	11,000	84.4	84.7
A-8 Out	(200 Areas)	2,890	2,920	4,400	4,500	88.3	87.2
TOTAL OUT		25,088	25,928	40,500**	44,050**	83.3	79.1
MIDWAY IN		25,558	26,262	41,200*	40,000*	83.4	88.3
Transm. Loss		470	334				
Percent Loss		1.8	1.3				
66 KV SYSTEM							
B3-S4 Out	(300 Area)	302	340	660	672	61.5	68.0
B3-S5 Out	"	342	352	1,160	1,280	39.6	37.0
B7-S10 Out	(W.Kluffs)	234	291	742	968	42.4	40.4
B9-S11 Out	(100-H)	360	72	960	760	50.4	12.6
Hanford Out		319	318	500	500	85.7	85.5
TOTAL OUT		1,557	1,373	4,022**	4,180**	52.0	44.1
Hanford In		1,610	1,376	3,400*	3,000*	63.6	61.6
Transm. Loss		53	3				
Percent Loss		-3.3	.02				
115 KV SYSTEM							
B1-S4 Out	(N.Rich.)	1,517	1,406	2,822	2,765	72.2	68.3
BB1-S1 Out	(Richland)	2,952	2,956	5,940	6,300	66.8	63.1
BB1-S2 Out	"	2,446	2,522	5,220	6,120	63.0	55.4
TOTAL OUT		6,915	6,884	13,982**	15,185**	66.5	60.9
Benton In		4,200	4,104	9,720*	7,920*	58.1	69.6
S. Richland In		2,976	3,024	7,920*	6,120*	50.5	66.4
TOTAL IN		7,176	7,128	17,640**	14,040**	54.7	68.2
Transm. Loss		261	244				
Percent Loss		3.6	3.4				
PROJECT TOTAL							
230 KV Out		25,088	25,928	40,500**	44,050**	83.3	79.1
66 KV Out		1,557	1,373	4,022**	4,180**	52.0	44.1
115 KV Out		6,915	6,884	13,982**	15,185**	66.5	60.9
TOTAL OUT		33,560	34,185	58,504**	63,415**	77.1	72.5
230 KV In		25,558	26,262	41,200*	40,000*	83.4	88.3
66 KV In		1,610	1,376	3,400**	3,000**	63.6	61.6
115 KV In		7,176	7,128	17,640**	14,040**	54.7	68.2
TOTAL IN		34,344	34,766	55,100*	53,850*	83.8	86.8
Transm. Loss		784	581				
Percent Loss		2.3	1.7				

* Coincidental Demand
** Non-Coincidental Demand

Average Power Factor - 230 KV System--97.7
Average Power Factor - 115 KV System--89.6
Average Power Factor - 66 KV System--96.9


H. W. PROJECT LOAD CHART
MAXIMUM DAY LOAD REPORT FOR MONTH OF AUGUST 1949
Total System Load
230 KV Load
115 KV Load
66 KV Load
MONDAY AUGUST 15, 1949
53850
Megawatt Hours per Hour
100
90
80
70
60
50
40
30
20
10

1204620

[redacted]

TRANSPORTATION DIVISION
MONTHLY REPORT
AUGUST 1949

[redacted]

GENERAL

Transportation Division personnel forces were increased by 22 employees during the month from 688 to 710 by 40 new employees and rehires, 4 transfers in, 1 return to roll-illness, 11 terminations, 11 transfers out and 1 removed from roll-illness. The total force increase was assigned to handling excess materials and minor construction.

Effective August 15, 1949, the function and personnel of inventory control, warehousing, and disbursing of automotive spare parts and materials were transferred from the Transportation Division to the Stores Division.

Excessed all Columbia Camp equipment which was formerly used by Morrison-Knudsen, Track Maintenance Subcontractors.

RAILROAD ACTIVITIES

Commercial inbound cars increased approximately 6% over July and process movements remained at a normal level.

Arrangements have been completed whereby Transportation Division personnel and equipment will be used for switching service as required on a 24-hour call basis in the Pasco Warehousing Area.

One 120-ton Diesel electric locomotive which had been declared excess to our needs was prepared for shipment off the Project.

All locomotive were monitored by the Health Instrument Division and found to be in good condition.

Railroad track maintenance on all five sections continued in a routine manner with the renewing of defective switch and cross ties, surfacing and lining of track, spreading ballast, and disposal of excess and salvage material.

AUTOMOTIVE ACTIVITIES

Area and Village Bus Systems registered a combined increase of 11,427 passengers over July.

Additional shuttle service was provided in 100-H Area as a result of increased activity. Increased passenger traffic to and from Pasco on the #2 Shift required the assignment of two K-7 International buses to that service.

Effective August 22, 1949, a revised system of dispatching shuttle and area buses was established. This new system employs three large blackboards on which all schedules are posted. It is the responsibility of the Bus Drivers to check their assignments, prepare their trip tickets, passenger counts, etc. This arrangement was designed to expedite the work and to effect a smoother operation.

[redacted]

The Equipment Control Section initiated a Request for Appropriation for the purchase of 77 sedans to replace existing 1941-1942 Models.

Four General Motors 6 x 6 trucks were received from Construction, two of which have been serviced and are being converted into tank trucks. Two D-7 and two D-8 Caterpillars have been given complete motor overhauls.

CONSTRUCTION AND LABOR ACTIVITIES

Completed seal coating of approximately ten miles of Project roads. Crushed 900 cubic yards of chips, screened 1,500 cubic yards of aggregate, shot 2,500 gallons of oil, and placed 2,000 cubic yards of aggregate.

Approximately 20 carloads of excess lumber were loaded and shipped from the Project.

Labor and transportation facilities were supplied for Projects C-163; C-177; C-184; C-189, C-192, C-268, C-271, C-276, C-287, C-291, C-298, C-330, C-331, C-334, C-340, C-752, Well Drilling Operations, and the 101 Area.

(Statistical information is attached to the file copies of this report)

[redacted]

PROJECT ENGINEERING DIVISION

MONTHLY REPORT

AUGUST 1949

PRESENT STATUS OF WORK

Projects Authorized and Under Construction

100 AREAS

Project Number		% Phys. Complete	Date Auth.	Est. Cost
C-172	Dismantling of Equipment in Demineralization & Deaerating Plants	15	8-19-47	$ 486,000
C-184	Experimental Animal Farm	68	4-28-49	288,000
C-192	Biology Lab. Bldg. 108-F	10	4-20-49	1,121,000
C-290	Fabricate & Install Spectrometer	65	9-29-48	17,400
C-306	Revised Pile Shielding - Front Face Shield Nozzle Caps (Modification of original design)	0	11-30-48	68,000
C-323	Vertical Rod Replacement - 105 B, D & F (Awaiting Rod Guides)	75	3-10-49	280,600
C-334	P-10 Alloy Facilities	92	1-28-49	242,000
C-340	P-11 Project (Part II awaiting authorization for additional $198,000)	5	6-28-49	130,000
	TOTAL Estimated Cost Active 100 Area Projects			$ 2,653,000

200 AREAS

C-271	Additional Waste Storage Facilities 241-BX (G.E. Portion Only - Subcontract not included)	50	9-29-48	50,000
C-298	Decontamination Stations for Small Equipment - 221 T, B	100	11-15-48	33,000

1. 1204623

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[redacted]

Project Engineering Division

Projects Authorized & Under Construction (Cont'd)

200 AREAS (Cont'd)

Project Number		% Phys. Complete	Date Auth.	Est. Cost
C-268	Sanitary Tile Field Addition 200 E&W (Additional $36,000 I.M.E. being requested)	52	7-21-48	$ 60,000
C-337	Dissolver Off-Gas Filtration Facilities	0	6-22-49	337,000
	TOTAL Estimated Cost Active 200 Area Projects			$ 447,000

300 AREA

C-189	Bldg. 3745-A X-Ray Facility	100	8-20-47	$ 33,000
C-219	Construction of Additional H.I. Instruments	91	1-27-48	97,200
C-227	Conversion of Offices to Labs Bldg. 3706 & Construction of 3707-C Change House	98	3-15-48	557,000
C-287	Experimental Metallurgy Lab. Bldg. 3730 (Field Release Issued)	22	12-2-48	140,000
C-308	Process Development Lab. Bldg. 3732	100	1-17-49	50,000
C-330	Improved Ventilation 313 & 314 Bldg.	2	9-24-48	540,000
C-331	Rehabilitation of Bldg. 321 (Including Remodeling & Ventilation)	80	1-31-49	227,000
C-338	Nine Tube Test Unit - B, D & F Blocks	0	7-13-49	25,400
	TOTAL Estimated Cost Active 300 Area Projects			$ 1,586,600

DECLASSIFIED

[redacted]

[redacted]

Project Engineering Division

Projects Authorized & Under Construction (Cont'd)

GENERAL PLANT AREAS

Project Number		% Phys. Complete	Date Auth.	Est. Cost
C-138	Richland Telephone Exchange Bldg. 702	88	5-12-47	$ 470,500
C-144	Additional Tel. Cables - Richland	74	5-12-47	71,000
C-177	115 KV Power Transmission Line	94	8-14-47	1,364,000
C-276	Plant Telephone Project (Part II in preparation)	90	10- 6-48	1,232,000
C-291	Security Fences - All Areas	25	10-18-48	441,800
C-279	Improvement to Area Administration Buildings (Project Re-activated at Request of A.E.C.)	91	(Rev.Dir.) 5-16-49	167,800
C-333	H.I. Operational Survey Insts.	0	4-20-49	85,000
C-322	Osmose Treatment of Plant Elec. Poles & Replacements Where Necessary	56	2- 1-49	154,000
	TOTAL Estimated Cost Active Plant General Projects			$ 3,986,100
	GRAND TOTAL Est. Cost Authorized Work-ALL AREAS			$ 8,672,700

Informal Project Requests Authorized

ALL AREAS

Request Number		% Phys. Complete	Date Auth.	Est. Cost
M-704	Special Cadmium Plated Splines	100	2- 7-49	$ 18,300
M-711	Experimental Algae Filter - 107 Bldg.	0	5- 6-49	13,000

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Project Engineering Division

Informal Project Requests Authorized (Cont'd)

Request Number		% Phys. Complete	Date Auth.	Est. Cost
M-713	Flexible Vertical Rod Studies	0	7-19-49	$ 18,500
Med-1	Surgical Wing Air Conditioning - Kadlec Hospital	2	5- 5-49	16,100
M-716	Preliminary Engineering & Project Preparation - Parallel Operation of 221 T&B Cells	2	6-24-49	10,000
Serv-9	Badge House Addition 300 Area	0	12-15-48	14,500
Tech-22	Laboratory Hoods Bldg. 222-T	100	5-17-49	15,000
Tech-24	Radiography Equipment 234-5	100	6-24-49	14,300
			TOTAL	$ 72,100

Projects Being Routed for Approvals

E. R. No.	Project No.		
2469	C-326	Underground Geological & Hydrological Investigation Program Including Test Wells & Other Fac.	$ 193,000
2504		Installation of Laboratory Furniture in 271 T&B	24,000
A-3062	C-339	300 Area Rolling Mill	1,340,000
E-406	C-341	Additions to Richland Electric Distribution System	173,000
E-415		Dismantle 66 KV Trans. Line and Substations	89,500
A-1093	C-340 Part II	P-11 Project Part II	198,000
A-1097		Facilities for Exponential Experiments	391,000
A-1100		Galvanizing & Replacement of Process Tube Nozzles B,D,F & DR	789,000

TOTAL Est. Cost of Projects Awaiting Authorization $ 3,197,500

4. 1204626

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Project Engineering Division

Project Engineering Division Area Reports

Status of Engineering Study & Design Work in Progress During the Month of August.

100 AREAS

E.R. No.		% Engineering Complete
A-1001	As-Built Drawings	(Continuous Program)
A-1002	G. E. C. Study	(Continuous Program)
A-1034	Alterations to Bldgs. 186 & 185	38
A-1068	Prepare Informal Request for Developing a Flexible Vertical Rod	30
A-1074	Design Moisture Extraction Facilities for Gas System - 105 Building	2
A-1075	Recommend Adequate Warehousing for 100, 200 & 300 Areas	70
A-1076	Prepare Project to Replace V.S.R. and Guides in 105 B, D, F (Designs for Project C-323)	80
A-1077	Prepare Project for P-10 Alloy Facilities (Designs for Project C-334)	93
A-1080	Thermocouple for 105 Process Tube	52
A-1083	Hot Thimble Mock-Up	90
A-1085	Prepare Project for Pile Operation with 100% CO_2 Atmosphere, 100 F Area	15
A-1086	High Tank Control Valves	70
A-1089	Design Draft Free Glass Blowing Table P-10	5
A-1093	Prepare P-11 Project (Parts I & II) Designs for C-340	60
A-1094	Algae Pilot Filter	85
A-1096	Study Lubrication of Process Tubes During Charging	5
A-1097	Prepare Project for Hot and Cold Exponential Experiments in 101 Building	80

Project Engineering Division

Project Engineering Division Area Reports (Cont'd)

100 AREAS (Cont'd)

E.R. No.		% Engineering Complete
A-1099	Magazine Feeding Induction Furnace Lid	0
A-1100	Nozzle Galvanizing and Replacement	45
A-1101	IBM Equipment	75
A-1103	Revisions to Air Monitoring System and Air Supply for Face Masks in 108-B Building	100
A-1104	Prepare Informal Request for Repairs to 107 Basin	90
A-1106	Far Side Bracing	70
A-1107	Air Monitoring - P-10 Can Opening	100
A-1108	Cathetometer Dolly	100
A-1109	Redesign Can Opener Gripper Jaws	100
A-1110	Pile Clearance - Near Side	50

200 AREAS

2266	As-Built Drawings	(Continuous Program)
2279	Prepare Project for Regasketing Facilities 221 T & B	85
2299-R	Check Stack Alignment Bldg. 291-B	100
2461	Survey Sanitary Tile Field Addition 200 E-W	100
2467	Engineering Contact on New Processes	25
2490	Prepare Project for Iodine Removal	90
2491	Design Evaporation Facilities First Cycle Waste	45
2493	Check Elevation of Inlet Duct Bldg. 291-B	20
2495	Study Buildings 221 & 224 Steel Requirements	100
2497	Additional Waste Facilities 241-BY (G.E. Portion of Project C-271)	100

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Project Engineering Division

Project Engineering Division - Area Reports (Cont'd)

200 AREAS (Cont'd)

E. R. No.		% Engineering Complete
2500	Design Transfer Mechanism for Hood and Boat Loading Bldg. 234-5	100
2502	Recommend Portable Ventilation Equipment for Dry Box Hoods Bldg. 234-5	5
2503	Prepare Project for Duct Level Floor Bldg. 234-5	20
2504	Prepare Project for Installation of Lab. Furniture Bldgs. 271 T & B	100
2508	Design and Install De-entrainment Chambers for Hood #5 Bldg. 234-5	0
2509	Design a sparger for the reactor in Hood #5 Bldg. 234-5	0
2510	Design, Fabricate and Install a De-entrainment Chamber in Hood 29, Bldg. 234-5	0

300 AREA

A-3002	As-Built Drawings	(Continuous Program)
A-3060	Temporary Melting & Fabrication Bldg. (Designs for Project C-287)	87
A-3061	Increased Ventilation - 313 & 314 Bldgs. (Designs for Project C-330)	65
A-3062	Install Rolling Mill - 300 Area (Designs for Project C-339)	15
A-3066	Revise Maps - 300 Area Water and Sewer Systems	0
A-3067	Billet Lifting Tongs (Alternative method being considered)	60
A-3069	Solvents Storage - 3706 Building	2
A-3070	Study Ventilation 3706 Requirements to Provide 40% Humidity	20

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Project Engineering Division

Project Engineering Division - Area Reports (Cont'd)

300 AREA (Cont'd)

E. R. No.		% Engineering Complete
A-3071	Design and Install Hood Filter System for Room 55, 3706 Bldg.	Cancelled
A-3075	Design for Nine Tube Mock-Up for 105 BDF Design (Designs for Project C-338)	90
A-3076	Prepare Project for Chip Pickling and Metal Fines Recovery	5
A-3077	Prepare Project for Three Automatic Screw Machines 313 Building	30
A-3080	Design and Estimate Loading Platform & Acid Storage Area, Bldg. 3706	2
A-3082	Design and Prepare Cost Estimate for Exhaust Systems for Graphite Machining in Room 41-A, 3706 Bldg.	0
A-3083	Prepare Project for C-6 Hydrofluoric Acid Sludge Recovery	2
A-3084	Secure Engineering Data for Blending 66% Hydrogen and 31% Propane	20

GENERAL PLANT AREAS

A-452	Prepare Project for Expansion of Main Plant Telephone System (Design Work Only - Proj. C-276)	95
A-526	Special Field Information for 300 Area As Builts	75
A-530	Design Work for Rehabilitation of Bldg. 321 Project C-331	100
A-532	Design Work for Project C-192 Construction of Biology Lab. - Bldg. 108-F Pts. I & II	60
A-536	Additional Capacity for Sewage Lift Pumps Richland	15
A-537	Survey for Maintenance of R.R. Inside Restricted Areas	20

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Project Engineering Division

Project Engineering Division - Area Reports (Cont'd)

GENERAL PLANT AREAS (Cont'd)

E.R. No.		% Engineering Complete
A-541	Design & Survey for Railroad and Spurs to Redox Plant	95
A-542	Addition to Bldg. 622 - Meteorology Bldg.	10
A-543	Pistol Range Sanitary Facilities, Arsenals, Fire Protection, etc.	0
A-544	Design for Mounting Water Tank on Truck	100
A-545	Design for Oil Burner for Heating Boiler - Riverland	0
A-546	Prepare Project for Engineering Costs - Hot Chemical Works 200 E Area	95
A-547	Prepare Project for Extension of Burial Ground - 300 Area	50
A-548	Prepare Project for Solvent Storage Facilities - 300 Area	0
A-549	Prepare Project for Cylinder Storage Dock - 300 Area	0
A-962	Designs for 115 KV Power Line Through Richland	95
E-403	Install Traffic Signals at Richland Railroad Crossings	75
E-405	Electrical As-Built Drawings	(Continuous Program)
E-406	Prepare Project - Additions to Village Distribution System	20
E-407	Prepare Project - Inst. Htrs. on Evacuation Busses & Service Facilities	65
E-411	Study Design & Est. Cost of Dual Feed of Sewage Lift Station	55
E-413	Study & Project - Telemetering 115 & 230 KV Lines & Remote Control on 115 KV Substation	10
E-417	Hood Alarm System Bldg. 3706	100

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Project Engineering Division

Project Engineering Division - Area Reports (Cont'd)

GENERAL PLANT AREAS (Cont'd)

E.R. No.		% Engineering Complete
E-419	Prepare Inf. Req. - Dispatching Board Expansion Bldg. 251	100
E-420	Additional Hood Exhaust Alarm System Bldg. 3706	100
941	Designs for Experimental Animal Farm Project C-184	96
883-R	Survey New Coal Storage Pit - 300 Area	100

ENGINEERING STUDIES

WORK COMPLETED		DATE
E.R. A505S	Electrical Equipment Standards	7-21-49
E.R. 4367	100H Power Equipment Lubrication Specifications	7-29-49

WORK ADDED

No new Engineering Requests were added during the period.

WORK SCHEDULED		% Complete
E.R. 4327	Maintenance of Pitched Roofs	90
E.R. 4336	Review Oil Coding System	70
E.R. 4361	Chip Recovery Method	95
E.R. 4362	Manufacturing Divisions Personnel Analysis	25
E.R. 4363	P.E.D. Personnel Analysis	75
E.R. 4365	Methods Studies, "P" Division, 300 Area	
	Canned Slug Inspection Line	95
	Canned Slug Welding Line	95
	Rod Machining	75
	Rod Handling	50

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Project Engineering Division

ENGINEERING STUDIES (CONT'D)

		% Complete
E.R. 4365	Methods Studies, "P" Division, 300 Area (Cont'd)	
	Bronze Pot Cycle Changes	40
	Machining Scrap Reduction	75
	Canned Slug Reject Reduction	25
E.R. M714	Electrical Power Conservation	20
E.R. 4366	Welder Classification Tests	70

BACKLOG SUMMARY

	Work on Hand 7-31-49 Estimated Man Days	Work on Hand 8-31-49 Estimated Man Days
Studies	273	269
Project & Design	7,015	7,155
TOTAL	7,288	7,424

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TECHNICAL DIVISIONS

August 1949

SUMMARY

Pile Technology Division

Extraction of tritium from lithium aluminum alloy slugs was begun August 26.

A heat of graphite has been produced whose purity exceeds that of any previous production.

The concentration of carbon dioxide in the B Pile gas was increased to 60% after being held at 40% for 13 weeks. There has been a significant decrease in the rate of expansion of the B Pile during the past three months.

Measurements of the vertical bowing of the top central tube at the D Pile show that the graphite near the front face continued to expand during the past year although at a decreased rate while the graphite along the vertical center line did not expand.

Outward movement of the far side shields of the D and F Piles appeared to have stopped during August.

Examination of thimbles removed from the D and F Pile have shown extensive corrosion at the lower end of the rod guide. It is expected that many of the thimbles will need to be replaced in the near future.

Tests have indicated that neutron thermopiles will be satisfactory power level control instruments for H Pile.

Separations Technology Division

The campaign of improving material balances and product accountability throughout the Separations Plants is being accelerated. Production testing of less expensive grades of anhydrous HF is in progress in the Concentration Process. Equipment run-in and calibration testing, as well as process performance analysis, are being carried out concurrently with production operations in the 234-5 Building.

Additional Redox development studies in packed column operation have established performance data for 1-inch Raschig ring packing as compared to the long-used 1/2-inch rings. Installation of the new canyon ventilation system in Building 321 is approximately 80% complete. Both the Scale-Up Unit and the new cascaded Demonstration Unit were operated with no serious difficulties encountered. Simultaneously successful testing has continued on the Submerged Turbine Pump No. 2, the Submerged Motor Turbine Pump, and the Model 1011 Roth Pump, and testing has been initiated on the Peerless Model 1A and the Kellex IB2 Diaphragm Pumps. A feasible process for the preparation of $Al(NO_3)_3$ salt from aluminum oxide has been developed. The effects of trace elements in uranium on solvent-aqueous disengagement has been investigated.

In the research laboratory, the existence and behavior of two species of ruthenium have been established and favorable process applications of these data confirmed. Additional zirconium hydrolysis and hexone reaction data have been obtained. Small-scale laboratory studies of the pulse column have been continued. Additional possibilities of increasing phosphate removal in the preparation of solvent extraction feeds from metal wastes have been scouted. Redox-plutonium metal production coupling studies have been continued, as have studies of methods of obtaining 234-5 supernatant recycling.

The 234-5 process development laboratory pilot line has been revised to permit the testing of sulfate-free plutonium peroxide. Laboratory studies have been carried out to develop methods of recovering plutonium from non-regular hold-up points in the wet chemistry portion of the 234-5 production line. Oxidation measurements and hydrofluorination studies have been carried out on stored test buttons of plutonium.

Stack gas treatment studies have been devoted to measurement of particle removal efficiencies for No. 55 and No. AA "Fiberglas" and iodine removal efficiency of a test model silver reactor. New iodine and active particle material balances have been obtained on the dissolver off-gas system.

Metallurgy and Control Division

Production of Li-Al alloy billets was continued, and two shipments (totalling 16 billets) were extruded by the Detroit Gasket & Mfg. Co. Rods from the August 16 extrusion have been returned to Hanford and are being machined into slugs.

All the preparatory work, except for lead-dip canning, was completed on the induction heat treated alpha rolled and gamma extruded rods for PT 313-109-M. After this heat treatment, the metal in both types of rod appears structurally equivalent to the present alpha rolled, triple-dipped standard.

Laboratory investigations indicate that barium and aluminum, as well as chromium, should be investigated further as grain refining additions to uranium.

A program for the development of 300°C uranium rolling was initiated, with Battelle to do the primary laboratory work. Assistance was given Project Engineering in reviewing the rolling mill planned for Hanford (C-339) so as to make all possible provision for ultimate operation at low temperature.

A start was made on Al-Si canning scrap reclamation. Tin removal by molten washing with lead was given a first laboratory trial, but results were inconclusive.

Development and adaptation of wet chemical analytical methods for application to Rala continued to make satisfactory progress. Preliminary spectrographic studies proceeded, but application of the methods to highly active materials must await the acquisition of the spectrograph and special shielding and remote control devices; preliminary plans for construction of the latter are under way.

Redox Analytical Methods were thoroughly reviewed with Dr. Flagg (from KAPL), which included a survey of the status of all pertinent methods. The fields

requiring further study were sharply defined. In general, good agreement was found to exist between the two sites on the adequacy of methods so far developed and tested, and also on the matter of time requirements for the control application of these methods.

ABG:dg

A. B. Greninger

Pile Technology Division

VISITORS AND BUSINESS TRIPS

J. C. Maguire of Argonne National Laboratory, Chicago, Illinois, was here August 29 through September 1, 1949 to discuss P-10 project.

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

R. E. Nather visited the Radiation Laboratory, Berkeley, California, August 2 and 3, 1949 for consultation on Special Requests.

A. A. Johnson and P. M. Reinker visited Brookhaven National Laboratory, N. Y. August 21 through 24, 1949 to attend conference on radiation damage.

ORGANIZATION AND PERSONNEL

	July	August
Pile Physics Section	39	35
Pile Engineering	28	31
P-10 Project	7	7
Administrative	3	3
	77	76

Two physicists terminated during the month. One Lab. Asst. D transferred to Metallurgy and Control Division. One Lab. Asst. B and one Technologist B transferred into the Division from Metallurgy and Control. A Steno-typist C transferred to the Engineering Section from Plant Security and Service Division. One physicist was granted a leave of absence for three months and is not included in this report.

One group head in the Physics Section was put on Special Assignment and one physicist was promoted to group head. One physical chemist was promoted to group head in the Physical Chemistry Group. One physicist was promoted to assistant group head for the P-11 project.

PILE PHYSICS

Graphite Development

A new high in average purity of a single graphite heat has been obtained from an experimental heat of GBF graphite. Every effort was made to produce high quality meterial in this heat, though the procedure followed would not be practical for quantity production at the present time. The bars were given an extra pitch impregnation; the peak temperature attained was increased from 2500°C to 2750°C by continuing the heating

Pile Technology Division

for a longer time; the amount of Freon used was 50% greater than normal; a large quantity of helium was used in flushing. This heat had an average dih of 1.054 as compared with an average of 0.96 for current production and a previous high of 1.02. The extra pitch impregnation produced only a slight increase in density, however.

A group of twelve bars in this heat was given a third pitch impregnation before purification. Results on these bars were disappointing, the average dih being only 0.871. Large variations in density and purity were observed between bars in this lot. The bars are to be retested, since some of this variation may be due to the testing procedure.

Routine Graphite Testing

Production of graphite for four piles has now been completed by the National Carbon Co. Functional testing of a backlog of this material will continue for a few months. Results of these tests will be reported only if they have a bearing on the graphite development program.

Neutron Thermopile Measurements

It is planned to operate the H Pile with neutron thermopiles as the indicating instruments in the octant monitor system. This system, which uses eight neutron detectors, one in each pile octant, was designed to give an indication of total power output which is less subject to control rod positions than the present single ion chamber system.

A check on the performance of a neutron thermopile presently installed in the F Pile indicates that these instruments have sufficient sensitivity and speed of response to be satisfactory for use in the octant monitor system at H Pile. The fact that the installation is still in operating condition after several years in the F Pile indicates its ability to withstand irradiation.

Reactivity

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

	B Pile	D Pile	F Pile
In rods	53 ih	70 ih	86 ih
In Special Requests	409	377	431
In Plant Assistance Irradiations	0	20	0
In lead-cadmium columns	0	0	0
In bismuth columns	112	109	84
In dummy columns (including empty fringe tubes)	0	20	32
In xenon	472	499	466
In overall coefficient	-200	-225	-235
Total cold, clean reactivity	846	870	864

Pile Technology Division

B pile shows a net loss of 45 inhours during the month. It is believed that this is in large part not a real loss but results from the inability to determine the strength of columns of lithium-aluminum alloy slugs. The lithium content of these slugs varies by about 25% between billets. The D Pile loss of 28 inhours during the month resulted from an increase in the value assigned to the overall coefficient as a result of recent studies of reactivity changes at shutdown. No Special Request loading changes were made at the F Pile during the month and the net gain of 20 inhours is real.

Normal reactivity effects were observed at the B Pile when the carbon dioxide concentration was raised from 40% to 60%. Erratic fluctuations in carbon dioxide concentration at the nominal 60% level were reflected in variations of control rod positions.

PILE ENGINEERING

Graphite Expansion

The concentration of carbon dioxide in the B Pile gas atmosphere was raised to 60% during the period August 7th to 14th after having been held at 40% for 15 weeks. This resulted in 16°C increase in the average flattened zone graphite temperature. There has been a significant decrease in the rate of expansion of the B Pile during the past three months which is attributed to carbon dioxide because this leveling off occurred at a lower exposure than at D and F Piles and corresponds to the period during which carbon dioxide was added to the pile.

Measurements of the vertical bowing of the top central tube at the D Pile show that the graphite near the front face continued to expand during the past year although at a decreased rate while the graphite along the vertical center line of the pile did not expand.

The outward movement of the center of the top of the Far Side of D Pile was about 0.01 inches during the past month as compared to 0.1 inches per month during the previous three months. At F Pile there has been no net outward motion of the top of the Far Side during the past three months.

Monitoring of the effects of graphite expansion carbon dioxide and higher power levels was continued during the month. Doc. HW-14192 is a summary of the effects of graphite expansion.

Corrosion of Vertical Thimbles

Inspection of sections of the vertical thimbles removed from F Pile showed one large corroded hole at the lower end of the rod guide in the No. 17 thimble and two small corroded holes at a similar location

Pile Technology Division

in the No. 24 thimble. Thimble No. 33 which was removed as a part of a general inspection program was found to be severely corroded, although, none of the pits penetrated through the wall of the thimble.

Increased Power Levels

The H Pile orifice pattern was revised to increase water flow to process tubes. This was necessary so that high outlet temperatures would not limit pile operation to less than 400 MW during summer months.

Studies were continued of the effects which would result from higher power levels. At the present time the most immediate problem appears to be creep of the vertical aluminum thimbles. Equipment is being prepared to measure this thimble temperature during operation as a production test and to correlate the thimble temperature with standard operating data such as water temperature rise in adjacent tubes.

Beta Experiment

The fuel element capsule from K-4 was shipped to Schenectady on July 6. Slugs K-1, K-2, and K-3 have been received. These contain stainless steel, zirconium and titanium pins loaded with unbonded uranium.

Thermal Shield Cooling

Thermocouples were installed in two thermal shield cooling tubes at the F Pile. With the water flow shut off the maximum temperature recorded was 74° C.

Front End Cap Modification

A satisfactory method has been developed to alter the end caps for the galvanized inlet nozzles to permit the subsequent addition of a magnesium sacrificial slug without inducing chattering of the sacrificial slug. The change is being incorporated on DR and H nozzles caps.

Reduced Silica Feed

The silica addition to process water has been discontinued in all areas. The observed pressure drop data has shown a reduction in the rate of film build up in the 0.240 orifice zone tubes. No adverse corrosion effects have been observed to date.

Individual Tube Purging Equipment

Equipment which could be used for individual tube purging while the pile is in operation has been developed and tested in the laboratory. This equipment has been developed to test the possibility of reducing the number of shutdown purges by purging isolated "hot" tubes.

File Technology Division

Pile Borescoping Examinations

Tube 3768 B which had been stuck was borescoped. The tube was galled sufficiently to endanger charge - discharge operations so was replaced.

Tube 2293 D in which a piece of chain had been found on the tip-off was borescoped and found to be in satisfactory condition.

The No. 10 and No. 15 VSR thimbles at the D Pile which had inadvertently been filled with water were inspected. No inordinate corrosion was found.

Front Face Aluminum Nozzles

Six aluminum nozzles manufactured to design specifications were installed on the front face of the B Pile to gain operating data for future pile design. Aluminum orifices of several different compositions are being used in this test.

Magnesium Testing Program

The magnesium corrosion rate in standard process water with exposures up to 28 days is decreasing but is still excessive. Equipment is being assembled to duplicate the testing in water of a higher pH in which magnesium is known to be more corrosion resistant.

Thermocouple Process Tube

An externally slotted tube in which a thermocouple was inserted into a slot cut into the outside of a tube rib, was pressure tested at 90° C with 350 psi process water for a period of a month. Excessive localized permanent deformation took place in the vicinity of the slot in the first hour of operation under these conditions. A standard process tube has shown no deformation after a months' loading under similar conditions.

Observation of Exposed Slugs

High nickel slugs (PT-105-234-P) showed no abnormalities at 331 MWD/T. Forged Slugs (PT-105-238-P) showed only slight blistering and very good dimensional stability at 200 MWD/T.

There was one instance of a stuck tube charged with group 5 metal. A single warped piece of group 5 metal canned on 9-25-48 was found, but could not definitely be identified with the stuck tube.

A significantly warped slug of group 5 metal canned on 8-12-48 was found in a routine pick up of metal at the F Pile.

Twenty tubes of Group 5 metal exposed for 11 months to 400 MWD/T were examined and no unusual deformation or blistering was found.

Pile Technology Division

Additional Pile Control

A method has been formulated to provide additional pile control and thus eliminate reduced power start-ups (when required by reactivity considerations) and special shut-downs to push poison columns. The method involves circulating a boron compound solution through a double bayonet tube which is inserted into a regular process tube. High pressure cooling water will pass around the outside of the bayonet assembly and will prevent any leakage of the solution into the pile, in the event of a leak in the bayonet tube assembly. The water will also cool the tube and prevent boiling in case of an interruption in flow of the circulating solution. A mock up assembly is being fabricated and assembled for test and demonstration purposes.

Graphite Monitoring

Length changes on thermal annealing of parallel-cut high exposure (1215 MD/CT in water cooled test hole + 910 MD/CT capsule exposure) KC graphite were followed interferometrically. Quantitative results on the expansion of KC graphite in the parallel direction were obtained as a function of annealing temperature to 700°C. The total permanent expansion amounted to 0.24%, which is about equal to the total contraction to be expected from KC graphite during this exposure. The damage which causes contraction in the parallel direction is apparently annealed in going to 700°C. A sharp increase in the rate of expansion due to annealing occurred at 130°C; no appreciable expansion was detected below 130°C although the exposure temperature was less than 30°C. The rate of expansion reached a maximum value at 160°C; the annealing curve thus resembles stored energy annealing curves.

A value of 108 cal/gm for 214 MD/CT test holes graphite confirms previous data which indicated an initial rapid rise in stored energy on exposure; this is followed at higher exposures by a linear rise at a lower rate.

P-10 Project

Extraction of alloy slugs was begun on line 3 on August 26. The three runs made before the end of the month indicated that the equipment operates satisfactory and that the radiation hazards can be controlled. The yield and purity of the tritium obtained in these runs agreed with results reported previously by ANL.

Practically all construction work on P-10 facilities was completed during August. Line 4 is being tested and calibrated and is expected to be in operation in about one week. Lines 1 and 2, which were operated on fluoride slugs, are complete except for some minor electrical changes and the re-installation of part of the extraction line that was removed to permit the installation of the alloy type furnace.

Pile Technology Division

Line 5 is being used to determine the hydrogen content of alloy slugs prepared by the P-10 A group. The slugs prepared here behave similarly to those prepared in the past by ANL.

ANL has extracted a second lot of slugs irradiated for 6 months and have obtained purities above 95% in contrast to the 89% obtained on the first lot of 6 month slugs as reported last month.

INVENTIONS

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

Inventor	Item
W. K. Alexander	Use of circulating neutron-absorbing solution for control of operating piles.

WK Woods:jr

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

September 10, 1949

SEPARATIONS TECHNOLOGY DIVISION

AUGUST, 1949

VISITORS & BUSINESS TRIPS

Visitors from the Los Alamos Scientific Laboratory included G. H. Tenney on August 4 and 5 for a consultation on 234-5 radiography, I. B. Venable from August 15 to 19 for 234-5 operating problems consultations, and J. W. Dutli from August 24 to Sept. 1 to assist in calibration of the radiography unit.

J. G. Bradley visited the Oak Ridge National Laboratory from August 1 to 12 for inspection of pilot plant decontamination and "hot" maintenance procedures.

P. E. Collins visited the General Engineering & Consulting Laboratory from August 8 to 19 for 432 Project inspection and consultations.

ORGANIZATION AND PERSONNEL

Personnal totals in the Separations Technology Division are summarized as follows:

	July	August
Administration	2	2
Special Assignment	2	3
Process Section	26	26
Development Section	95	91
Research Section	30	33
	155	155

One Chemical Engineer was transferred from the Development Section to an administrative special assignment within the Division. New hires were: one Chemist for the Research Section and one Chemical Helper for the Development Section. A Lab. Asst. A returned to the Research Section from a leave of absence. One Tech. Grad. and one Lab. Asst. B were transferred from the Metallurgy & Control Division to the Research Section and the Development Section, respectively. One Chemical Process Trainee was transferred from the Development Section to the "S" Division. Terminations, all from the Development Section, were as follows: one Chemical Engineer, an Expeditor C, and a Lab. Asst. C. One Chemical Process Trainee from the Development Section was granted a leave of absence.

Separations Technology Division

200 AREAS PLANT ASSISTANCE

Canyon Buildings

The runs started at T Plant during July were preceeded and followed by Acid Wash Runs and N-1 filter leaches in an investigation of material balance discrepancies. The material balance for these runs was 98% while that of B Plant was 99%. The tests to determine the error in sampling the basis solution were completed. It is planned to repeat the test, however, since the results were of questionable significance. The 6-3 Tank (run basis tank) was recalibrated at B Plant. Discrepancies between the ring balance and the manometer used in the calibration, however, have not been satisfactorily resolved. Investigation of factors influencing the material balance discrepancies between plants are continuing.

In the past, the aluminum coating removal waste has been discarded without assay. A program has been initiated to establish accounting records of this waste. Data from a limited number of runs indicated the loss per charge to be approximately 0.5% of a run. The proper sampling point has not been established, however, since the analyses of samples taken from the dissolver have been consistently lower than those of similar samples taken from the waste neutralization tank.

Approximately 2% of Run T-9-08-F-4 was lost at T Plant due to a process leak during the transfer of metal solution to an extraction section. The material was collected in a relatively small amount of water and recycled into Runs T-9-08-F-6 and F-7.

Concentration Buildings

The product assay of the combined neutralized wastes was determined at T Plant to verify the total product disposed of from the building in an attempt to determine the cause of material balance discrepancies. No significant difference from the total of the individual wastes was found.

The test of Harshaw Specification 102 single-distilled anhydrous hydrofluoric acid has been resumed under Production Test 224-T-12. This acid approximates the vendor's guaranteed analysis. Production data for three runs processed thus far are not significantly different from those of runs processed with double-distilled hydrofluoric acid.

An acid flush of the bismuth phosphate by-product precipitator tank at B Plant reduced the background activity by a factor of approximately ten-fold. A total waste loss of 0.1% of a run occurred in the flush.

A single test at T Plant indicated that approximately 50% of the lanthanum fluoride by-product loss prior to the routine rework is in the form of soluble product. Usually approximately 90% of the original loss is recoverable by normal reworking in small volumes.

Separations Technology Division

234-5 Building

A sample of liquid HF, approximately 20 grams, was obtained and submitted to the essential materials laboratory for analysis. Sampling was accomplished by drawing from the liquid side of the supply instead of by distillation from the cylinders.

Analysis of two uranium buttons produced in the stand-in series of runs showed each had a nitrogen content of 4 ppm. One of the buttons was produced in a bomb without displacing the air with argon; the other followed the standard procedure of displacing the air with argon.

A stainless steel bob has been prepared to serve as a secondary standard for the routine determination of the density of bromobenzene in the process line.

A batch of cerous oxalate equivalent in volume to the Hood 5-7 slurry volume was prepared for use in the evaluation of a new agitator design for the reactors in these hoods.

A Bourdon-type vacuum gage calibrated in quarter-inch divisions has been ordered for use in Hood 25. It is desired to obtain a pressure rise-time relation so that the optimum time cycle can be obtained for this operation.

Assistance was given during the runs on stand-in material in Hood 26.

REDOX DEVELOPMENT

Solvent Extraction Performance-General

Sixteen solvent-extraction studies were completed during the month to test the performance of 1-in. stainless-steel Raschig rings in 5-in. and 8.42-in. diameter columns under IA, IB, IC, and IH (Waste Hexone Wash Tower) conditions. Following completion of the first uranium shakedown run in the rebuilt Demonstration Unit, three IA-IB-IC cascade runs and one IS-IB-IC cascade run were carried out. New information resulting from these studies is summarized below:

1. Using 1-in. Raschig rings in a 5-in. diameter column there is no significant difference in H.T.U. values for the IA extraction section operating under simple and dual-purpose IA Column conditions, indicating no serious loss in extraction due to poor mixing of the IAF and IAS at the center feed point.

2. In the IA extraction section at HW #1 Flowsheet conditions, preliminary comparisons of 1/2-in. vs. 1-in. stainless-steel Raschig rings are summarized below:

(a) The complete flooding capacity of 1-in. rings (3700 gal./(hr.)(sq.ft.)) is approximately double that of 1/2-in. rings (1850 gal./(hr.)(sq.ft.))

(b) Optimum H.T.U. values occur at approximately half of the flooding capacity of each packing:

Packing	Approximate Optimum Conditions: Gal./(Hr.)(Sq.Ft.)	H.T.U., Ft.
1/2-in. rings	1000	1.1
1-in. rings	1900	1.4

(c) H.T.U. values for the two sizes of rings are approximately equal (1.4 ft.) at approximately 1500 gal./(hr.)(sq.ft.). Below this rate 1/2-in. rings appear to be superior (i.e., lower H.T.U's.), and above this rate 1-in. rings are superior, giving good performance up to at least as high as 2600 gal./(hr.)(sq.ft.), which is 40% higher than the complete flooding capacity of 1/2-in. rings.

3. Comparing 1-in. vs. 1/2-in. rings in the IB scrub section (5-in. column, 14 ft. packed height, HW #1 Flowsheet, except for the absence of ferrous sulfamate), H.T.U. values for 1-in. rings are as good as for 1/2-in. rings from approximately 500 to 1600 gal./(hr.)(sq.ft.), sum of both phases. The extraction performance of 1-in. rings continues good up to at least as high as 2600 gal./(hr.)(sq.ft.), which is the flooding capacity of 1/2-in. rings with ferrous sulfamate absent.

4. H.T.U's. of 1-in. rings in the IB Column (HW #1 Flowsheet, except for the absence of ferrous sulfamate), and in the IC Column (HW #1 Flowsheet, except for the absence of HNO_3 in the ICX) are approximately 0.4 ft. lower with a 14-ft. packed height than with a 20-ft. packed height. This effect of lower H.T.U. values with lower packed height has been noted previously, using 1/2-in. rings

Noteworthy equipment changes in the Demonstration Unit consisted of the removal of enlarged feed-tee and Elgin end-fitting from the 3-inch column and replacement by straight 3-inch glass sections. The 3-inch IA and 2 and 3-inch IB Columns were repacked with 1/2-inch stainless Raschig rings. "B" Cell equipment alterations to permit diurnate precipitation studies are underway. Mechanical difficulties with Fischer vane pumps have been decreased by the installation of flexible pipe connections to the pumps and the installation of strainers ahead of the pumps. Shaft seal leakage continues to be a major problem.

In Scale-Up, control of the hexone steam stripper was changed to orifice steam flow control equipment. The stripper was repacked with 1-inch porcelain Raschig rings to improve performance and to permit an increase in processing rates. A new mid-point feed-tee was installed and operated in the 5-inch column. The Elgin end-section was removed from the 8-inch column and replaced with a straight 8-inch section using a 3-hole spider distributor. Performance was satisfactory after these changes. Preparations for pulse column studies in the 5-inch column are complete and the unit may be put in service with approximately 40 man-hours of work. Testing of all Scale-Up tank farm piping for leaks was completed. Total replacement of "leakers" by inspection and repair continues. A new hexone addition line to the organic tanks was installed for safety reasons.

In general, all equipment on both units operated without major maintenance difficulties.

Operations

Demonstration Unit dissolver off-gas tests made for the 200 Area Plant Assistance Group confirmed their findings on hydrogen content of 200 stack gases during dissolving. Cascade operation of the Demonstration columns revealed excellent hydraulic performance with relatively little sensitiveness of one column to minor upsets in the preceding columns. IA Column performance was poor due in part to crud formation from insufficient filtering and partly because of inherent packing surface difficulties using 1/4-inch Raschig ring packing. Both have been corrected. IB and IC Column performance was satisfactory with normal waste losses. Alterations to solvent pretreatment equipment to permit improved agitation are scheduled for next month. Initial studies on IS Column uranium recovery runs disclosed no operating difficulties and no evidence of phosphate deposition in the columns.

Scale-Up columns operated during the month with a minimum of operating difficulty. Serious filter plugging during one run necessitated a delay of the following run to clean up the precipitate by treatment in the concentrator. The run then proceeded satisfactorily. Some difficulty was experienced with flow control because of the wide range of flows attempted during the various tests. Although athe equipment was originally designed to cover a four-fold range or rates, tests have been run at several times this range. Aside from column operation, some difficulties were encountered in tank farm operation due to misuse of the sump decanter which services both Demonstration and Scale-Up units. Corrective steps have been taken to prevent a recurrence.

Operation of the hexone steam stripper and IAW-ICU concentrator continued satisfactorily. Inadvertent mixing of some hexone and HNO_3 due to a trap in a section of pipe resulted in a pressure build-up which blew two gaskets. Equipment revisions will make a recurrence impossible.

Separations Technology Division

Equipment Development

Submerged Turbine Pump No. 2, consisting of a G.E. & C.L. turbine pump suspended from a torque tube containing two carbon-filled fluorothene shaft bearings lubricated by pumped fluid (2.0 M $Al(NO_3)_3$) has operated for 1500 hrs. at 1750 rev./min. without mechanical adjustment. The wear has been negligible and the pump has continuously delivered 0.9 gal./min. at 10 psig.

The submerged motor and pump unit (G.E. & C.L. special design stainless-clad motor rated 1/3 HP adapted from type KT, 220 volt, 3-phase unit driving a G.E. & C.L. turbine pump), employing process fluid lubricated thrust and guide bearings of graphitar-stainless steel, has operated at 1750 rev./min. for 248 hrs. with water and 103 hrs. with 1.3 M $Al(NO_3)_3$ solution. The essential elements under test have performed satisfactorily but difficulty has arisen from leakage of process fluid into the stator, causing it to "short out". Temperature differentials between circulating fluid, motor bearings, and motor frame have been determined to be in the range 0 to 2.0°C. over the operating range of 0.4 gal./min., 8.0 psig. to 1.25 gal./min., 2.5 psig.

The Model 1011 Roth Company stainless steel turbine pump serving the hydraulic test stand has completed 1814 hours of operation with 2.0 M $Al(NO_3)_3$ solution over a wide range of discharge rates and pressures and at speeds of 1750 and 3450 rev./min.

The Peerless Model 4"-LA four-stage submerged stainless steel centrifugal transfer pump employing boron carbide bearings has been installed on a test stand. Initiation of testing awaits rewinding of the driving motor to permit 440-volt operation. The workmanship on this pump was found to be below expectations for an experimental unit.

The performance of a locally designed and fabricated rotary graphitar-stainless steel seal installed on an "in-the-line" G.E. & C.L. turbine pump, operating on 2.0 M $Al(NO_3)_3$ solution at a speed of 3450 rev./min., was satisfactory to 25 psig. discharge pressure. Leakage was 0 to 0.75 ml./min. over the discharge pressure range of 25 to 53 psig. with a rapid increase to 55 ml./min. at 60 psig.

The Kellex IB2 Diaphragm Pump has been installed and testing on water started. This will be followed by performance tests with 2.0 M $Al(NO_3)_3$ solution.

The stainless steel Fischer and Porter transmitting rotameter located on the hydraulic test stand has operated in 2.0 M $Al(NO_3)_3$ solution for 1800 hrs. in a trouble-free manner with no symptoms of sticking or binding. The reproducibility at 80% of full-scale (0.811 GPM) was determined to be 0.15% after 336 hours of continuous operation. The effect of viscosity was determined to be within the limits of experimental error (± 0.5%) for flow rates of 2,000 ml./min. Studies are underway in the lower flow rate region.

Solution clarification and scavenging "stand-in" studies with Super Filtrol have been continued in the 12-inch dia. solid bowl centrifuge employing UNH solutions resulting from the dissolution of slugs. A total of 5.0% (wt.) of Super Filtrol was added in three 1.66% increments to a feed solution with an original clarity of 71.5%. The effluent streams following a 24-min. holdup at 2050 x gravity had clarities of 85.0%, 85.6%, 86.3% (transmission of 645 millimicron wave length beam through test solution vs. H_2O).

Removal of the cake from the bowl was readily accomplished by directing a high velocity jet (55-60 psig.) at the cake followed by removal through a vacuum system. The flow characteristics of various weight ratios of water to Super Filtrol were studied in a Jabsco pump system. It was determined that slurries of 1:1, H_2O: Filtrol could be pumped at discharge pressures below 25 psig. and that higher pressures could be employed with greater dilution. The properties exhibited by the suspension are illustrated in the following tabulation:

Wt. Ratio H_2O:Filtrol	Discharge Rate-Gal./min. Discharge Pressure psig. 5-10	25	35
1.0	2	0	0
1.3	14.6	9	2.2
1.5	18.8	13.1	3.2
1.7	20.7	15.2	4.3
	21.5	15.5	10.4

During the month, test samples of two Lithcote protective coatings applied to the standard concrete test blocks were received and tested. The clear coat failed in IAF in 8 days. The black coating resisted IAF for 15 days but failed after 1 hr. on exposure to 60% HNO_3.

Process Chemistry

A study of the reaction between aluminum oxide (Alcoa grades C-33 and C-34) and nitric acid of decreasing concentration (initial and maximum value of 38%) has resulted in a feasible process flowsheet for producing 2.7 to 2.8 M $Al(NO_3)_3$ solutions which are acid-deficient (-35 to -45 g.HNO_3/l.) and may be readily adjusted to IAS solution specifications by dilution and butting with nitric acid.

The iron contribution of Super Filtrol to process solution during the feed preparation operation has been checked in simulated IAF solutions prepared from recrystallized UNH. The iron content ranged from 0 to the "control" (no Super Filtrol) to a maximum of 1.1 g./l. following digestion with 4.0% Super Filtrol. On adjustment of the simulated acidic dissolver metal solution to a 0.2 M acid deficient IAF solution, no precipitation was noted in any of the tests.

The effect of trace elements present in uranium metal has been investigated by correlating the aqueous-solvent phase disengaging times of 189 solutions resulting from 3 cuts made from 63 individual slug wafers. The following elements were present in the range indicated and exerted no effect on the disengagement time under O.R.N.L. or A.N.L. type conditions: Mn-20 ppm, Ni-50 ppm, Pb-10 ppm, Cr-20 ppm, Cu-50 ppm, Sn-10 ppm. Silicon varied over a wider range than any other element and was found to increase the disengagement time roughly 1 sec. per 6 ppm of Si concentration. Dissolution to acid-deficient conditions, followed by adjustment to ~0.2 M deficiency corresponding to O.R.N.L. conditions, results in an increased disengagement time of about 1 sec. for each 4.0 gm. of HNO_3 deficiency. The solution of UNH resulting from dissolution of metal may be either reddish or straw-yellow in color (no reason for this coloration has been proved). The light color of normal material gives disengagement times of 19 secs. for O.R.N.L. and 20.5 secs. for A.N.L. flowsheets, whereas the dark solutions yield disengagement times of 11 secs. for O.R.N.L. and 26 secs. for A.N.L.

Separations Technology Division

REDOX RESEARCH

Ruthenium Tetroxide Distillation Using Ozone

The presence of at least two ruthenium species in dissolver solution has been definitely established and, for convenience, the one which volatilizes rapidly has been termed "species A", and the one which is removed slowly has been termed "species B". A semi-quantitative description of the course of reaction follows:

(1) The distillation of RuO_4 is preceded by a brief induction period (10-15 minutes), the length of which is dependent upon the ozone concentration and gas flow rate, and which is, presumably, the time necessary for the formation of a sufficiently high concentration of polyvalent silver.

(2) The RuO_4 distillation starts with the removal of species A, the rate of which is rapid, first order with respect to A, and dependent upon the gas flow rate.

(3) The much slower removal of species B, the rate of which is first order with respect to B, is then observed. The rate of removal of species B appears to be independent of the flow rate in the ranges which have been studied (ratio volume gas/minute to volume of solution = 1/2 to 2). Rate constants, k_2, for the oxidation of species B have been calculated for a number of runs and been found to vary between 0.008 and 0.01 minutes^{-1} when using 2-1/2 to 3-1/2% ozone produced by the standard silent discharge type ozonizer. In a few experiments employing 9-12% ozone produced by an electrolytic cell, the rate constant appears to increase slightly with the maximum value, 0.0144 minutes^{-1}, obtained with 12% ozone. These data, for the most part, were acquired using 0.03 M $AgNO_3$ in the dissolver solution. No differences in distillation characteristics have been observed for silver concentrations in the range of 0.01-0.05 M.

The apparent aging effect which has been noted with dissolver solution has been found to be due to a large extent to the taking of the samples in plastic pipets. When the same dissolver batch was sampled in both stainless steel and plastic pipets, no change in distillation characteristics was noted for the samples stored in stainless steel pipets over a period of 3-22 days, but the amount of species B in the solutions stored in plastic pipets was found to increase from 0.20 to 2.3% in the interval, 4-23 days.

To simplify laboratory handling, plant dissolver solution has been diluted with synthetic dissolver solution in many experiments. Some data have now been obtained to show that the dilution has little, if any, effect upon the distillation characteristics of the ruthenium using ozone.

It has been found that removal of RuO_4 off-gas in a caustic scrubber is accomplished as well at 20°C. and only slightly less efficiently at 95°-100° than at 0°, the temperature which has been used routinely in laboratory experiments.

Extraction-scrub studies have indicated that the extraction coefficient for ruthenium B is about 5×10^{-4}, in the ORNL #1 system, as compared to ca. 0.035 for the mixture commonly obtained in dissolver solution without ozonization. The significance of this observation is evident; ozonization to remove the ruthenium A

will result in a feed solution which will decontaminate with respect to ruthenium far better than untreated feed. Experiments, in which ozonization yielding a ruthenium decontamination factor of about 250 was followed by one extraction and two scrub steps, gave over-all decontamination factors of ca. 10^6, compared to a factor of 42 obtained when ozonization was omitted.

Zirconium Hydrolysis

A good fit of experimental data has been obtained by assuming that the important hydrolysis reaction in perchlorate solution at an ionic strength of 4.00 is that that represented by the following equations:

$$Zr^{+4} + 2H_2O = Zr(OH)_2^{++} + 2H^+ \quad \text{or}$$

$$Zr^{+4} + H_2O = ZrO^{++} + 2H^+.$$

At a zirconium concentration of 2.50×10^{-4} M, the best fit to the data was obtained with an equilibrium constant, k_2, of 0.65. At 1.25×10^{-4} M zirconium, the best fit was obtained with a constant of 0.4.

Reactions of Hexone

The probable existence of isobutylnitrolic acid ($CH_2CH_2C(NOH)NO_2$) as an intermediate in the reaction between nitrous acid and hexone has led to its synthesis and to a study of its properties. As an aid in this work the preparation and properties of ethyl and propyl nitrolic acids have been determined. The extinction coefficients in 2 M KOH at 330 millimicrons were near 8000 for both ethyl and propyl nitrolic acids and this value has been provisionally accepted for the isobutylnitrolic acid. The latter compound was found to be more unstable than the former two, decomposing in one to two hours.

Pulse Column Studies

Additional studies on plate design for the pulse column have led to the following conclusions. Hole diameter in the range of 0.033 to 0.040 inches gives a low H.E.T.S. of 2.0 inches, which does not change appreciably when the hole area is varied from 9 to 42% of the cross sectional area of the column. Flooding at 1200 gal./ft.^{2}/hr. is observed with the 0.033-inch diameter holes at 28% hole area. At larger hole sizes of 0.050 inches, the H.E.T.S. is found to increase noticeably.

The half-inch diameter column with one-inch plate spacing gave an H.E.T.S. about twice that of the one-inch diameter column with one-inch spacing. Plans are under way to increase the efficiency of this column.

The stainless steel plates of the one-inch column were treated with Dry-film in order to make them preferentially wetted by the hexone phase. The effect of this treatment on IA extraction performance was to double the H.E.T.S. The H.E.T.S. was also doubled by dropping the interface location from the top to the bottom of a IA-operated column whose plates were not dry-filmed. Dry-filmed plates with the interface at the bottom gave the largest value of H.E.T.S. It was noted in all cases with dry-filmed plates that Elgin flooding was not attained. The action of dry-filmed plates on IC Column behavior is being investigated.

Preparation of Solvent Extraction Feed from Metal Wastes

Possible increase in phosphate removal was sought by substituting a second precipitation for the metathesis step of the sodium uranate process. Portions of the initial precipitate were redissolved (a) in 70% HNO_3 and (b) in 1 M $(NH_4)_2CO_3$, followed by precipitation with 5 M NaOH. The phosphate content of the resulting precipitates was discouragingly high, in each case a U/PO_4 mole ratio of eight being obtained, compared to the value of ca. 10 achieved by the less costly caustic metathesis.

Dilution of metal waste solutions and/or the sodium hydroxide prior to precipitation was also investigated as a possible means of decreasing the phosphate content of the sodium uranate. Various dilution techniques on current metal waste and 103-T-Supernate gave precipitates having the requisite uranium molarity, but having U/PO_4 ratios of but 3.0 ±0.5 in all cases.

Addition of wetting agent to current metal waste solution prior to precipitation was found to produce no large effect on the compactness or settling rate of the precipitated sodium uranate. More uniform particle size results, however, providing a precipitate which is less "sticky" and more readily repulped. Removal of phosphate from such precipitates by the standard metathesis procedure is quite rapid: U/PO_4 ratios of 20, 25 and 20 obtained after three hours and 50, 35 and 50 after 24 hours of metathesis of precipitates obtained in the presence of Aerosol OT, Duponol and Turkey Red Oil, respectively. Unfortunately, interpretation of these very promising results is obscured by the non-typical action of the control precipitate prepared without wetting agent which gave similarly high U/PO_4 ratios on metathesis. Further study of wetting agents will include their possible emulsifying action in a ISF.

Uranium peroxide having U/PO_4 ratios of 50-100 can be obtained by simply adding hydrogen peroxide to current metal waste. Only about 90% of the uranium is precipitated, however, even on 4-fold aqueous dilution of the waste to lower its acidity. On adding sodium hydroxide to increase the pH to two, the uranium loss to supernate is reduced to 0.2%, but uranyl phosphate is precipitated, giving a mixed precipitate having a U/PO_4 ratio of but 13.

In an attempt to avoid a precipitation operation for ISF preparation, addition of ferric nitrate to current metal waste was investigated as a means of complexing phosphate into solution at low acidity. Uranium distribution ratios (E_D), obtained with current metal waste adjusted to 0.3 M nitric acid and a Fe/U ratio of two, ranged from 0.29 for 0.4 M UNH down to 0.049 for 10^{-3} M UNH. These low distribution ratios (presumably due largely to sulphate ion), plus the large salting agent consumption represented by a Fe/U ratio of two, discouraged further study of this system. The use of ferric nitrate to increase phosphate solubility in nitric acid solutions of sodium uranate is under investigation.

Properties of Column IS Systems Derived from Metal Waste

In addition to the previously reported properties of the IS Column systems, experiments have been performed separating the effect of PO_4^{-3} and $NaNO_3$ on the distribution of U(VI) and Pu(VI) nitrates in the extraction section of the column.

The effect of 0.02 M $PO_4^{\equiv}$ on the distribution of Pu(IV) was found to be very slight. In dilute U(VI) solutions a slight complexing of UO_2^{++} by $PO_4^{\equiv}$ was observed, which became negligible in 1.0 M U(VI) solutions.

The principal effect in the IS Column on E_a^h of both U(VI) and Pu(VI) was due to the salting strength of $NaNO_3$. Experimental results indicate that the salting strength of mixtures of $Al(NO_3)_3$ and $NaNO_3$ is an additive function of the salting strength of the individual salts. Over a rather wide range of uranium and salt concentrations an increase in salting strength due to a given molar concentration of $Al(NO_3)_3$ was equalled by a 4-5-fold higher concentration of $NaNO_3$. This is a lower factor than that obtaining for NH_4NO_3 in respect to $Al(NO_3)_3$.

234-5 RESEARCH

Coupling of Redox and Metal Production

The precipitation of plutonium (IV) phenylarsonate from IIIBP solutions has been further investigated. Using IIHP solutions from ANL as stand-ins, treatment of the IIHP containing 0.465 g/l Pu and 0.44 M HNO_3 with an equal volume of 0.1 M $H_2C_6H_5AsO_3$ resulted in a loss of ca. 1.0% of the total plutonium. Investigations employing solutions concentrated by evaporation and studies of conditions yielding maximum insolubility of plutonium (VI) phenylarsonate are in order.

The ignition of plutonium (IV) phenylarsonate to the oxide has been studied employing zirconium and uranium (IV) phenylarsonates as stand-ins. The arsenic content of the zirconium oxide was reduced to approximately 50 ppm while the uranium oxide contained somewhat more. Fluorination tests on this ignited oxide have not yet been made.

Improvement of Present Process

A rapid method has been developed for the destruction of oxalic acid in oxalate supernatants. The solution (and solid oxalic acid residue) is treated with a small excess of potassium bromate, which not only removes the oxalic acid but also oxidizes the plutonium to the (VI) state. The excess bromate may then be removed by adding a slight excess of chromium (III) nitrate which is oxidized to dichromate in the process, thus providing a holding oxidant for plutonium (VI) in the recycle to the 224 Building. In the process, any remaining iodine and the bromine are volatilized out of the reaction pot.

Production tests are planned to concentrate several batches of 234-5 supernatant waste in the recovery still and to destroy the oxalate content before recycle of the waste to the 224 Building. When testing out this proposal with the above bromate procedure, the precipitation of iron (III) sulfate was noted. Addition of oxalic acid to the resulting slurry redissolved the iron (III) as oxalate complexes. However, excess bromate again destroyed the oxalate complex with the reprecipitation of the iron (III) sulfate. Since the precipitation of iron (III) sulfate is by no means due to the bromate process itself and is the end result of any procedure which causes complete destruction of oxalate, the concentration limit attainable may be considerably lower than originally hoped for.

Separations Technology Division

234-5 PROCESS DEVELOPMENT

The ten-gram scale equipment in the development laboratory in the 231 Building has been modified to produce sulfate-free plutonium peroxide with P-1 solutions as the starting material. The reaction vessel was increased from 300 ml capacity to 3,000 ml to handle the more dilute plutonium solution. This required a new agitator, heat exchanger, and slurry transfer line. Because large volumes of solution are required, single one-liter quantities of P-1 solution will be taken from the 231 Building for the individual experiments. The first material obtained was from Run T-9-08-P-3.

A program of laboratory work was carried out to serve as the basis for recovering approximately 50 grams of plutonium in the 234-5 Building that was transferred inadvertently from the reaction vessel to the filter head tank or the supernatant hold-up tank. All of the tests were made with plutonium oxalate prepared from 1.5 ml. of a 2 M nitric acid solution of plutonium nitrate containing 180 mg of plutonium. The addition of 1 ml. of 5.5 M HI gave plutonium (III) which was precipitated by the addition of 3.2 ml. of 0.67 M oxalic acid. The precipitate was washed twice with a 0.1 M nitric - 0.1 M oxalic acid mixture and finally with water. The reagents to be tested were added dropwise and the extent of dissolution of the plutonium oxalate was determined by radioassay. The results are tabulated below:

Reagent	Contact Period	Solubility 25°C.
Potassium oxalate, sat'd	2 hrs.	7.6 g/c
HI, 47%	64 hrs.	0.75 g/c
HCl, 38%	16 hrs.	2.14 g/c
6% H_2O_2 - 35% HNO_3	—	App. 5 g/c Dissolution
$KMnO_4$		

A survey has been made of the plutonium-containing waste solutions in the analytical laboratory in the 234-5 Building. The waste from solution samples P-4, SN-1, SN-2, SN-3, and S-4 is similar to the waste solution currently being recycled from the 231 Building analytical laboratory. It is probable that this portion of the 234-5 Building analytical waste can also be recycled directly to the D-1 tank via E-4 in the 224 Building in similar fashion to the current practice for the 231 waste. The balance of the waste material from the analytical laboratory in the 234-5 Building is composed of insoluble materials and hydrochloric acid solutions of plutonium. The recycling of this material will undoubtedly require development work.

The previous laboratory work on handling the supernatant solutions from the wet chemistry part of the 234-5 process has served as the basis of a production test which has been approved.

Oxidation of the plutonium metal buttons produced in the laboratory which have been in storage has been evident for some time. Complete oxidation of the button from Peroxide Run #2, which was processed on June 6, 1949, gave an oxide that had only a few lumps in it. These were readily crushed to give the characteristic green color of PuO_2. The hydrofluorination of this oxide using the standard cycle gave an entirely satisfactory appearing fluoride. For some unexplained reason a hole was burned in the platinum boat during the conversion.

1204655

Separations Technology Division

The modification of the hood in Room 41 has been completed except for the replacement of the trap in the sink. A coating of duPont clear strippable lacquer No. J-1300-K-10086 has been applied to the interior surfaces of the hood to facilitate future decontamination in this hood.

A method has been developed for reforming chemical 40-8 into pellets of convenient weight. This consists of forcing the molten material through a small glass orifice and allowing it to drop through approximately twelve inches of chilled water.

STACK GAS TREATMENT STUDIES

All routine monitoring measurements obtained at both plant sand filters during the month were within the range of normal operation. Two more activity traverses, employing the lead-shielded "Totem Pole", were made of the B Plant filter. The results indicated that an appreciable proportion of the contamination is being filtered from the ventilation air in passage through the more coarse sand strata, situated below the Type-G layer. This condition would, of course, be advantageous in prolonging the useful life of the installation. Additional traverses with this probe will be made.

An analysis of all runs employing "AA" Fiber in the filtration of Canyon Building ventilation air has revealed that, at a linear velocity of 10 ft./min., each one-half inch thickness removes approximately 80% of the contamination present in the air stream. A program was undertaken to establish the equivalent height of a No. 55 Fiberglas bed, packed to a density of 6 lbs./cu.ft. This has been determined to be 4 to 4.5 inches.

A series of runs was made employing 2 pilot plant units, packed with Fiberglas, for the filtration of the dissolver off-gas stream. Six runs were made with a filter 10 inches in diameter, packed to a depth of 24 inches with No. 55 Fiberglas and at a flow rate of 5 ft./min. The second unit, containing a 4-inch thickness of "AA" Fiber, was operated at a linear velocity of 5 ft./min. during a metal dissolution and the jetting of the metal solution. The beta activity removal efficiencies indicated by CWS Type 6 monitoring filters followed the same pattern in both instances. During periods of high I^{131} concentration it was difficult to obtain reliable and consistent filtration data. However, during periods of relatively low iodine activity (as during sparging and jetting of metal solution) the efficiency was in the order of 98 to 99%.

Three runs were made in an attempt to define more clearly the composition of the activity in the sand filter effluent after it has been recontaminated by addition of gases issuing from the dissolver off-gas line. The results revealed that during actual metal dissolution the amount of beta activity due to I^{131} was more than 10 times greater than that due to other fission products. However, it was also determined that in non-dissolving periods appreciable quantities of beta activity, due to other fission products, passed to the stack from the dissolver off-gas line. A complete understanding of these surges of high-level beta activity is lacking, but one source of this activity has been found to be the jetting of metal solution from the dissolver to storage tank.

A precise balance between the activity of the gases entering and leaving the stack was not obtained. The I^{131} balances resulted in a greater amount leaving the stack over that entering by factors of 3.8, 1.1, and 1.6. In the beta balances this same situation prevailed and the factors were 4.5, 4.2, and 3.5. These factors represent considerable improvement in the data when compared with the so-called recontamination factors (activity evolved from stack divided by activity in sand filter effluent air), which have frequently ranged above 200 at B Plant.

As a result of this recontamination study, a pilot plant unit, comprising a silver reactor and a "AA" Fiber filter in series, has been installed and tested on dissolver off-gas. The apparatus was operated during a metal dissolution and the sparging and jetting of the metal solution to determine if this arrangement can effect a substantially complete decontamination of the dissolver off-gas stream. A complete report on this run will be made upon receipt of all laboratory analyses. A qualitative estimate may be made by comparing the summation of the beta plus gamma Cutie Pie readings on the upstream monitoring filters with that obtained on the downstream monitor. These respective values were 80,000 mrep/hr. and 100 mrep/hr.

[redacted]

INVENTION AND DISCOVERY STATEMENT

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

Inventor	Title of Invention or Discovery
H. S. Gile	The Use of Wetting Agents for Improving the Character of Sodium Uranate Precipitates.
O. F. Hill	Direct Ignition of Plutonium (IV) Phenyl Arsenate to the Oxide as a Means for Separation from Arsenic.
W. H. Reas (Joint invention with W.M. Carson of the Analytical Section)	A Method Based on the Use of Potassium Bromate for the Preparation of Oxalate Supernatants for Recycle to the Peroxide Precipitation Step.

R. H. Beaton

R. H. Beaton, Head
Separations Technology Division

Date: September 1, 1949

[redacted]

METALLURGY & CONTROL DIVISION

AUGUST 1949

VISITORS & BUSINESS TRIPS 9-12-49

G. O'Keeffe, of Argonne National Laboratory, spent August 2-9 with the Metallurgy Section, assisting in the start-up of P-10 alloy operations.

C. F. Metz, of the Los Alamos Scientific Laboratory, spent August 3-4 in consultation with the Analytical Section on the Hanford-Los Alamos sample exchange program.

J. F. Flagg, of the Knolls Atomic Power Laboratory, spent August 30 through September 1 with the Analytical Section discussing Redox analytical methods.

Business trips of personnel in this Division were as follows:

L. D. Turner visited Argonne National Laboratory on August 8-9, Oak Ridge National Laboratory on August 11-12, Massachusetts Institute of Technology on August 15-16 and Knolls Atomic Power Laboratory on August 17-18 to discuss and inspect methods for conducting radio-metallurgical examinations.

C. G. Stevenson attended a meeting of the American Library Association at Vancouver, B. C., on August 21-25.

W. W. Koenig visited Oak Ridge National Laboratory on August 25-26 to survey corrosion damage to Redox process equipment after several years' usage.

R. Teats spent August 30 at the Detroit Gasket & Mfg. Co., Detroit, Mich., supervising the extrusion of P-10 alloy billets.

C. A. Bennett attended a meeting of the Institute of Mathematical Statistics at Boulder, Colo., on August 29-31.

ORGANIZATION AND PERSONNEL

Personnel totals in the several subdivisions are summarized below:

	July 31	August 31
Metallurgy Section	33	35
Analytical Section	323	320
Statistics Group	12	14
Information Group	54	53
Administrative	3	3
Totals	425	425

The Analytical Section employed one non-exempt chemist and one stenographer. This Section transferred one non-exempt chemist and one laboratory assistant to the Pile Technology Division, and one non-exempt chemist to the Separations Technology Division. One laboratory assistant from the Pile Technology Division and one stenographer from the Construction Division were transferred into Analytical. Also, the Analytical Section had one exempt chemist and one stockkeeper return from leaves of absence.

The Metallurgy Section added two non-exempt draftsmen, one as a new hire and one by transfer from the Construction Division. The Statistics Group employed one stenographer, and one non-exempt computer was transferred into this group from the General Accounting Division. The Information Group employed two non-exempt files personnel and transferred two, one to the Transportation Division and one to Separations Technology Division. There were a total of seven voluntary terminations, all non-exempt personnel.

METALLURGY

Uranium Billet Casting

Because Melt Plant furnace pressures have continued rather high, only four additional billets made from pickled chips have been cast at pressures less than 100 microns. Nine more billets of this type are required for PT 314-59-M (evaluating the effect of furnace pressure on uranium quality).

Uranium Metal Quality

Investigation of the chip cleaning and briquetting operations as possible sources of the variable and sometimes high silicon content of Hanford billets is continuing. Previous investigations showed random samples of chips taken after pickling to contain from zero to 400 ppm silicon on the chip surface. Recent data obtained from chips given a more thorough rinsing treatment indicate that the amount of silicon may be materially reduced by this treatment.

Consideration was given an A.E.C. proposal (document GEH-14,729) that pile testing of machined slugs be substituted for the T.D.S. checking of billet eggs in the primary control of metal quality. While the volume of egg testing probably can be reduced, the time lag from billet casting to rod machining is too great for the suggested quality control use. These conclusions were transmitted to the AEC by letter dated August 12 (document HW-14153).

Uranium Rolling

A program has been initiated to develop a procedure for rolling uranium at 300° C, and is detailed in a letter to the AEC dated August 15 (document HW-14166). As a first step, the deformation strength of uranium at 300° C will be established in laboratory rolling tests at Battelle. In the second phase, various fabrication procedures will be tried on a production basis. These studies will cover complete rolling from billet to rod at 300° C, as well as combinations of different types of initial forming at a higher temperature and final rolling at 300° C. This work is related to and will be coordinated with Project Engineering's design of the rolling mill proposed for Bldg. 314 in project C-339.

Slug Canning

A small percentage of the aluminum caps used in canning early in August caused trouble with wetting in the canning bath, and showed a tendency to melt or crumble during preheating. Analysis indicated these caps to contain about 4.5% copper and about 0.8% magnesium, and physical tests showed them to be brittle. Arrangements were made to hold all slugs that might have been canned using such caps, and methods are being developed for sorting out the defective slugs for recovery and recanning.

With the objective of insuring the complete structural transformation of every slug canned by the triple-dip process, experimental equipment has been constructed for agitating four slugs at once in the bronze bath. This change of process will permit each pair of slugs to be retained twice the normal time in this bath, and should make it possible to lower the bronze temperature several degrees with attendant increase in crucible and furnace element life. A "dry run" of this equipment showed the necessity for certain minor changes in design which are now being made.

Preliminary laboratory trials of Al-Si scrap reclamation by molten washing with lead gave inconclusive analytical results. This test is being repeated.

Induction Heating Experiments (P.T. 313-109-M)

Experimental and production test work on the heat treatment of uranium by electrical induction methods continued. The feed mechanism was revised to permit heat treatment of 30-inch sections of rolled rod, followed by vertical quenching. Indications are that a travel rate of 20 in./min. through an induction coil operating at 43 KW, with a 15-second time spacing between the lower end of the coil and the water level, produces satisfactory structures in alpha rolled metal with one cycle and in gamma extruded metal with three cycles.

Samples of these treated alpha rolled and gamma extruded rods, as well as of some cast uranium rods which were induction heated into the beta phase and water quenched, were examined to determine grain size. There was very little difference between the grain size of alpha rolled metal which had been cycled once and gamma extruded metal which has been through the heating and quenching cycle three times, the grain size of both being about 0.150 mm. The core of the gamma extruded rod had a slightly larger grain size (about 0.200 mm). The cast material had a grain size greater than 0.200 mm, but the grains were considerably smaller than previously observed in small chill cast uranium rods. The alpha rolled and gamma extruded rod structures appear at least comparable to those obtained in alpha rolled slugs by the present high temperature bronze dip.

All of the rolled and extruded rod sections required for completion of PT 313-109-M were induction heat treated under the described conditions, and have been machined into slugs. The lead-dip canning of all slugs covered by this production test is scheduled for early September.

Uranium Alloys

Additional heat treatments were run on a few of the uranium binary alloys which were found to have a refined grain structure or a two-phase structure in the

initial work. The alloy containing 0.042 atomic percent barium, which previously was found to have a finer grain size than normal uranium when quenched from the gamma phase, showed grain refinement in additional samples quenched and air-cooled from both the beta and gamma phases. This alloy contained some copper, but since a recheck of the 1 atomic percent copper alloy substantiated that copper has no grain refining effect, the data indicate that barium-uranium alloys containing larger amounts of barium should be investigated.

Two alloys, 1% vanadium and 5.65% aluminum, which contained two phases after the initial gamma anneal, were given additional heat treatments. The results on the vanadium alloy were the same as previously obtained. The aluminum alloy, on being quenched from the gamma phase, had a grain size of 0.035 to 0.045 mm, which was smaller than was initially obtained. Aluminum used alone or in combination with other elements also should be investigated further.

Uranium - 6.16 percent molybdenum alloy samples quenched from 800° C are being held at 100° C to determine if the transformation which occurs at 500° C will also occur at this lower temperature. No transformation had occurred after 96 hours. In addition, it was determined that this alloy, when either quenched or furnace cooled from 800° C, will transform on subsequent heating at 500° C; hence the gamma phase apparently is retained in this alloy even when a slow cooling rate is used.

X-Ray Crystallography

The new XRD-3D diffraction unit was assembled and calibration begun. Except for the back reflection camera, three x-ray tubes and some minor accessories, all equipment has been received and assembled. Difficulty was encountered with the voltage stabilizer section; however, corrective measures have been taken to prevent further trouble.

The mechanical assembly of the neutron spectrometer is nearly completed. A calibration of the gears is being run using a transit accurate to 20 seconds. This work is being done for the Pile Technology Division, who designed the spectrometer and will use it initially.

Dilatometry

A test is being planned to determine whether an expansion measurement can be used to check canned slugs for completeness of the alpha to beta transformation during triple-dip canning. The longitudinal coefficient of expansion of alpha rolled uranium varies from 16.2×10^{-6} C^{-1} for completely transformed specimens, to 8.0 to 2.5×10^{-6} C^{-1} for "as rolled" stock. This difference in expansion coefficient may be sufficient to effect a significant difference in the overall expansion of completely and incompletely transformed slugs when heated from room temperature to some higher temperature. The required special dilatometer is being constructed for trial.

Samples for dilatometric testing which measure 1/2" x 1/2" x 1" have been prepared using dual cut-off wheels in shaping the 1/2" dimension. This sample preparation technique is being investigated because of its suitability for cutting specimens from irradiated uranium.

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Two improvements were made on the recording dilatometer. The use of anti-backlash gears has eliminated temperature lag on the recording chart, and smearing of the expansivity record (caused by movement of the printing mechanism while printing) has been eliminated by deactivating the balancing motor momentarily while the printing wheel is marking the chart.

Radio-Metallurgy

Several sections of VSR (vertical safety rod) thimbles removed from the 100 Area piles were received at the 111-B Bldg. Laboratory to determine the character of the corrosion pits and to measure the wall thickness. This work has been outlined by the 100 Area Program Committee.

The ruptured section of VSR thimble #33-D (taken from D Pile) was sectioned longitudinally and photographed at about 2-1/2X and 7X.

Two sections of VSR thimble #23-D were received for a photo-micrographic comparison of any cold section near the VSR guide with the center of the pile portion. The top section has been light and low pressure tested to determine the nature of the corrosion holes. High pressure testing (approximately 100 psi) will have to be used to duplicate the type of testing that is currently practiced in testing these thimbles en situ. Such a device has been constructed for testing short sections of the thimbles, so that specific locations of corrosion holes may be observed.

A number of Rockwell K and B hardness tests were made on cold uranium wafers. These tests were a part of a general study initiated to obtain reliable hardness values for uranium under reproducible conditions.

The oscillating polishing unit has been very successful in polishing samples through 4/0 paper. The stroke was lengthened to permit a greater utilization of the polishing paper and to speed up the operation. Electrolytic polishing and etching equipment has been assembled and will be temporarily powered by storage batteries. A variable d.c. voltage rectifier is now being investigated.

P-10 Alloy

An initial group of seven Li-Al alloy billets for the P-10 program was completed in the new casting facilities of Bldg. 108-B. These were shipped to the Detroit Gasket and Mfg. Company, and were extruded there on August 16. The resultant rods were returned to Hanford, and those suitable for use have been machined into slugs. Because of some casting defects, and the over-size container used for extrusion, the slug yield from this first group of billets was very low. Analytical purity, however, was good. Another group of nine billets was cast, and these were extruded at Detroit on August 30. All efforts are being made to meet the quota of slugs desired for loading in late September.

Installation of the #2 induction furnace and the lathe was completed early in the month, and operations proceeded as smoothly as could be expected for this experimental process. Mr. O'Keeffe (of ANL) rendered valuable assistance during the start-up, in the course of which it was demonstrated that the direct alloying of lithium and aluminum in the induction furnace (omitting the capsule preparation

step) is an attractive procedure simplification.

Redox Corrosion Testing

Static immersion corrosion tests at room temperature show Tantung and Alumina to be resistant to IAX, IAF, and IAS Redox solutions. Steatite #189-2C is not recommended under these same conditions.

SAE 1010 stressed and welded partial immersion samples and SAE 1020 welded partial immersion samples are in the course of a three-month exposure period in waste and recovery solutions of pH range 1.3 to 13.0. SAE 1020 stressed samples are in a one month exposure range in these same solutions. No results are yet available.

From the corrosion standpoint, all ORNL pilot plant process vessels (with the exception of the IA dissolver), base metal and bells, were found in excellent condition when inspected in late August. The bottom dollar weld of this vessel and the welds securing the slug basket to the bottom dollar were attacked. The degree to which this attack resulted from actual operation, as compared to decontamination cycles, has not been determined. These welds were scheduled for repair prior to re-installation of this vessel. The details of these corrosion observations are to be covered by W. W. Koenig in his trip report.

Miscellaneous

The initial slug containing the beryllium creep specimens, and the aluminum-10% magnesium hardness specimens, was discharged after a 30-day irradiation. On opening the slug, it was found that some water had leaked into the interior due to a failure in the outer weld. Since tests showed the weld to be sound initially, it must have failed either in charging or discharging the slug from the pile. Some corrosion of the magnesium creep fixtures occurred causing the beryllium samples to stick slightly to fixtures, otherwise damage by the water was not serious.

Hardness readings on the irradiated and non-irradiated aluminum-magnesium alloy samples showed that the one month irradiation had produced a two or three point (Rockwell B) increase in hardness of the "as received" sample while the three aged samples showed no change in hardness. Deflection readings were taken on the beryllium specimens, but the data have not been analyzed.

The resistivity of a 30 mil cold drawn uranium wire produced from Hanford slug material was found to be 28.71 micro-ohms per cm. at 25.0° C. The grain structure of this wire will be randomized by a beta heat treatment, and the resistance will be measured again to determine if there is a significant change in resistance with change in orientation. Orientation of the wire before and after heat treatment will be checked by x-ray methods.

The concrete floor was poured and erection of the Stran-Steel Building framework has been started on the Experimental Metallurgy Laboratory, Bldg. 3730.

The field office and workshop of the Plant Assistance Group, designated as Bldg. 3732, is now substantially complete and is being occupied by this group. The

building was formally accepted, with certain exceptions, on August 12.

The alpha rolled rods which had been made from two of the U-238 billets supplied by Oak Ridge were machined into slugs preperatory to lead-dip canning early in September.

ANALYTICAL CONTROL

Work Volume Statistics

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

	July		August	
	Samples	Determinations	Samples	Determinations
Routine Control - 200	1700	3060	2328	4642
Routine Control - 300	413	1572	585	1185
Water Control - 100, 700	822	3091	530	2318
Redox Program Analyses	1864	3482	2576	5821
Process Reagents	707	1265	827	1493
Essential Materials	65	264	148	714
Special Samples	2115	5146	2738	6222
Stack Gas Filters	95	87	121	197
Totals	7781	17967	9853	22595

100 Areas Water Control

Technical laboratory operations in the 100 Areas proceeded routinely.

200 Areas Process Control

Operation of Bldg. 234-5 on a three-shift, Monday through Friday, basis required the scheduling of analytical control personnel to the same basis effective August 29. At present four supervisors, twelve chemists and ten laboratory assistants are assigned to this laboratory. One additional supervisor, three chemists, and five laboratory assistants are required to bring this staff to its normal complement for the present operating schedule.

A vacuum Simpson proportional alpha counter (ASVP) has been installed in the 234-5 laboratory. Samples which have a wide range in plutonium concentration can be counted on either the ASP or ASVP, thereby eliminating trial and error methods of determining correct sample size, and the attendant lost time.

Samples of the canyon wastes from uranium slug aluminum coating removal and the dissolver water washes are now being submitted to the B and T Plant Laboratories for plutonium assay. The results obtained will be used for accountability purposes.

Recovery of several hundred AT retain samples was accomplished, working in a gloved box, but this operation has once again been temporarily suspended due to

lack of manpower. It is expected that it may be resumed early in September.

Routine geometry measurements of the methane proportional alpha counting instruments (accepted value 50.5%) in the 200 Area Control Laboratories were as follows:

Laboratory	Ave. Geometry (%)	No. Tests
222-B	50.48	95
222-T	50.44	80
231	50.47	40
234-5	50.47	22 (for ASP Instruments)
234-5	50.75	30 (for IDL Instruments)

The average precision of the analytical results of the canyon starting solution (6-3-MR), the Isolation Building starting solution (P-1) and the final product solution (AT) may be summarized as follows:

Sample	Precision		
	Expected	July Average	August Average
6-3-MR	1.58%	1.53	1.93
P-1	2.39%	1.55	2.13
AT	1.98%	1.63	1.20

Tests are currently being conducted in an effort to explain the change in precision of the 6-3-MR and P-1 results for August as compared with July.

The results from the assay of the synthetic 6-3-MR solutions are tabulated below. The standard precipitation procedure, C4-2a, was used and percent recovery was based on 1.55×10^6 c/m/ml for 75-lambda samples (July), and 1.054×10^6 c/m/ml for 50-lambda samples (August).

Month	Laboratories	Ave. Results ($\times 10^6$)	No. Assays	% Recovery
July	222-B & T	1.555	18	99.9
August	222-B & T	1.046	13	100.8

The standard iron solution used in the Isolation Bldg. Laboratory to check the chemical titration of plutonium was analyzed a total of 54 times during the month. There were 46, 8 and zero results inside ± 1%, ± 2% and outside ± 2% of the assay value, respectively. The average precision of duplicate titrations was ± 1.18% as compared to ± 0.90% for July.

Assay Value	Group Ave.	% Diff.	No. Determinations	Precision (± %)	
				Single	Duplicate
13.42	13.39	- 0.3	12	2.01	1.42
12.08	12.09	+ 0.1	12	1.55	1.09
15.02	15.01	0.0	14	1.55	1.10
10.19	10.19	0.0	16	0.77	0.55
11.22	11.22	0.0	10	2.45	1.73

Metallurgy & Control Division

300 Area and Essential Material Control

A study of uranium oxide sampling methods has been completed and the data submitted for statistical analysis.

Methods have been established for the analysis of lithium-aluminum alloys: lithium is determined by flame spectrophotometry; Fe, Cu, and Si by wet chemical methods; and other impurities by spectrochemical techniques.

A spectrochemical procedure for the determination of lead in aluminum-silicon alloys has been developed and is available for routine use.

Redox Program Control

At month's end there were 47 people assigned to the Redox Control Laboratory in Bldg. 3706, which represented a reduction of 7 persons during August.

Methods Adaptation

As previously reported, a rapid method for the determination of phosphate in the absence of silica has been developed. A complete description of this procedure was recorded in document HW-14226, entitled "A Rapid Colorimetric Method for the Determination of Phosphate in Uranium Waste Solution." Likewise, document HW-14186, "The Determination of Ruthenium in Ozonized Dissolver Solution," was issued to describe current developments as applied to the estimation of this latter element. Procedures have been developed for the determination of zirconium activity in the presence of aluminum. Aluminum interference is avoided by performing a preliminary separation as sodium aluminate. A report giving details of this procedure is being prepared.

Application of the "falling drop" method to the determination of specific gravities of aqueous Redox solutions is progressing satisfactorily. Apparatus suitable for highly active samples is now being designed, and experimental laboratory work is being directed toward the selection of optimum reference liquids covering the entire range expected in the Redox process.

The volumetric method for the determination of chromium (VI) was successfully reduced to a micro-scale utilizing samples of 10 microliters or less. The precision of the method, based on ten analyses by one chemist, is 2.9% on the LW stream and 2.4% on the LF.

Results to date indicate that the oxalate procedure for the determination of nitric acid is preferable for application to Redox solutions containing lead. The use of isopropyl alcohol as a diluent, and the reprecipitation of the oxalate by heating and cooling just before the endpoint was reached, improved the sensitivity of this method. The presence of lead in Redox solutions precludes the use of the fluoride method. A combination of the two methods has proved to be feasible in Redox solutions containing aluminum.

Experimental Design

Considerable design effort is now being expended on the development of a standard gloved box unit. Currently attempts are being made to define outside measure-

ments for a box which will be applicable to 60% - 80% of the anticipated gloved box needs, in order that boxes may be ordered in quantity from outside vendors. Such boxes will then be fitted together on the plant site, and the necessary fixtures peculiar to each operation installed.

Experimental Shop

The following internal fixtures have been designed and made for use in gloved boxes as a result of assembly of units for the 200 Area Analytical Laboratories: an iodine distillation furnace, an oil bath heater, an arc stand, a quartz window mounting, and an air driven stirrer equipped with a standard taper joint.

Revisions of the Modified Uranium Panel Board have been started for the Methods Adaptation Group. A new syringe control, "teakettle," and heater will be incorporated in the new unit.

Other units of special interest completed this month include a B & G Ion Chamber for the Pile Technology Division; a metallograph shield, Rockwell sample positioner and a remote metallograph polishing head for the Metallurgy Section; and a special source cask and shield for the 234-5 Plant Assistance Group. The last named unit involved both concave and convex sphere generation.

Since three additional machinists now have been added to the Instrument Division Shop (Bldg. 3717) to provide machine work for the Technical Divisions in support of the various experimental shop requirements, all three Technical Divisions have been requested to review their backlog of experimental work. A priority system for controlling the work through both shops (3706 and 3717) is being devised.

Glass Shop

A requisition for the purchase of oxygen and hydrogen manifolds to improve the fuel supply in this shop was placed. When installed, these will partially eliminate the present difficulty in maintaining suitable fires at the various bench locations. Work requests on the Glass Shop continue to maintain a backlog of approximately 180 to 200 man hours; however, all critical needs have been supplied as necessary.

Special Hazard Control

The laboratory waste solution explosion which occurred on the transfer truck at the 200-E Area gate on July 29 was investigated as Special Hazards Incident No. 125, and also as Near Serious Accident No. 49-20. All recommendations to prevent recurrence are being accomplished as rapidly as possible.

ANALYTICAL RESEARCH

A method developed for the determination of oxalate in 234-5 purification supernates is based upon precipitation of the oxalate as the lanthanum salt, and subsequent titration with ceric sulfate.

By the use of Eastman I-L film in combination with a yellow light filter to eliminate spectral interference from second order cyanogen bands, the sensitivity

for potassium in the cupferron-copper spark method has been reduced to 50 parts of the element per million parts of plutonium.

An amperometric method has been developed for the determination of aluminum in the IAW Redox stream. It involves titration with fluoride ion, using ferric iron as the current-indicating ion; dichromate interference can be suitably removed by the addition of bismuth salt.

Following the completion of experimental work, two subject reports were issued during the month: HW-14060, "Determination of ANN in Hexone Streams," by E. W. Ewing, and HW-13301, "The Coulometric Determination of Acetic Acid," by W. N. Carson, Jr. and Roy Ko. Progress reports entitled, "Precision Studies on Redox Standard Samples (HW-14253)," and "Precision and Accuracy of UNH Determinations of IAF and IAFS Redox Standards," were issued.

The Hanford-Los Alamos sample exchange has been completed and reported in Document HW-14191. Analyses of multiple plutonium solutions at both sites showed close duplication of results.

Further experiments with inactive synthetic Rala solutions indicate that less than 1.4 ul of sample will be required to determine Fe, Ni, Cr and Sr in the final product. Nitric acid can be determined in the presence of lead with the automatic titrator if Versene, a commercially-available chelating agent, is used to complex the lead. It has been found that lead can be determined by polarographic means at concentrations around 10^{-5} M; the tolerance concentration of lead after the electrolysis step in the Rala process is in this range. For the spectrochemical determination of impurities in Rala product, spectrum lines have been found having sufficient sensitivity so that one microliter of sample will be sufficient for a single complete analysis.

The electrodeposition method for the preparation of thin film samples has proved to be satisfactory for the deposition of uranium and is being adapted to plutonium samples for alpha energy analysis. While it has not yet been found possible to determine the relative amounts of various alpha emitters in a particular sample with the alpha energy analyzer, it is possible to determine accurately the energies of the various alpha particles emitted from a particular sample.

During the week of August 29, meetings were held with J. F. Flagg of KAPL, the Redox Development and Chemical Research Sections, and the Analytical Section, to discuss the status of Redox analytical requirements and methods development.

STATISTICAL STUDIES

300 Area Operations

Controls established for yield and scrap losses in 300 Area uranium rod machining were put into use by the P Division during August. Based on a statistical analysis of these scrap losses, a recommended process change was made which should result in a substantial reduction in UX scrap. A recommendation which should materially reduce UM scrap also was made.

A study of the precision of wet chemical analyses of Hanford uranium billet

eggs has been completed for the General Chemical Laboratory (Document HW-14268). Extensive sampling studies of 300 Area process sludges and oxides are under way. Determination of the within chemist error in the analysis of 300 Area process oxides was completed.

A study of the reactivity of bare machined slugs as a measure of uranium metal quality is under way, with partial results received and analyzed.

100 Area Operations

Statistical determinations of velocity and acceleration curves from the distance-time graphs obtained during practice drops of the planned type of "sheet" rods for 100-G pile were completed.

Computations were made of the amount of impurities which would be necessary to indicate a lack of control on the CO_2 cylinder pressure control charts furnished the P Division in the 100 Areas.

200 Area Operations

An analysis of Cutie Pie sand filter efficiency data revealed that the previously reported downward trend in efficiency (Document HW-13655) was not due to changes in monitoring positions.

First results in the 6-3-MR plant sampling test were inconclusive, and further data are being obtained. Precision control limits for analysis of extraction waste solutions were supplied to the Analytical Section. Correlation of enrichment level with the difference between AT radio assay and AT chemical assay indicated larger differences than would be caused by the expected isotope content. Data from continuation of a previous study indicated a significant systematic difference between results obtained on AT samples using weight and volume aliquots. Further coincidence tests on alpha counting instruments reveal counting phenomena which are as yet unexplained.

Data from the Hanford-Los Alamos sample exchange test showed no difference sufficient in magnitude to explain the previously observed 1.5% Hanford-Los Alamos product measurement discrepancy. However, during the particular period when the test was in progress, indications are that the specific gravity-chemical assay relationship was such that little, if any, Hanford-Los Alamos difference would have been predicted.

Data from the study to determine the error associated with sampling Redox solutions indicate that sampling is not a significant source of error in the reported analytical results. From data accumulated in past studies for the Redox Standards Group, best estimates of the precision of Redox analysis now in use were prepared and reported.

Continuation of the study of disengaging time of aqueous from hexone solutions indicated that a significant correlation exists between color of aqueous solutions and disengaging time.

Metallurgy & Control Division

General

Probabilities associated with a plant-wide safety award plan were computed for the Safety Division.

LIBRARY AND FILES

General

The Information Group had profitable discussions with I. A. Warheit and A. G. Greene from the Technical Information Branch of the AEC at Oak Ridge. Library and Files procedures were reviewed, and subject headings were developed for the analysis of reports on the 234-5 Process. Other more generalized subject headings lacking in the present edition of CA-1927, but which experience has indicated are needed, were also drawn up. Mr. Greene met with members of the Metallurgy Section to develop workable subject headings for the indexing of metallurgical reports.

Plant Library

Work in the Plant Library proceeded on a routine basis. Reference services were supplied during the month on such varied topics as: Biography of James Bryant Conant; color code for piping; grinding metals optically flat; illustrations of types of shaft seals; drafting room symbols for glass construction; job description of a tool maker; vibration-free mounting for a sensitive instrument; etc.

The periodical collection of the Library was augmented by the addition of a fine run of "The American Journal of Roentgenology and Radium Therapy" from 1935 to date. In addition, volumes were located to complete runs of the valuable periodicals "Radiology" and "Chemical Reviews."

Library statistics were as follows:

	July	August
Number of books on order received	63	243
Number of books fully cataloged	133	364
Number of bound periodicals processed but not fully cataloged	0	97
Pamphlets added to pamphlet file	23	31
Miscellaneous material received, processed, and routed (Included maps, photostats, patents, etc.)	28	7
Books and periodicals circulated	1145	1278
Unclassified reports processed	138	294
Unclassified reports circulated	118	203
Reference services rendered	985	1194

	Main Library	W-10 Branch	Total
Number of books	4767	1845	6612
Number of bound periodicals	3451	100	3551

Classified Files

Arrangements were completed with the Reproduction Section for the photostating of File Record Cards covering classified documents issued and received at the site since General Electric took over Hanford Works. These basic records will be transmitted to the Nucleonics Department files in Schenectady. Copies of new FRC's, as prepared, will also be transmitted to Schenectady to keep this record current.

A draft of AEC Bulletin GM-37, "Procedures for Safeguarding Classified Documents and Other Classified Information," was reviewed. Suggested changes in this Bulletin, which will standardize Files procedures on a Project-wide basis, were drafted and forwarded to GE Security for re-transmittal to AEC Security in Washington.

Effective August 1, a revised regular mail schedule was instituted for the Mail Room in the 300 Area. This will provide four intra-area pickups and deliveries of regular mail per day, and three dispatches of mail daily between the 700 Area Mail Room and the 300 Area Mail Unit.

Work statistics for the Classified Files were as follows:

	July	August
Documents routed	12,081	11,386
Documents issued	5,114	5,949
Reference services rendered	2,614	2,827
Reports abstracted	650	625
Registered packages prepared for offsite	839	377
Inter-area mail sent via transmittal	18,650	8,366

Files Assistance Unit statistics were as follows:

Ditto masters run	708	797
Mimeograph stencils run	848	308
Ditto master copies prepared	18,689	30,761
Mimeographed copies prepared	40,521	32,125
Volume of mail handled	15,448	17,880

INVENTIONS

All Metallurgy & Control 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

Metallurgy & Control Division

covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

Inventors	Item
T. J. Birchill J. W. Dodds	Air Driven Stirrer, Diaphragm Type
T. J. Birchill J. W. Dodds	Air Driven Stirrer, Twin Shaft

Signed T. W. Hauff
Division Head

TWH:mcs

MEDICAL DIVISION

AUGUST 1949

Summary

The Medical Divisions' roll decreased by 13 from 425 to 412.

Further decreases in construction population resulted in a slight decrease in overall medical activities.

Preliminary discussions were held with army officials regarding use by the army of certain of our hospital facilities at North Richland.

The following trips were made:

B. C. Scudder, M. D.: (1) Industrial Insurance Hearing at Yakima, Wash.
(2) Washington State Dept. of Labor in Olympia, and Boeing Aircraft Corporation in Seattle.

D. H. Eckles, M. D.: (1) University of California - week training course in medical aspects of radiation.

Visitors were:
(1) Dr. Ross Anderson, Washington State Dept. of Health, re educational facilities for physically handicapped children.
(2) Mr. C. Lawrence, State Dept. of Health, re hearing aids for accoustically handicapped children.
(3) Mrs. Virginia Fenske, Consultant from Children's Division, Olympia, re social service program for children.
(4) Miss Anna Moore of State Public Health, and a consulting nurse from U. S. Public Health Service, San Francisco, included Richland in a general inspection trip covering public health nursing service in this area of the state.

Industrial

There was no evidence during the month of injury to any employee due to radiation.

Employee physical examinations increased from 2457 to 2918, while first aid treatments were up from 6501 to 7590.

Five major and seventeen sub-major injuries were treated. Five of the sub-major injuries were sustained by G. E. employees.

Sickness absenteeism declined from 1.16% to 1.10%.

The health topic of the month dealt with child health problems, recommending periodic health examinations.

Communities - Hospital and Clinics

Approval was received to increase hospital room rates by about 20%, effective Sept. 12, 1949. Increases in x-ray, laboratory, and miscellaneous other charges were also approved and put into effect Sept. 1st. The new charges represent a low average for similar services in this area.

MEDICAL DIVISION

AUGUST 1949

The average daily census was 64.3, with little change from July, but a decrease of 21% as compared to August, 1948.

Clinic visits rose by 15% from 6492 to 7478. Dental clinic visits increased from 2190 to 2762, a 26% rise.

Public Health

The incidence of communicable disease dropped by about 75%, to the lowest incidence yet experienced on the project.

Mosquito control work presented serious problems with localized breeding areas developing within and just outside the community limits.

Five dairy farms were degraded and their milk eliminated from our supply due to failure to meet sanitary requirements. Three later made the necessary improvements and were re-instated.

Costs (July)

The net cost of operating the Medical Divisions (before assessments to other divisions) was $122,171., a decrease of $1,242. While there was a decrease of $6,534. in net revenue, and an increase of $3,238. in transferred charges from other divisions, these were more than offset by a reduction of $11,014. in direct expenses.

The net expense of the Richland community program was $34,298., an increase of $2,747. Kadlec Hospital expense was $24,149., an increase of $2,814. due in part to decreased revenue and in part to decreased intra-division cost transfers.

Clinic expense was $10,149., little change over the previous month.

MEDICAL DIVISION

AUGUST 1949

Plant Medical Section

General

The total number of examinations increased from 2457 in July to 2918 in August; 922 of these were termination examinations on construction employees. A total of 7530 first aid treatments were given and of these 5 were major injuries and 17 were sub-majors, 5 of which were sustained by G. E. employees.

On August 8th, Dr. Scudder attended an Industrial Insurance Hearing in Yakima. On August 9th, he visited the Washington State Dept. of Labor offices, and on the 10th the Industrial Medical Section of the Boeing Aircraft plant was visited in regard to their medical safety practices and insurance services.

The cardio-vascular system was discussed at the monthly scientific meeting of industrial physicians.

The Health Activities Committee met on August 24th. The health topic dealt with "Child Health". Material on this subject was prepared for distribution and discussion throughout the plant.

Dr. Eckles was sent to the University of California Medical School for one week during the month to complete a course in the medical aspects of radiation. It is planned that he will report on these lectures at future industrial physicians' scientific meetings.

Plant inspections during the month have included the 235 building, the 221T building, and the 181 building in 100-F. One plutonium contaminated wound occurred during the month in the 235 building.

There has been a change in policy of the Washington State Dept. of Labor in regard to waiving the one year statute of limitations for the reporting of industrial accidents. Should this policy continue, it may be necessary to report all injuries to them, which would substantially increase costs. Negotiations are now under way to arrive at an agreement in this regard to prevent or lessen increased costs.

During the month there was no evidence found of job-incurred occupational disease.

Physical Examinations	July 1949	Aug. 1949	Year to date
Pre-employment (G.E.)	212	269	1094
Annual	410	544	3698
Food Handlers	32	56	482
Sub-contractors	1120	1192	15952
Rechecks	132	164	2001
Interval Rechecks (Area)	418	607	4346
Terminations & Transfers (G.E.)	123	93	1869
Government	10	13	70
Total	2457	2918	29512

MEDICAL DIVISION

AUGUST 1949

Laboratory Examinations	July 1949	Aug. 1949	Year to date
Clinical Laboratory			
Government	43	90	356
Pre-employment, termination, transfer	2450	3520	34226
Annual	2504	3288	22604
Rechecks (Area)	2225	3016	22305
First Aid	21	42	397
Plant Visitors	4	0	4
Clinic	2859	3578	29165
Hospital	2147	2390	24784
Public Health (Inc. food handlers)	132	143	2640
Total	12385	16067	136481
X-Ray			
Government	5	10	51
Pre-employment, termination, transfer	355	517	4634
Annual	430	572	3833
First Aid	115	152	1926
Clinic	253	254	2720
Hospital	135	128	1787
Public Health (Inc. food handlers)	57	35	584
Total	1350	1668	15535
Electrocardiographs			
Industrial	109	163	1222
Clinic	10	9	110
Hospital	31	22	222
Total	150	194	1554
Allergy			
Skin Tests	76	27	387
Pathological Slides			
Hospital	3	0	747
First Aid Treatments			
Occupational Treatments	739	840	11505
Occupational Retreatments	2727	3148	43048
Non-occupational Treatments	3035	3602	38516
Total	6501	7590	93069
Major Injuries			
General Electric	0	0	7
Sub-contractors	3	5	84
Total	3	5	91

MEDICAL DIVISION

AUGUST 1949

Sub-major Injuries	July 1949	Aug. 1949	Year to date
General Electric	3	5	32
Sub-contractors	8	12	216
Total	11	17	248

Absenteeism

Weekly employees, all causes	1.96%	1.72%	2.38%
Weekly employees, sickness only	1.16%	1.10%	1.61%
Total days lost by males due to sickness.	981	727	10712
Total days lost by females due to sickness	689	546	7385
Total days lost due to sickness	1670	1273	18096
Investigation:			
Total calls requested	17	10	157
Total calls made	17	10	157
No. absent due to illness in family	1	0	2
No. not at home when call was made	3	0	18

Village Medical Section

General

One dentist terminated and he will not be replaced.

Approval was received from the A. E. C. to increase hospital room rates by about 20%. These increases will become effective Sept. 12, 1949. Charges for x-ray, laboratory, and miscellaneous services have also been increased, effective Sept. 1, 1949.

Medical Division roll decreased from 425 to 412.

The hospital newborn nursery ran at 160% occupancy, which means it is 60% over its rated capacity. This is a dangerous situation which should be corrected at once. This situation will be corrected in the building program.

A new record was established in the hospital obstetrical section with 86 deliveries. The old record was 83.

The average daily census was 64.3 as compared to 65.9 for July, and 81 for August, 1948. This represents a 21% decrease in patient load as compared to August, 1948. The patient load has been unusually low this summer. We expect sharp increases in the fall and winter.

Clinic visits increased from 6492 to 7478, which is a 15% increase over the previous month and 30% below the figure of a year ago. The North Richland medical center accounts for 5% of this total.

The net expense of the Richland community medical program (July) was $34298. as compared to $31551. for June. Breakdown is as follows:

Kadlec Hospital expense $24,149.
This is an increase of $2814. over June, due primarily to reduction of revenue.

Clinic expense 10,149.
This compares to $10,216. for June.

MEDICAL DIVISION

AUGUST 1949

Clinic Visits	July 1948	Aug. 1948	Year to date
Medical	1045	1239	12231
Pediatrics	641	819	6096
Well Babies	114	144	1486
Surgical	573	794	6615
Gynecological	451	522	4806
Obstetrics (new)	76	96	744
Obstetrics (recheck)	768	843	6976
Venereal Disease	42	30	1398
Ear, Nose & Throat	388	403	3823
Eye	262	281	2190
Visits handled by nurses	1296	1407	12725
Night clinic visits	836	900	6703
Total	6492	7478	65733
Average clinic visits per day	249	288	317

Home Visits (Pay cases)

Doctors	114	128	1981
Nurses	79	66	2892
Total	193	194	4873

Kadlec Hospital
Census

Admissions	406	463	4142
Discharges:			
Surgical	94	95	863
Medical	63	63	801
Obstetrical & gynecological	113	107	998
Eye, Ear, Nose & Throat	46	65	522
Pediatrics:			
Children	23	24	350
Newborn	90	72	632
Total discharges	429	426	4166
Patient Days	2045	1996	21351
Average Stay	5.0	4.3	4.9
Average Daily Census: Adults	51.9	51.6	66.0
Infants	14.0	12.8	13.6
Discharged against advice	1	1	18
One-day cases	77	99	744
Occupancy Percentage: Adults	58.3%	57.9%	84.2%
Infants	175.0%	160.3%	170.5%
Admission Source: Richland	72.0%	72.3%	65.0%
North Richland	14.0%	9.6%	16.1%
Other	14.0%	18.1%	18.9%

MEDICAL DIVISION

AUGUST 1949

Operations	July 1949	Aug. 1949	Year to date
Transfusions	38	64	375
Eye, Ear, Nose & Throat	42	65	449
Dental	2	2	13
Casts	19	22	169
Minors	65	54	545
Majors	43	48	471
Vital Statistics			
Deaths	4	6	45
Deliveries	78	86	627
Stillborn	0	0	5
Physiotherapy Treatments			
Clinic	101	131	872
Hospital	22	40	379
Industrial: Plant	117	132	1949
Personal	50	72	489
Total	290	375	3689
Pharmacy			
Number of prescriptions filled	2474	2829	26682
Patient Meals			
Regulars	2641	2363	28513
Lights	171	68	1155
Softs	803	835	10154
Surgical Liquids	75	110	775
Tonsils & Adenoids	80	149	1062
Specials	830	1040	8768
Liquids	173	151	1740
Total	4773	4716	52167
Cafeteria Meals			
Noon	2204	2320	19355
Night	288	307	2522
Total	2492	2627	21877
Nursing Personnel			
First Aid nurses	38	36	
Clinic nurses	15	16	
Public Health nurses	12	12	
Hospital general nurses	71	62	
Aides & Orderlies	38	32	
Total	174	158	

MEDICAL DIVISION

AUGUST 1949

Public Health Section

General

The incidence of communicable diseases dropped approximately 75%. This represents the lowest incidence of communicable diseases experienced on the project.

Mosquito control work has constituted the major problem. Several localized breeding areas have been found within the village limits and immediately outside the residential area. These breeding areas are a result of excessive watering, poor drainage, and irrigation water run-off.

Five dairy farms were degraded during the month for failure to meet requirements and their milk eliminated from the supply. Three have since made the necessary improvements and have been reinstated.

Administration	July 1949	Aug. 1949	Year to date
Newspaper Articles	10	10	143
Committee Meetings	10	3	61
Attendance	50	15	715
Staff Meetings	2	4	18
Lectures & Talks	3	3	29
Attendance	70	70	2839
Conferences	4	5	237
Attendance	50	25	995
Radio Broadcasts	0	0	3

Immunizations

Cholera	0	0	3
Diphtheria	49	106	1726
Influenza	0	0	5
Rocky Mt. Spotted Fever	31	3	86
Smallpox	4	16	757
Tetanus	13	28	56
Typhoid	3	3	30
Whooping Cough	0	0	2
Vollmer Patch Test	0	0	7
Total	100	156	2672

Social Service

Cases carried over	89	87	691
Cases admitted	17	13	169
Total	106	100	860
Cases closed	19	14	162
Remaining case load	87	86	698

MEDICAL DIVISION

AUGUST 1949

Sources of Referral (Social Service)	July 1949	Aug. 1949	Year to date
Public Health	2	3	29
Doctors	8	7	72
Hospital	0	0	2
Interested Person	1	3	15
School	0	0	5
Personnel Office	0	0	1
Personal application	3	0	17
Housing	0	0	2
Other agency	2	0	14
Miscellaneous	1	0	13
Total	17	13	170
Sanitation			
Inspections made	207	159	2310
Bacteriological Laboratory			
Treated water samples	178	247	1609
Milk Samples (Inc. cream and ice cream).	40	123	960
Other bacteriological tests	203	196	2135
Total	419	566	4704
Communicable Diseases			
Amoebic Dysentery	0	1	3
Chickenpox	50	12	563
German Measles	9	8	185
Gonorrhoea	1	1	29
Impetigo	3	0	6
Influenza	0	0	9
Measles	39	5	374
Meningococcic Meningitis	0	0	3
Mumps	1	0	26
Pediculosis	0	0	12
Pinkeye	0	0	33
Poliomyelitis	0	0	1
Ringworm	3	1	17
Scabies	0	0	8
Scarlet Fever	0	0	12
Syphilis	4	0	78
Tuberculosis	2	1	8
Vincent's Infection	0	0	2
Whooping Cough	1	0	5
Total	113	29	1374
Total No. Nursing Field Visits	1196	790	10211

MEDICAL DIVISION

AUGUST 1949

Dental Section

General

Dental visits increased 25% over the previous month, but fell below the figure for a year ago by 30%. One dentist terminated during the month.

	July 1949	Aug. 1949	Year to date
Patients treated.....	2190	2762	23207

MEDICAL DIVISION

PERSONNEL SUMMARY

August 31, 1949

	1100 Area					3000 Area					
	Division Administration	Industrial	Clinic	Hospital	Public Health	Administration	Industrial	Clinic	Hospital	Public Health	Sub-total
Physicians	2	3	17.4	2	1		3	3			31.4
Dentists			9					1			10.
Nurses	2	11	14	62	10		2	2		2	105.
Nurse Aides		1	3	26	1						31.
Orderlies				6				1			7.
Ambulance Drivers		4									4.
Techn. Dent. Hyg.			1								1.
Techn. Clin. Lab.				13.8			1				14.8
Techn. X-Ray Lab.				5			1				6.
Techn. Bact. Lab.				1							1.
Techn. Phys. Therapy				2							2.
Accountants	2										2.
Secretaries	2										2.
Cler. Work. Leaders	1			1							2.
Steno. & Typists	3			3	2						8.
Off. Mch. & Tel. Opr.	6	1									7.
General Clerks	20	14	9	11	1	1	10	1			67.
Pharmacists				4							4.
Dietitian				1							1.
Cooks				5							5.
Kitchen Workers				11							11.
Soc. Serv. Counselors					3						3.
Health Educator					1						1.
Dental Assistants			8					1			9.
Janitors		4.8	2.7	7.4	.7		1.8	1.4		.2	19.
Bacteriologists				2							2.
Records, Supervisors	2										2.
Jr. Engineer	1										1.
Acctg. Supervisors	3										3.
Admin. & Ass'ts.	3										3.
Others			3	6	2						11.
Sanitarians					3						3.
Total	47	38.8	67.1	169.2	24.7	1	18.8	10.4	0	2.2	379.2

Medical Division personnel located in outlying areas shown on next page.

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MEDICAL DIVISION

PERSONNEL SUMMARY

August 31, 1949

	Outlying Areas										
	Sub-total	100-H	White Bluffs	100-B	100-D	100-F	200-E	200-W	300	Plant General	Total
Physicians	31.4	.25	.25	.1	.1	.1	.2	.4	.2		33
Dentists	10.										10
Nurses	105.	4	1	1	2	4	4	5	2		128
Nurse Aides	31.										31
Orderlies	7.										7
Ambulance Drivers	4.										4
Techn. Dent. Hyg.	1.										1
Techn. Clin. Lab.	14.8			.4	4	.4	.4	.8	.8		16
Techn. X-Ray Lab.	6.										6
Techn. Bact. Lab.	1.										1
Techn. Phys. Therapy	2.										2
Accountants	2.										2
Secretaries	2.										2
Cler. Work. Leaders	2.										2
Steno. & Typists	8.										8
Off. Mch. & Tel. Opr.	7.										7
General Clerks	67.	1		.5	.5	1	.5	.5	1		72
Pharmacists	4.										4
Dietitian	1.										1
Cooks	5.										5
Kitchen Workers	11.										11
Soc. Serv. Counselors	3.										3
Sanitarians	3.										3
Health Educator	1.										1
Dental Assistants	9.										9
Janitors	19.										19
Bacteriologists	2.										2
Records Supervisors	2.										2
Jr. Engineer	1.										1
Acctg. Supervisors	3.										3
Admin. & Ass'ts.	3.										3
Others	11.										11
Total	379.2	5.25	1.25	2	3	5.5	5.1	6.7	4	0	412

Number of employees on payroll:

Beginning of month	425
End of month	412
Net decrease	13

[redacted]

HEALTH INSTRUMENT DIVISIONS

AUGUST 1949

Summary

Personnel additions and removals from the roll balanced resulting in no change in the force total. There were two Special Hazards Incidents, neither involved significant exposure. Confirmation was received from Los Alamos of the suspected plutonium deposition in one individual.

The Operational Division report indicates an increase in the frequency of skin contamination. Several relatively hazardous jobs were completed safely. In one case, departure from the 50 mr/hr standard was justified.

In the Development Division atmospheric monitoring and land and vegetation contamination results were at normal levels. The study of stack effluents from the Melt Plant, 300 Area, is nearing completion. In Bioassay, three significant Pu results from the previous month were not confirmed by resamples run during this period. The maximum uranium content found in urine of 300 Area workers was 38 μg/liter.

Biological monitoring revealed increased activity in aquatic life in the Columbia River.

[redacted]

Health Instrument Divisions

HEALTH INSTRUMENT DIVISIONS

AUGUST 1949

Organization

The composition and distribution of the force as of 8/31/49 was as follows:

	100-B	100-D	100-F	100-H	200-W	200-E	300	700	P.G.	Total
Supervisors	0	1	3	1	10	4	14	7	0	40
Engineers	5	4	12	0	23	11	7	1	0	63
Clerical	0	0	2	0	1	1	3	7	0	14
Others	8	9	20	0	70	31	51	7	5	201
Total	13	14	37	1	104	47	75	22	5	318

Number of Employees on Payroll	August 1949
Beginning of Month	318
End of Month	318
Net Change	0

Added to the roll were a technical graduate, a secretary, a steno-typist, a general clerk, a laboratory assistant and a motor-messenger. Removed from the roll were a technical graduate, a technologist, two general clerks, a laboratory assistant and a draftsman.

General

A discouraging revision of the completion date of the Biology Laboratory until June, 1950 has been received. Earlier completion is imperative. The close integration of the Biology program with ultimate expenditures by the Manufacturing Divisions cannot be overemphasized. Two current examples can be quoted:

1. In the particle problem, attempts to have the biological implications solved in academic institutions have been singularly ineffective to date. The direct practical approach at Hanford is needed. For safety, it is necessary to press for improved removal of active particles, a costly procedure that may ultimately be shown to be unnecessary.

2. The body retention of plutonium salts from very dilute aqueous solutions is unknown. Estimated (essentially guessed) values range

Health Instrument Divisions

all the way from 0.01% (U.S.) to 100% (British) retention. The value is critical in estimating the validity of disposal of wastes to ground. This situation has existed for years. It will clearly be resolved only by local efforts. It is a typical practical problem, extremely difficult in technique, but of zero academic interest. The Biology Division is attempting a provisional solution under most unfavorable conditions. Solution of this one problem may dictate whether or not a recommendation for storage of wastes, representing an annual charge of 2.5 to 4 million dollars (until a concentration process is developed), should be made.

An interim report from the U.S.G.S. on the ground water table and the possible movement of wastes released to ground was received. The water table motion has been well outlined in the study. More speculative are the conclusions on potential hazard of transmission of wastes, especially plutonium, through the soil, because the U.S.G.S. lacks quantitative appreciation of the radiation hazard. As indicated in problem (2) above, the supposed expert opinion also covers a tremendous range of uncertainty. The report requires further review, but in general, it will tend to lead to a more conservative (and hence more costly) waste disposal practice.

Two Class I Special Hazards incidents were investigated. One involved failure of Health Instrument Divisions personnel to evaluate a task correctly; the other involved improper transfer of contaminated counting equipment. In neither case was there an actual significant exposure.

Confirmation has been received from Los Alamos of the suspected plutonium deposition in one individual. The deposit estimated here by generous extrapolation of the elimination rate formula was 3 μg Pu. The Los Alamos estimate was 2 μg Pu with high probability that some lung deposition would later find its way to the skeleton. Such agreement is considered remarkably close, and merits commendation of the system of bioassay developed by J. W. Healy and his associates here.

The following trips were reported:

N. L. Dockum - Oregon State College - Photomicrographic technique

L. K. Bustad - Prosser, Pullman, Moscow, Benton City - Organization of Animal Farm

K. E. Herde, J. F. Cline, A. A. Selders - Prosser Experimental Station

Health Instrument Divisions

Visitors included Dr. Paul B. Pearson, Assistant Director - Division of Biology and Medicine - A.E.C. - Washington, D. C.

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

Inventor	Title
M. F. Scoggins	Recording wind flow and direction meter

This has been submitted to Dr. F. E. Church, Meteorologist, for evaluation.

Health Instrument Divisions

OPERATIONAL DIVISION

100 Areas

General Statistics

	July				August				1949 to Date
	B	D	F	Total	B	D	F	Total	
Special Work Permits	480	912	620	2012	570	735	760	2065	15938
Routine & Special Surveys	457	531	523	1511	521	491	567	1579	12878
107 Effluent Surveys	90	93	87	270	89	94	87	270	2273
Air Monitoring Samples	87	112	132	331	74	113	100	287	2528

Retention Basin Effluent

The activity of the water leaving the retention basin was as follows:

	100-B	100-D	100-F
Power level (MW)	275	305	275
Average beta dosage-rate (mrep/hr)	0.8	0.6	0.8
Average gamma dosage-rate (mr/hr)	1.7	1.9	2.5
Average total dosage-rate (mrep/hr)	2.5	2.5	3.3
Average integrated dose in 24 hours (mrep)	60	60	78
Maximum integrated dose in 24 hours (mrep)	74	94	83
Maximum integrated dose in 24 hours (mrep) (1949)	108	132	106

100-B Area

Several persons were exposed to radiation from an irradiated metal slug when a pair of tongs was removed from the Storage Area Basin at the elevator pit on the wash pad. The active metal piece was locked in the tong grippers and was not observed until it was completely out of the water. The incident was attributed to lack of space and poor lighting in the elevator pit. However no overexposure occurred.

An irradiated piece became lodged on the tip-off during discharge operations and was removed by a spline inserted at the charge face of the Pile. As the piece was freed it fell under the 10-foot catwalk and was then pushed into the basin by means of a 20-foot pole. There was no overexposure to personnel.

Skin and clothing contamination occurred when a connection on the pressure release assembly of the "B" Experimental Hole water line was broken. Other instances of personnel contamination occurred during work on the process tubes on the Experimental Level and in the vicinity of the No. 4 Area Storage drain. All contamination was satisfactorily removed.

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Difficulty encountered in the removal of graphite samples from the "B" Experimental Hole resulted in some exposure to personnel. Contamination was prevalent throughout the work but was well controlled. The need for improved equipment at all experimental holes was indicated.

A dosage-rate of 140 mr/hr was reported in the radiation beam emerging from the top far edge of the Pile. Surveys for fast neutrons in this beam showed the maximum flux of about 15 mrem/hr.

P-10 Operations - 108 Building

Escaped radioactive gas was indicated by Kanne Chamber readings during the removal of equipment used in Hoods No. 1 and No. 2 for processing Li F pieces. Fresh air masks and protective clothing were required throughout the room during this work. Several P-10 alloy pieces were processed in the Can Opening Room and dosage-rates of 240 mr/hr at 3 inches were observed on individual pieces. Dosage-rate from a loaded furnace tube was 100 mr/hr at 3 inches.

100-D Area

Personnel contamination occurred during the routine removal of process tube No. 3469. Previously the tube was used for graphite samples and was swabbed before removal. However, some graphite remained in the tube and was the source of a contamination hazard. Personnel contamination was easily removed.

Contamination spread was found in the Can Opening zone in the Transfer Area following work in this region by the Pile Technology group. One small particle of material showed an uncorrected surface dosage-rate of 1.6 rep per hour including 70 mr/hr at 1½ inches. Almost all parts of the equipment were found contaminated with both alpha and beta emitters.

The radiation level of the stack exhaust air showed a considerable increase on August 7, 1949. Investigation revealed a blown oil seal on the #3 Drier was the cause of the increased activity. The drier was taken out of service.

The radiation intensity in the beam at the far edge of the Pile was 2 roentgens per hour. The dosage-rate on the 50-foot far roof was 53 mr/hr.

100-F Area

The replacement of vertical safety rod thimbles was accomplished at high exposure rates. In order to complete the work in the scheduled

time it was considered legitimate to increase calculated exposure to 100 mr for each day on which the work was carried out. The average exposure rate at 10 feet was about 1 roentgen per hour. No actual daily exposure exceeded 50 mr. Air samples taken during the work showed a maximum concentration of 3.8×10^{-5} uc/liter. The level of radiation in the burial ground increased to 2.5 roentgens per hour at the lip of the trench after burial of the thimble sections.

The charging rod for the "T" Experimental Hole stuck about 8 feet out of the Pile while samples were being inserted into the hole. The rod was freed during the subsequent shutdown.

Exposure rates in the Gas Purification Building increased steadily with the addition of CO_2 to the Pile atmosphere. Dosage-rates in the Drier Rooms during operation of the drier are approximately 1 roentgen per hour.

The radiation beam at the top far edge of the Pile showed no increase in activity. A widening of the beam was evident near the corners of the Pile but there was no significant change in width at the mid-point of the top far edge.

200 Areas T and B Plants

General Statistics

	July			August			1949
	T	B	Total	T	B	Total	To Date
Special Work Permits	245	310	555	327	391	718	6212
Routine & Special Surveys	404	473	877	535	568	1103	8443
Air Monitoring Samples	312	805	1117	461	889	1350	9390
Thyroid Checks	72	40	112	168	101	269	1658

Canyon Buildings

In the T Plant the interchange and removal of Canyon equipment caused gross contamination on the Canyon deck. A box of equipment removed from Cell 11-R to the burial ground showed a dosage-rate of 150 mr/hr at 50 feet, and a maximum exposure rate of 200 mr/hr was recorded during burial. Experimental use of the G. E. Cocoon as a protective coating to the deck prevented contamination soaking through on to the deck proper, however, considerable difficulty was experienced when the material was removed from the deck. In all instances, grossly contaminated spots were cleaned immediately and extensive decontaminating efforts are now in progress to clean the entire Canyon Deck.

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Health Instrument Divisions

Constant monitoring was provided for six samples when high dosage-rates were encountered. A total of 161 Canyon air samples showed significant concentrations, maximums were 60 mrep/hr at the surface of a sample taken during testing operations in Sections 8 and 9, with the blocks removed and 8.6×10^{-9} µg Pu/cc obtained during paper pickup at Sections 14 through 16.

In the B Plant the R-13 Change House was completed during the month and is now in regular use. The decontamination station at Section 1 of the Operating Gallery was also completed. Dock contamination at Sections 18 and 19, as reported last month, was successfully cleaned and Canyon contamination conditions continued to improve. Two boxes of contaminated equipment were removed from the Canyon to the railroad burial ground. Dosage-rates as high as 4.5 roentgens per hour were encountered but no overexposure resulted. A total of 27 Canyon air samples showed significant concentrations with a maximum of 6.6×10^{-5} µc f.p./liter obtained during jetting in 7-L and 7-R with the blocks removed.

Control Laboratories

In the T Plant, 246 items, not regulated with respect to handling, were found contaminated on surveys by H. I. and Technical personnel. In addition, 55 contaminated floor locations were reported. Five cases of fission product and two cases of product hand contamination were reported and were successfully cleaned. Floor spots of unknown source were found in Room 7 with a maximum surface exposure rate of 300 mrep/hr reported.

In the B Plant, 182 items, not regulated with respect to handling, were found by H. I. and Technical Division personnel. In addition, 31 contaminated floor locations were reported. No cases of product or fission product hand contamination were reported. A carton of waste from the 300 Area showed a maximum dosage-rate of 2.2 rep per hour, and slurping was accomplished with a maximum exposure rate of 80 mr/hr.

Concentration Buildings

In the T Plant, 35 contaminated floor locations in the F-10 Room and the clothing Change Room showed a maximum of 15,000 d/m and were cleaned. Failure to follow the step off mat procedure in the F-10 enclosure was considered the source of spread of contamination. A maximum of 9,600 d/m was obtained on smears of the A Cell roof fans.

In the B Plant, a maximum dosage-rate of 1.2 rep per hour was obtained during the installation of a water seal on the A-1 tank with an exposure rate of 400 mr/hr reported. Since the installation of the water seal, continuous air samples of the roof exhaust showed an average of 15 µgm Pu/24 hours for A Cell, 13 µgm Pu/24 hours for B Cell and 10 µgm Pu/24 hours for D Cell. Although this represents a decrease from last month, the actual operating time of the cells was also reduced through this period.

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Waste Disposal Areas

In the T Plant, contamination on the 4 inch riser of the 101-TX Tank was reported with a maximum surface dosage-rate of 750 mrep/hr including 12 mr/hr at 2 inches. An air sample taken over this riser during jetting showed a concentration of 2.3×10^{-5} uc f.p./liter and less than 1×10^{-11} µgm Pu/cc. Two 100 gallon metal waste samples were taken from the 103-U tank with a maximum surface dosage-rate of 3.5 rep per hour including 120 mr/hr at 2 inches on the sampling equipment. A maximum exposure rate of 750 mrep/hr including 10 mr/hr was reported during sampling. A New York Central express car #9158 used for the return of transfer casks from the Oak Ridge National Laboratory was found contaminated up to 3 rep per hour including 30 mr/hr at 2 inches on the floor and side walls.

Plant Laundry

A total of 48 continuous and 75 spot air samples was taken during laundry operation, and the maximum concentration found was 7.3×10^{-6} µgm U/cc during the washing of 300 Area clothing. All fission product concentrations were less than 10^{-7} µc f.p./liter.

General

All thyroid checks were below the warning level.

The Isolation Building

General Statistics

	July	August	1949 To Date
Special Work Permits	24	15	263
Routine and Special Surveys	257	305	2443
Air Monitering Samples	546	622	3854

Operating Cells

A total of 254 spot and continuous air samples was taken in the operating cells and one high result of 1.4×10^{-11} µg Pu/cc obtained in Cell 4 during normal operation. Two significant air samples were obtained at the sump pit during SWP work when assault masks were worn, the maximum of which was 1.5×10^{-10} µg Pu/cc. Six items not regulated with respect to handling were found contaminated on surveys by H. I. personnel; one was above 20,000 d/m. No floor contamination was reported. One instance of hand contamination was attributed to handling a contaminated tool in Cell 5. About 0.10 µg of Pu was involved and was successfully decontaminated. A total of 114 special air samples was taken while testing the filtered and unfiltered air from the Cell 2 A log exhaust and

testing assault mask canisters. The maximum concentrations found were 2.6×10^{-7} µg Pu/cc in the unfiltered air and 2.4×10^{-11} µg Pu/cc in the filtered air. Thirteen samples of the 903 system exhaust air showed a maximum concentration of 2.9×10^{-12} µg Pu/cc which is lower than for the five previous months. The maximum gamma radiation levels encountered were 24 mr/hr on PR containers, 3 mr/hr at Process Hoods, and 5 mr/hr on SC.

Control Laboratories

A total of 216 items, not regulated with respect to handling was found contaminated on surveys by H. I. and Technical Division personnel. Thirteen were above 20,000 d/m including two above 80,000 d/m.

A spill in the Counting Room involved about 17 µg Pu spread over the floor and instrument tables. Three pairs of contaminated shoes were then found in the women's Locker Room, and 5 in the men's. No other spread of contamination as a result of this spill was found. Decontamination was successful. An additional twenty contaminated floor locations were reported.

Skin contamination of about 8.6 µg Pu occurred when a pair of forceps being used to remove the cap from a sample holder in a dry box, slipped and punctured the rubber gloves. The contamination was successfully removed. Another instance of skin contamination was attributed to improper removal of contaminated gloves.

234-5 Buildings

General Statistics

	July	August	1949 To Date
Special Work Permits	162	201	363
Routine & Special Surveys	250	385	635
Air Monitoring Samples	1511	2276	3787

Operating Sections

Gross spread of contamination over hoods 6 and 7 and the floor in Room 228

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resulted from leaks in the process transfer lines and from maintenance work on the vacuum system. A maximum air concentration of 4.1×10^{-9} µgm Pu/cc was reported during waste removal in Room 228.

A maximum air concentration of 7.2×10^{-10} µgm Pu/cc was obtained in Room 230 when the air locks were open. Respiratory protection is required during this condition. The maximum air concentration obtained when air locks were closed was 2.6×10^{-11} µgm Pu/cc.

Five instances of skin contamination were reported and all successfully removed.

Gamma radiation measurements taken in Hoods 11 through 28 indicate an estimated contact dosage-rate of 200 mr/hr.

Control Laboratories

A total of 59 positive air samples was obtained with a maximum of 5×10^{-10} µgm Pu/cc reported in Room 157. Thirty-eight of the 59 were continuous samples and 4 of these were above 10^{-11} µg Pu/cc. Respiratory protection is required in Room 157 during operation as a result of these findings.

A maximum air sample concentration of 2.1×10^{-9} µgm Pu/cc was obtained during the firing of the Spectrograph, respiratory protection is also required for this operation.

A total of 90 items, not regulated with respect to handling, was found outside hoods by H. I. and Technical Division personnel. In addition, 127 contaminated floor locations and, 24 instances of work clothing contamination were reported. Nine hand contaminations were reported and all successfully cleaned.

General

A total of 63 positive air samples was obtained for Process Hood air after primary filtering. The maximum air sample concentration was 1×10^{-9} µgm Pu/cc from the composite exhaust air of Hoods 8 through 28. Special samples to determine the possibility of a primary filter failure showed no proof of this. Composite samples of building exhaust air were all below 10^{-12} µg Pu/cc except for the 26-inch vacuum line. Here 14 samples above 10^{-12} µg Pu/cc were obtained with a maximum of 2.4×10^{-11} µg Pu/cc reported.

Assault masks were required in the sump tank area as a result of an air sample taken there which showed 5.7×10^{-10} µg Pu/cc.

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The 300 Area

General Statistics

	July	August	1949 To Date
Special Work Permits	130	235	1582
Routine & Special Surveys	142	197	1361
Air Monitoring Samples	174	164	1032

Metal Fabrication Plant

Twelve of 19 air samples taken were above 5 x 10^{-5} μg U/cc as follows:

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Skin contamination occurred when a chemist inadvertently touched his face with contaminated tweezers. Contamination was readily removed. The truck bed, contaminated when a waste solution being transferred to the 200-E Area exploded was removed and buried. The truck chassis was decontaminated and released.

Cold Semi-Works Building

Two of 79 air samples taken were above 5×10^{-5} μg U/cc. Both were obtained in the F cell balcony during operation of the small centrifuge.

A total of about 1,188 lbs. of uranuim has been discharged to the old waste pond of which about 240 lbs. were added in August. The total uranium in waste solution to the 300-N crib remained at about 63 lbs.

General

Surveys outside the 2 MEV X-ray building during trial runs of the equipment showed a maximum dosage-rate of 4.7 roentgens per hour adjacent to the south wall, additional shielding reduced this reading to 600 mr/hr. A dosage-rate of 20 mr/hr was reported 25 feet from the building at this time.

Hand Score Summary

A total of 38,424 alpha and 35,166 beta hand scores was recorded. About 0.2% of the alpha and about 0.07% of the beta scores were high. No attempted reduction was indicated for 1 high alpha and 4 high beta scores all in the 300 Area. Where decontamination was attempted, it was successful in all cases.

Health Instrument Divisions

PERSONNEL METERS

Pencils

	100-B	100-D	100-F	E&N 200	200-W	300	Total	1949 To Date
Pencils read	10,207	10,292	14,824	27,385	44,932	37,563	145,203	1,195,185
Single readings (100 to 280 mr)	3	16	25	31	109	36	220	2017
Paired readings (100 to 280 mr)	0	0	1	0	2	0	3	17
Single readings (Over 280 mr)	19	19	57	43	168	112	418	2367
Paired readings (Over 280 mr)	0	0	0	0	5	3	8	28
Paired readings Lost	2	0	1	0	0	0	3	47

No significant pencil result was confirmed by the badge result. Investigation of lost readings showed no possibility of overexposure.

Badge Resume, Construction Areas

	105-DR	384	Total	1949 To Date
Badges Processed	451	66	517	62,681
No. of Readings: (100 to 500 mrep)	0	1	1	209
No. of Readings: (Over 500 mrep)	0	0	0	19
Lost Readings:	0	0	0	56

Badges

	100-B	100-D	100-F	200-E	RMT 200-N	200-W	300	Total	1949 To Date
Badges Processed	1,708	1,785	2,231	2,177	528	5,201	5,715	19,345	157,837
Number readings: (100 to 500 mrep)	10	9	25	2	0	9	117	172	1,955
Number readings: (Over 500 mrep)	0	0	0	0	0	0	9	9	21
Lost Readings	0	2	1	0	0	0	0	3	143

All of the results over 500 mrep were attributed to faulty film.

Lost readings were accounted for as follows:

Badges dropped in liquid	2
Badge lost in Area	1

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Investigation of lost readings showed no possibility for an overexposure.

Badges processed, 1949, -	Operations	157,837
	Construction	62,681
	Total	220,518

In addition, 1,949 items of non-routine nature were processed. The 1949 total to date is 19,745.

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CONTROL AND DEVELOPMENT DIVISION

Control Functions

Water samples were taken from all scheduled locations. One sample from 3000 Area had 43 dis/min/liter of alpha activity but was not confirmed by any of the five other samples from this well. The 251 Building samples gave normal amounts of alpha activity this month. Test well and river samples were normal.

Atmospheric monitoring and land and vegetation contamination results were at normal levels. A number of large pieces of radioactive material (up to 20,000 c/m on a VGM) were found near the road outside of the east fence of the B Plant. These particles were large flakes (up to ½ inch across) of a greyish material. The area in which they were found is small but further surveys are now being made.

Geology

The continued dropping of the water table in the 300 Area, of about one half foot per week, has resulted in a significant increase in alpha activity in the water in Well 303-2 from 114 dis/min/liter to 237 dis/min/liter. However, during this same period the alpha activity in the water in Well 303-1 has dropped from 194 dis/min/liter to 56 dis/min/liter.

Activity in Wells 361-B-1 and 361-B-9 at 200-E Area are following the curves of decreasing activity previously reported. Contamination of the wells is 530 and 1030 micro-microcuries/liter (fission products) and 60 and 189 dis/min/liter (alpha), respectively.

The water table, which was unchanged last month in the 108-B wells, started dropping at a rate of about one half foot every two weeks. The beta-gamma activity in the water at this location remained below the significant level. No analyses have been received to date that have shown significant amounts of tritium in the water samples obtained from the 108-B Wells.

The 200-West Area ground water mound continues to rise slowly, and is showing the most effect in wells to the north and west of the area, suggesting that the mound is spreading laterally in that direction. The mound beneath the 200-East Area swamp has shown a slow decrease in elevation of one foot in the past five months.

Two earthquake tremors were recorded by the water stage recorders during the report period. Ten of the 15 recorders noted a shock at 9:00 P.M. (D.S.T.) on August 21, the water table fluctuation amounting to 0.2 foot. Ten recorders (including some that did not record the August 21 quake, and not including some that did) indicated a

quake on August 23 at about 5:00 P.M. (D.S.T.). Maximum fluctuation of the water table was about 0.02 feet. These fluctuations are comparable to the quake of April 13, 1949, which showed a fluctuation (maximum) of 0.1 foot. Permeability of the sediments, depth of water column and nearness to basalt seem to be significant factors in determining which wells will record fluctuations.

Meteorology

The weather for August, 1949, was, like in the two preceding months, featured by unusual dryness. The only measurable precipitation was 0.03 inch recorded in a brief shower on the evening of the 24th. Normal for the month of August is 0.19 inch. Precipitation during the combined months of June, July, and August, this year, totaled only 0.05 inch. This small amount made the summer of 1949 the second driest in the 35-year history of precipitation records in this locality. In the year 1919, the U. S. Weather Bureau Cooperative Observer at Hanford recorded only a trace of precipitation during the three summer months. Precipitation since January 1, this year, now totals 2.16 inches, more than half of which occurred during the month of March. Normal precipitation from January 1 to August 31, inclusive is 3.50 inches, leaving a deficiency this year amounting to 1.34 inches.

Temperatures during the past month averaged 74.9 degrees. Normal for August is 74.0 degrees. The slightly above normal average for the past month resulted from the warm periods during the first three and the last five days. Highest temperature for the month was 104 on the 1st; the lowest was 47 on the 26th.

An electrical storm occurred during the late evening of the 1st and the early morning of the 2nd. There were lightning strikes near-by, but there was no known damage from the storm. No dust storms or high winds occurred during the past month. The earthquake which was experienced at Spokane, Seattle, and other parts of the Pacific Northwest on the evening of the 21st, was not felt at this station.

Forecasts	Number	Percent Reliability
8-Hour Production	93	88.1
24-Hour General	62	80.7
Special	11	72.7

Bioassay

Four hundred and twenty-five samples were analyzed for plutonium during the month. The blank samples and samples averaged 0.02 and 0.03 d/m with an average yield of 95% on the spiked samples. The three resamples from last month have been processed and found to be less than 0.33 d/m.

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Two hundred and thirty-six urine samples were analyzed for uranium on the fluorophotometer. The uranium content of the samples was:

Job	Maximum ug U/liter Urine	Average ug U/liter Urine
Melt Plant	36	19
Material Handling	27	16
Machining	23	10
Canning and Dipping	29	6
Inspection	38	8
305 Building	17	6

Methods Development

Low yields are being obtained on the electro deposition of plutonium removed from TBP with a hydrochloric acid extraction. This is believed to be due to the oxidation state of the plutonium and various oxidizing agents are being tried to eliminate the trouble.

Final procedures for ion column purification of lanthanum are available and columns are being erected at Bioassay. A successful ion column procedure for the separation of fission products from urine salts has been devised for small samples. Attempts to step up the scale are in progress. Fifteen samples from the P-10 Area all gave background results.

The scintillation alpha counter has given geometries up to 25-35% with a point source supported close to the phosphor. The unit is sensitive to source size and to distribution of activity on the source presumably due to non-uniform sensitivity of the phosphor.

The simplified procedure for radon in water involving measurement of the daughters has been tested further on radium solutions with an average value of 94% of that estimated from the radium content.

Several soil columns were run to determine the uptake of strontium and cerium on dry and wet soil. In every case the activity was removed on the first three centimeters of the column.

A re-evaluation of the effect of sample diameter on the standard alpha counters gave the ratios of spread source count to point source count of 0.996 for a 1½ inch diameter and 0.985 for a 1-7/8 inch diameter source.

The stack gas monitor in the 200-W Area has indicated an estimated total evolution of 300 - 1000 mc/day with 98-99% of the activity as I^{131}.

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Methods Control

The number of analyses performed this month were:

Sample Type	Number
Vegetation	851
Water	884
Solids	121
Fluorophotometer	430
Miscellaneous	31
Special	11
Beta emitters	5042
Alpha emitters	3623
Control Points	651
Decay Curves	150
Absorption Curves	5

Considerable difficulty has been encountered with the mica window counters during the month. Eighteen new tubes were put in with none of them giving satisfactory performance. A total of 1838 hours of counting time was lost this month.

Physics

In the past month the extrapolation chamber has been set up again and tests for stability and drift have been run. A number of factors which presumably may influence the operation of the equipment has been investigated. The difference in current observed for positive and negative ion collection has received considerable attention inasmuch as this is a fundamental uncertainty which must be resolved before confidence can be had in any dose rate measurements.

It has been shown that a proportional counter filled with methane at atmospheric pressure can be operated satisfactorily with a Nuclear Instrument and Chemical Corp., Model 162 scaling unit. The only changes in the Model 162 scaling units, as they are now used with BF_3 proportional counters, required for operation of the proportional recoil counter are: (1) Connecting the counter to the unit, (2) moving the attenuator switch from the "X1" to the "X5" position, and (3) adjusting the high voltage. Field measurements have been made with this arrangement in the 234 Building. The counters which have been used in this work are made of aluminum, sealed with neoprene gaskets and filled through a needle valve. The flexibility gained through this arrangement, while essential for development work, is unsuitable for routine field use because of the high probability of gas leakage. A single counter incorporating the salient features of the experimental models, but designed for permanent filling is being built to serve as a prototype for a Model I Fast Neutron Counter for use with existing BF_3 proportional counter chassis. Work is continuing in an effort to improve the performance of this type of counter.

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An investigation of the fundamental factors underlying the operation of differential ionization chambers for fast neutron measurement has been started. Equipment has been built with which two high pressure ionization chambers may be positioned with considerable precision. This equipment, the chambers themselves, and the associated vibrating reed electrometer are under test at present.

An investigation of the fast neutron counting properties of the "standard" two-inch wall paraffin moderated BF_3 counter was made to answer certain questions relating to the use and location of fixed monitors in the 234-5 Building. The results are reported in the memorandum, Whipple to Keene, August 16, 1949.

Industrial Hygiene

The study of stack effluents from the Melt Plant, 300 Area has been in progress and is nearly completed. The wide range of particle sizes encountered in these stacks necessitated the use of supplemental instrumentation in conjunction with the thermal precipitator. Submicroscopic particles are being evaluated by electron micrographs and the microscopic by photomicrographs. The group of samples submitted previously to Rochester for electron micrographs some time back have been held up at the University due to their electron microscopist leaving. It is understood from them that they will soon be able to have someone else work on these samples.

A report (HW-14140) was submitted covering the findings and recommendations of a study of trichlorethylene degreasing operations in 105 Building, 100-H Area.

Instrument Development

Analysis of water counting data by the Methods Group showed no correlation between the activity of evaporated samples and liquid counting rate. The time lapse between sampling and laboratory counting and sample handling procedure may be partially responsible. A comparison between ion chamber measurement, counter results and evaporated samples will be made in the 100-F Area where the time interval can be reduced to a minimum.

Anomalous Nout behavior in slow neutron fields has been reported and verified in the calibration pile. A residual activity of half-life about 2 minutes indicated possible activation of the aluminum chamber wall. Assuming the apparent slow neutron effects to come from low energy electromagnetic radiation associated with the reaction, ion chamber current was measured at various gamma and x-ray energies. With each chamber containing gas at 25 pounds per square inch the ratio of methane to argon chamber current varied from 0.636 with radium gamma to 0.69 with 100 KVP X-Radiation. Carbon dioxide should give a nearly constant

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ratio over this range according to calculation. This material will be tried as the neutron insensitive gas. Six existing Nouts have been adjusted to have uniform sensitivity at a standardized pressure and the calibration procedure is being standardized. These instruments will be placed in field service in a few days.

Beta scintillation counting was concerned with checking the properties of two anthracene crystals. Neither of these gave counting rate vs. amplifier gain plateaus indicating that the distribution of scintillation intensities was poor. The crystals were not clear and probably are not pure enough for counting purposes. Further work awaits production of suitable crystals.

Two sample storage condensers were obtained from Sprague Electric Company. One was somewhat better than the satisfactory Glasmike but the other was broken when received and could not be used. A portable poppy was fitted with the Sprague condenser and placed in field service. Glasmike condensers guaranteed to meet our leakage specifications were ordered for the remaining portable poppies before the Sprague sample arrived.

Tests were made on the hemispherical ion chamber. After cleaning and eliminating gas leaks, alpha particle pulses of 1-2 millivolts were observed with the spherical electrode as collector in an atmosphere of argon plus 5% carbon dioxide. Electrostatic typewriter interference hampered the work seriously and considerable time has been spent in an, as yet, unsuccessful effort to make measurements simultaneously with the conduct of normal office work.

Experiments have been run to determine the usefulness of acetylene as a counter gas. The data obtained indicates that no counting rate vs. gain, voltage and/or pulse height plateau is apparent. A few more trials with a thinly distributed C^{14} source will be run before trying another counter gas contaminated with acetylene.

The construction of a combination alpha-beta hand counter was resumed. This consists of proportional alpha probes backed by thin wall geiger tubes which arrangement has been found to count alpha and beta radiation without interaction of the two detectors.

A survey counter for soft beta radiation has been nearly completed for the Operational Division. It is intended for C^{14} surveys and differs from the earlier model in assembly and counter gas. This counter uses argon-carbon dioxide while the earlier one used helium or helium plus a quenching agent as a geiger counter.

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Calibrations

The routine calibrations were:

	Number of Calibrations	
RADIUM CALIBRATIONS	July	August
Fixed Instruments		
Gamma	299	358
Portable Instruments:		
Alpha	201	212
Beta	425	497
Gamma (Radium)	1,089	1,122
X-Ray Scanning	26	42
Neutron	7	5
Total	1,748	1,878
Personnel Meters:		
Beta	422	105
Gamma (Radium)	9,468	8,280
X-Ray	6,837	4,643
Neutron	--	--
Total	16,727	13,028
GRAND TOTAL	18,475	14,906

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Health Instrument Divisions

BIOLOGY DIVISION

Aquatic Biology

1. Effect of Pile Effluent on Aquatic Life

The equipment used for the salmon monitoring studies has been repainted in preparation for new work to start this fall. In the meantime, studies with a 5 per cent mixture of area effluent water are continuing with trout. This strength of effluent has not as yet increased the mortality of the young trout although it appears to have retarded their growth slightly. The activity of the trout is about 70 times that of the 5 per cent area effluent water in which they are held. The activity in a second group of these fish has been nearly doubled by adding active algae to their diet. Studies on the effect of a 2 p.p.m. concentration of KI have been complicated by a bacterial infection which increased the mortality rates. The growth of the fish held in the dilute KI solution appears to be retarded, however.

2. Biological Chains

The studies on shiners which had been in progress slightly more than a year were terminated on August 23 when the last of the fish was sacrificed. One group of these fish had been held in pile effluent water and fed uncontaminated food while the other group had been held in river water and fed snails reared in retention basin water. Activity in both of these groups has remained about the same for the last month. The last of the trout which had been fed active snails for 150 days was sacrificed after being back on an uncontaminated diet for 180 days. An activity of 0.26 beta μc/kg still remained in the bone. Studies are still in progress on trout being fed active algae and on trout being fed active carp. The activities in both these groups has remained about the same for the past two months.

3. Radiobiological Survey

The activity of the aquatic life in the river as represented by the Hanford station continues to be considerably above that anticipated from previous sampling. While the activity of the water is greater than that found in August, 1948, by about 50 per cent, the activity of the aquatic organisms is greater by factors of from two to five. An activity of 5.4 beta μc/kg found in the scales of a sucker is greater than that of the water by about 3500 times, and is higher than found at any previous time. The flesh of game fish (small mouth bass) captured at Hanford contains about 0.06 beta μc/kg.

New collecting stations for bottom forms have been established just above McNary Dam and on the lower Snake River which will be visited once

[redacted]

each month. An additional collecting station has also been established between 100-D and 100-H Areas in order to evaluate the added effect of the new area when it starts operation. Aquatic organisms collected near McNary Dam were less active than those collected at Hanford by factors of from 5 to 10.

It was necessary to terminate quantitative work on plankton on August 19, due to the termination of the Technical Graduate who had been doing this work.

ZOOLOGY

1. Toxicology of I^{131} in Stock Animals

Histopathological studies of lung tissue of control goats were completed. These will serve as control material for future studies and will aid in photomicrographic technique progress.

A second 50 μc dose of I^{131} has been given to a mature ewe after the original accumulation decayed and was eliminated to near background. The uptake time and rate was within 5 per cent of that previously reported. In excess of 50 per cent of the dose was in the thyroid within 24 hours.

The Animal Farm is now approximately 75% completed and should be finished by the end of next month.

The Instrument Development Group is developing and testing better methods for external thyroid counting in sheep.

2. Biological Monitoring

A new high level of 8 μc/kg of bone has been detected in a pekin duckling from the river at 100-F Area. Other tissues were also much higher than previously reported. Two older ducklings had higher activity than had previously been detected.

Botany

1. Separation Area Control Plots

Two-hundred East R_3 Russian thistles grown in the enclosed area showed a variation of from 0.05 to 610 μc/kg beta activity. The pollen from these plants ran as high as 110 μc/kg beta activity. The alfalfa plants in the same area gave a much lower reading than the Russian thistle for the same area. This would seem to be contrary to the idea that the deeper roots of the alfalfa would pick up the activity from the more contaminated region deep in the soil.

Health Instrument Divisions

In the 200-E experimental plots grain of the corn, wheat and oats grown in those plots gave no reading above 0.002 μc/kg beta activity. An analysis for the presence of I^{131} was negative.

2. Agricultural Field Station

Thirty soil samples from the area watered by the river water showed an average beta activity of 0.014 μc/kg, ranging from 0.04 to 0.007 μc/kg.

Vegetation samples showed a range in beta activity of 0.005 μc/kg to 0.012 μc/kg.

Samples of river water gave a monthly average of .00005 μc/kg at the point at which the irrigation water was taken from the river.

The peaches, early potatoes, oats and the third cutting of alfalfa were harvested during the month.

3. Removal of Radioactivity from Pile Effluent

Vascular aquatic plants such as duck weed, pond weed, sedges and cattail, have been shown to have considerable ability to pick up radioactive materials from the effluent water. Studies of the use of algae for decontamination are being continued.

Biochemistry

1. Collection and Analysis of Active Particles

This project is suspended until Pu investigation is completed.

2. Exposure of Rabbits to Active Particles

The development of radioautographic technique to be used in the stack gas exposure problem is nearing completion.

3. Analysis of Pu in Animal Tissues

The status of this problem is essentially that reported previously.

4. Gastrointestinal Absorption of Plutonium

A preliminary experiment to determine the amount of plutonium absorbed from drinking water in the gastrointestinal tract of a rat was performed. Pu^{238} in the form of plutonium nitrate (Pu 6) was administered to four groups consisting of six rats in each group. Three levels of activity were given in daily doses for twenty days. Water was administered to the control group under comparable conditions. At the end of the

Health Instrument Divisions

twenty-day period the rats were sacrificed and TTA analyses were run on the carcasses. Prior to the analysis, the carcasses were opened and the gastrointestinal tracts were removed to avoid error from residual plutonium. The gastrointestinal tracts were analyzed separately. Analysis of the resulting data has not been completed.

GENERAL ACCOUNTING DIVISION

AUGUST 1949

GENERAL

Atomic Energy Commission Reimbursement Authorization No. 63 was received in August authorizing revisions and additions to approved employment policies and salary schedules made necessary as a result of Agreement Between Hanford Atomic Metal Trades Council and General Electric Company executed on May 31, 1949. The revisions and additions apply to employees within the Bargaining Unit as certified by the National Labor Relations Board.

Reimbursement Authorization to extend the provisions of the Union Agreement to those non-exempt employees not included in the Bargaining Unit has not yet been received. However, letters from the Commission dated August 22, 1949 and August 26, 1949 authorized the Company to extend the provisions of Reimbursement Authorization No. 63 to Non-bargaining Unit non-exempt employees with certain reservations, and to establish the proposed Progression Schedule and Procedure for Administration and revised and additional job classifications.

Payments to non-exempt weekly paid employees in accordance with the above have been made effective August 15, 1949 with the exception of shift differential and isolation payments which were made effective August 8, 1949. Payments retroactive to April 11, 1949 resulting from the Agreement will be distributed to employees as soon as possible.

Work in connection with the evaluation of plant assets which began in January 1949 was completed in August. The amount, as determined by AEC consultants as of June 30, 1949, reflected in Plant and Equipment accounts is approximately $580,000,000. Reserves totaling approximately $115,000,000 were also recorded.

Advances from AEC were reduced from $7,500,000 at the beginning of the month to $5,500,000 at the month end. Items comprising the balance advanced by AEC are:

Cash in Bank - Contract Accounts	$ 4,428,148
- Salary Accounts	55,000
- Travel Advance Account	50,000
Unliquidated portion of Advances prior to June 1, 1949	43,704
Advances to Subcontractors	475,000
Accounts Receivable - AEC	50,000
Cash in Transit	398,148
Total	$ 5,500,000

Hanford Works and Nucleonics Department Financial Statements for the month of July were completed and distributed on August 17 and August 19, 1949 respectively. General Divisions Operating Reports covering July operating costs were completed on August 15, 1949.

Based on experience and anticipated future costs, standard liquidation rates were used for the first time this month in making assessments to other divisions from General Divisions whose liquidation rates are based on applied labor costs. Resultant variances will be currently reviewed and rates may be revised if necessary.

General Accounting Division

STATISTICS

Employees and Payroll	Total	Monthly Payroll	Weekly Payroll
Employees on Payroll at beginning of month	7 403	1 632	5 771
Additions and transfers in	262	7	255
Removals and transfers out	(133)	(11)	(122)
Transfers from Weekly to Monthly Payroll	--	1	(1)
Transfers from Monthly to Weekly Payroll	--	(8)	8
Employees on Payroll at end of month	7 532	1 621	5 911

Employees on Payroll at end of month	July	August
Manufacturing	3 054	3 152
Design and Construction	670	643
Community	761	759
Other	2 918	2 978
Total	7 403	7 532

Overtime Payments		
Weekly Paid Employees	$25 510	$22 940
Monthly Paid Employees	1 311	3 203
Total	$26 821	$26 143

Number of changes in Salary Rates and Job Classifications	577	512

Gross Amount of Payroll		
Manufacturing	$1 605 359	$1 033 843
Design and Construction	237 124	222 611
Community	222 354	224 250
Other	884 925	898 415
Total	$2 349 762*	$2 379 119*

Annual Going Rate of Payroll		
Manufacturing	$13 217 899	$14 192 662
Design and Construction	2 795 707	2 793 949
Community	2 871 756	2 886 126
Other	11 308 201	11 731 205
Total	$30 193 563	$31 603 942***

Average Salary Rate Per Hour **	July			August		
	Weekly	Monthly	Total	Weekly	Monthly	Total
Manufacturing	$1.966	$2.612	$2.074	$2.055	$2.614	$2.145
Design and Construction	1.537	2.636	1.986	1.572	2.657	2.204
Community	1.692	2.296	1.608	1.707	2.295	1.820
Other	1.591	2.511	1.809	1.628	2.508	1.826
Total	$1.763	$2.545	$1.935	$1.821	$2.547	$1.975

* Includes four weeks in case of weekly paid employees

** Includes shift differential, isolation pay, and du Pont employees on loan to General Electric Company. Excludes overtime premiums, commissions, Suggestion Awards, etc.

*** Increase over July Annual Rate due principally to 129 additional employees and increased salary rates, resulting from New Wage Payment System established under Agreement between Hanford Atomic Metal Trades Council and General Electric Company.

General Accounting Division

Employees Plans

Pension Plan

	July	August
Number participating at beginning of month	6 471	6 488
New participants and transfers in	85	54
Removals and transfers out	(68)	(47)
Number participating at end of month	6 488	6 495
% of eligible employees participating	91.8%	91.8%

Employees Retired	August	Total to Date
Number	4	92
Aggregate Annual Pensions Including Supplemental Payments	$1 202	$21 535*
Amounts contributed by employees retired	$ 315	$ 7 319

*Amount before commutation of pensions in those cases of employees who received lump sum settlement.

Group Life Insurance

	July	August
Number participating at beginning of month	5 890	5 848
New participants and transfers in	44	65
Cancellations	(32)	(52)
Removals and transfers out	(54)	(42)
Number participating at end of month	5 848	5 819
% of eligible employees participating	78.8%	78.5%

Insurance Claims

	August	Total to Date
Number of deaths	0	30
Amount of insurance	0	$147 562
Premiums paid by employees who died	0	$ 1 920

Group Disability Insurance - Personal

	July	August
Number participating at beginning of month	6 541	6 487
New participants and transfers in	76	92
Cancellations	(10)	(6)
Removals and transfers out	(120)	(70)
Number participating at end of month	6 487	6 503
% of eligible employees participating	89.2%	88.9%

Group Disability Insurance - Dependent

Number participating at beginning of month	4 002	4 017
Additions and transfers in	46	58
Cancellations	(8)	(8)
Removals and transfers out	(23)	(22)
Number participating at end of month	4 017	4 045

General Accounting Division

Employee Plans (continued)

Group Disability Claims	July	August
Number of claims paid by insurance company:		
Employee Benefits	115	110
Daily Hospital Expense Benefits	90	80
Special Hospital Services	98	79
Surgical Operations Benefits	78	70
Dependent Benefits Paid		
Daily Hospital Expense Benefits	90	107
Special Hospital Services	95	102
Amount of claims paid by insurance company:		
Employee Benefits	$12 550	$11 552
Dependent Benefits	3 003	3 452
Total	$15 553	$15 004

Group Disability Insurance - Premiums		
Personal - Employee Portion	$10 554	$11 731
- Company Portion	7 457	6 132
- Total	$18 011	$17 863
Dependent- Employee Portion	$ 3 414	$ 3 847
- Company Portion	604	187
- Total	$ 4 018	$ 4 034
Grand Total	$22 029	$21 897

Annuity Certificates (For du Pont Service)	August	Total to Date
Number issued	0	65

U. S. Savings Bonds	Mfg	D & C	Comm'y	Other	Total
Number participating at beginning of month	1 827	324	364	1 509	4 024
New Authorizations	13	8	3	30	54
Voluntary Cancellations	(45)	(6)	(9)	(36)	(96)
Removals and Transfers Out	(14)	(20)	(2)	(21)	(57)
Transfers In	7	1	1	25	34
Number participating at month end	1 788	307	357	1 507	3 959
% participating	56.7%	48.1%	47.0%	50.6%	52.6%
Bonds issued					
Maturity Value	$89 500	$14 525	$14 575	$70 750	$189 350
Number	1 843	286	319	1 424	3 872
Refunds issued	33	8	10	31	82
Revisions in authorizations	12	5	3	23	43
Annual going rate of deductions					
New Plan	$774 714	$124 566	$137 041	$608 607	$1 644 928
Old Plan	211 019	38 324	36 234	159 409	444 986
Total	$985 733	$162 890	$173 275	$768 016	$2 089 914

Suggestion Awards	August	Total to Date
Number of Awards	29	395
Total Amount of Awards	$750	$4 775

Employee Sales Plan

	August		
	Total	Major Appliances	Traffic Appliances
Certificates Issued	240	34	206
Certificates Voided	7	1	6

Employee Plans (continued)	July	August
Salary Checks Deposited		
Monthly	880	871
Weekly	855	830
Total	1 735	1 701
Special Absence Allowance Requests		
Number submitted to Pension Board	5	11
Absenteeism (Weekly Paid Employees)	1948	1949
January 1 to August 21	2.26%	2.36%

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING	July	August
Number of Employees		
On Payroll at beginning of month	164	161
Removals and transfers out	(5)	(7)
Additions and transfers in	2	19
Number at end of month	161	173
Net increase (or decrease) during month	(3)	12
% of terminations and transfers out	3.0%	4.3%
% of absenteeism	2.5%	3.25%

Changes by division in number of Accounting Division employees during August were as follows:

General Accounting - General: Increase of one employee

One transfer from Cost

Accounts Payable: Decrease of five employees

One transfer to Plant Accounting
One transfer to Construction Accounting
One transfer to Monthly Payroll
One transfer to Cost
One transfer to Special Assignments

Cost: No Change

One new hire
One transfer from Accounts Payable
One transfer to General Accounting - General
One termination

General Accounts: No Change

Plant Accounting: Increase of two employees

One transfer from Accounts Payable
One return from Illness Absence

Weekly Payroll: Increase of twelve employees

Fourteen new hires
One return from Illness Absence
One transfer from Construction Accounting
One removal due to Illness
Three terminations

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Monthly Payroll: Increase of one employee

One transfer from Accounts Payable
One return from Illness Absence
One removal due to Illness

Special Assignments: Increase of one employee

One transfer from Accounts Payable

Injuries	July	August
Major	0	0
Sub-major	0	0
Minor	2	1

Number of Accounting Division employees as of August 31, 1949, were as follows:

	Number of Employees		
	Non-Exempt	Exempt	Total
General Accounting - General	3	3	6
Accounts Payable	17	1	18
Cost	9	1	10
General Accounts	15	1	16
Plant Accounting	22	3	25
Weekly Payroll	72	5	77
Monthly Payroll	15	1	16
Special Assignments	1	4	5
Total	154	19	173

Non-Exempt employees may be summarized as follows:

	Number as of	
Classification	7-31-49	8-31-49
Accounting A	1	1
Accounting B	2	2
Accounting D	5	5
Business Graduate	0	1
Clerical Working Leader	6	6
Cost Clerk A	1	1
Cost Clerk B	1	1
Cost Clerk D	2	2
Field Clerk C	3	3
General Clerk A	29	28
General Clerk B	28	39
General Clerk C	20	20
General Clerk D	13	15
General Clerk E	2	2
Office Machine Operator B	16	16
Secretary B	1	1
Steno-Typist A	1	2
Steno-Typist B	4	4
Steno-Typist C	2	1
Steno-Typist D	5	4
Total	142	154

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Open employment requests as of August 31, 1949, were as follows:

General Clerk B	16
Business Graduate	1
Steno-Typist D	1
Total	18

General Accounting Divisions

	July	August
Accounts Payable *		
Balance at Beginning of Month	$ 53 901	$ 44 582
Vouchers Entered	949 220	550 079
Cash Disbursements	960 307 Dr	546 564 Dr.
Cash Receipts	1 768	3 656
Miscellaneous Credits	-0-	3 Dr.
Balance at end of month	$ 44 582	$ 51 750
Number of Vouchers Entered	1 067	1 311
Number of Checks Issued	817	972
Number of Freight Bills Paid	171	146
Amount of Freight Bills Paid	$ 2 397	$ 2 383
Number of Purchase Orders Received	709	868
Value of Purchase Orders Received	$ 78 628	$ 163 819
Public Vouchers (1034) Submitted to AEC		
Not Reimbursed at Beginning of Month	$ -0-	$ 272 200
Submitted During the Month	272 200	484 020
Sub Total	272 200	756 220
Reimbursements During the month	-0-	706 220
Not Reimbursed at End of Month	$ 272 200	$ 50 000
Public Vouchers (1034) Submitted to AEC		
Not Reimbursed at Beginning of Month	-0-	42
Submitted During the Month	42	31
Sub Total	42	73
Reimbursements During the Month	-0-	72
Not Reimbursed At End of Month	42	1

* General Divisions Only.

General Accounting Divisions

	July	August
Pre-Audit Vouchers (1035) Submitted to AEC Not Yet Approved		
Community	$ 79	$ -0-
Design & Construction	246 057	1 996
General	83 273	-0-
Manufacturing	-0-	2 687
Sub Total	$ 329 409	$ 4 683
Not Submitted to AEC on Pre-Audit Vouchers		
Community	$ 89	$ 89
Design & Construction	37 839	18 825
General	78 120	4 151
Manufacturing	32 267	15 956
Sub Total	$ 148 315	$ 39 021
Total Unbilled Items	$ 477 724	$ 43 704
Bank Balances At End of Month		
Chemical Bank & Trust Company		
Contract Account	$5 590 740	$2 [illegible]35 767
Seattle First National Bank-Richland		
Contract Account	357 262	2 002 381
Salary Account No. 1	20 000	20 000
Salary Account No. 2	30 000	30 000
U. S. Savings Bond Account	225 599	28 271
Seattle First National Bank-Seattle		
Salary Account No. 3	5 000	5 000
Escrow Account	59 806	59 806
Travel Advance Account	28 732	27 775
	$6 317 139	$4 199 000
Cash Disbursements		
Community	$ 55 139	$ 40 359
Design & Construction	3 743 472	2 029 190
General	3 135 298	2 350 498
Manufacturing	377 509	515 253
Total	$7 311 418	$4 935 300
Material and Freight	$ 695 220	$ 787 308
Lump Sum and Unit Price Subcontracts	605 409	130 934
CPFF Subcontracts		
Labor	2 283 473	1 188 752
Others	652 878	548 543
Accounts Receivable Refunds	3 811	5 121
Miscellaneous	895 636	470 711
Payrolls (net)	1 958 684	1 662 949
U. S. Savings Bonds	216 307	140 982
Total	$7 311 418	$4 935 300

General Accounting Divisions

	July	August
Number of Checks Written		
Community	218	221
Design & Construction	441	311
General	817	972
Manufacturing	389	502
Total	1 865	2 006
Cash Receipts		
Community	$ 100 268	$ 86 844
Design & Construction	114 456	167 279
General	7 549 718	3 147 220
Manufacturing	12 003	14 137
Total	$7 776 445	$3 415 480
Detail of Cash Receipts *		
Hospital	$ 47 950	$ 55 931
Scrap Sales	4 426	13 242
Miscellaneous Accounts Receivable	4 134	39
Educational Program	18	717
Employee Sales	1 038	874
Refunds from Vendors	1 768	3 656
Cash in Transit	987 101	72 074
All Other	3 283	687
Advances to G.E.	6 500 000	3 000 000
	$7 549 718	$3 147 220
Travel Advances and Expense Accounts		
Cash Advance balance at end of month*	$ 9 223	$ 6 974
Cash Advance balance outstanding over one month*	909	728
Traveling and Living Expenses:		
Paid Employees	23 128	14 208
Billed to Government	19 021	15 636
Balance in Variation Account at end of month	2 333 Dr.	904 Dr.
Hospital Accounting		
Balance at Beginning of Month	$ 107 521	$ 111 215
Invoices Issued	75 349	90 191
Refunds	927	808
Cash Receipts	(47 950)	(55 931)
Payroll Deductions	(24 632)	(17 598)
Bad Debts Written Off		(1 744)
Balance At End of Month	$ 111 215	$ 126 941

* General Divisions Only.

General Accounting Divisions

	July	August
PLANT ACCOUNTING		
Number of Transfer Notices Received	313	190
Number of Items Affected	672	1 446
Number of Receiving Reports Classified	2 728	3 222
Number of Items Tagged at beginning of month	90 939	90 971
Number of Items Tagged this month -- Metal	37	2
Number of Items dropped from record	(5)	-0-
	90 971	90 973
Number of Items Recorded in quantity only at beginning of month	13 477	13 480
Items added to record during month	3	-0-
Total Items Recorded in Quantity	13 480	13 480
Total Items on Record	104 451	104 453

General Accounting Division

ACCOUNTS PAYABLE

The number of Accounts Payable vouchers entered in August increased considerably over July. Total entered was 1,311 as compared to 1,067 in July, an increase of 23%. This is a result of the increased number of Purchase Orders issued by Purchasing Division. New Purchase Orders issued have been steadily increasing since July. In August there were 868 new Purchase Orders issued, an increase of 22% over the 709 issued in July. The value of these new orders (including Alterations to old orders) was $163,819.00 compared to $78,628.00 in July.

The inventory of Purchase Orders not fully accomplished as of August 31, showed 789 orders still open valued at $209,736.00. This compares with 721 the end of July, valued at $145,000.00.

Total vouchers on hand at the end of August which required additional supporting data before they could be considered complete was 763, amounting to $85,108.00. This represents an increase in number of 12% over July. Of the 763 vouchers on hand, there were 83 paid and 680 unpaid.

The number of vouchers on the Old Bill List (more than 60 days old) again decreased considerably. There were 20 on hand the end of August, amounting to $5,265.00, compared to 44 in July, amounting to $10,944.00.

Accounts Payable general ledger balance the end of August was $51,750.33 (credit) compared to $44,582.00 in July. The balance in the general ledger Freight account was $400.00, compared to $196.00 in July. This balance represents paid freight bills not yet distributed to other ledger accounts.

Details of the Accounts Payable balance by months is as follows:

Oct. '48	$ 30.00 Dr.
Dec. '48	6.32 Dr.
Feb. '49	456.29 Dr.
Mar. '49	730.93 Dr.
Apr. '49	931.30 Dr.
May '49	996.61 Dr.
June '49	393.59 Dr.
July '49	12,376.62 Cr.
Aug. '49	42,918.75 Cr.
Total	$51,750.33 Cr.

Work is still continuing on the audit of old Accounts Payable Purchase Order files. At the present time, purchase orders issued up to April 1, 1949 have been completely audited and transferred to completed files. Approximately 12,000 purchase orders remain to be audited before the audit will be on a current basis.

One minor change in procedure was made effective during the month. That was the authorizing of two persons in this office to sign for "Services Rendered" type invoices instead of having such invoices approved by Purchasing Division. This change will speed up the flow of work and eliminate a great deal of work and lost time formerly involved in sending such invoices to Purchasing.

General Accounting Divisions

COST

General Division Operating reports for the month of July were issued on August 15, 1949.

Complete analyses were made of purchase orders and store orders for the month of July and assessment studies for Purchasing and for Stores Divisions were revised as a result. A complete study was made of occupied space in the 700 Area and cost liquidation percentages were revised on the basis of the study.

After a detailed analysis of past months charges, standard liquidation rates for Indirect Manufacturing Expense were established to be applied to monthly applied labor costs.

Cost Reports were issued on August 22, covering a detailed breakdown by project of Health Instrument Research and Development work.

On August 19, Technical Division personnel were advised of the project breakdown of Technical Research and Development work and instructions were included to begin segregation of costs by project as of September 1.

The monthly analysis of charges to Design and Construction was made and a detailed comparison of July to June charges was prepared. All assessments to Design and Construction were thoroughly reviewed, and August charges were limited to those directly applicable to Design and Construction. Charges from certain divisions (General Administrative, Record Control, Technical Library and Classified Files) were eliminated entirely.

The report of Plant and Equipment - Uncompleted Projects General for the period ended July 31, 1949, was issued on August 22. This report included charges actually billed by Manufacturing during July but which would not be booked as a charge to Plant and Equipment until August.

Report of the Summary of Costs (excluding Design and Construction) for the month of June was issued on August 3.

GENERAL ACCOUNTS

General Ledger trial balances were received from all accounting divisions by August 16. Hanford Works and Nucleonics Department statements for the month of July were completed and distributed on August 17 and 19, 1949 respectively.

Advances from A.E.C. were reduced from $7,500,000 at the beginning of the month to $5,500,000 at the month end. The portion of these advances representing disbursements prior to June 1, 1949 was $749,924 as of August 1. During the month vouchers totaling $706,220 were liquidated from advances prior to June 1 and as of August 31 the unliquidated balance of advances prior to June 1 was $43,704.

Blank checks for the Community and Manufacturing Divisions bank accounts in the National Bank of Commerce were received and delivered to the respective division accountants. As of September 1, 1949 these two divisions will use the newly opened National Bank of Commerce accounts and will be entirely responsible for the necessary cash controls in connection there with.

General Accounting Divisions

MEDICAL ACCOUNTING

On August 1, 1949 a National Cash Register accounting machine was installed for the posting of all in-patient accounts. Charges for hospital services are now posted daily instead of in total at time patients are discharged. Also, all in-patient accounts now becomes a part of the receivables ledger at time the first charge is posted instead of at time of invoicing of total charges when patients are discharged.

Cost reports for the month of July were distributed on August 16, 1949.

PLANT ACCOUNTING

Work in connection with the revaluation of plant assets which began in January, 1949 was completed in August. Although entries to enter the dollar value of plant assets on General Electric books will not be prepared until early September they will be posted as of August 31, 1949. Amounts as determined by consultants retained by A.E.C. to be posted to General Electric books representing government property as of July 30, 1949 are itemized below:

	Asset	Reserve
Property in Service	$400,451,612	$ 96,118,228
Property Held for Future Use	5,110,638	459,957
Property Not Used or Useful	12,561,362	12,561,362
Construction Work in Progress	113,449,559	-0-
Retirement Work in Progress	18,229	-0-
Major Construction Program Facilities	48,137,381	5,065,224
Total	$579,728,761	$114,204,771

The August 31 balances in the plant and equipment accounts will reflect, in addition to the above, entries between July 1 and August 31.

SPECIAL ASSIGNMENTS

Special Assignments during the month of August consisted of:

1. Completion of study and examination of the Major Equipment accounts and records for the Design and Construction Accounting Division.

2. Completion and issuance of loose leaf type cost code book for Manufacturing and General Divisions.

3. Continuation of reviewing accounting procedures of the Accountability Section (S.F. Materials Accountability)

4. Accumulating data and preparing detailed and sundry reports pertaining to uncompleted and completed projects.

General Accounting Divisions

PAYROLLS

During the month of August there were 133 Removals from Payroll of which eight were removals due to lack of work, and there were 262 Additions to the Payroll including transfers from other units of the Company resulting in a net increase of 129 employees on the Payroll.

* * * * * * * * *

Under the G. E. Employee Savings and Stock Bonus Plan, 151 participating employees withdrew from the Plan a total of 718 U. S. Savings Bonds having a maturity value of $32,630. U. S. Savings Bonds and Custody Receipts for U. S. Savings Bonds covering purchases by employees through payroll deductions in July were delivered to employees on August 19 and August 26 respectively. This delivery of Bonds and Receipts consisted of 814 Bonds and 3,580 Custody Receipts.

* * * * * * * * *

The Addressograph Section of the Weekly Payroll Division addressographed approximately 52,000 items for other divisions in August in addition to regular payroll addressograph work.

* * * * * * * * *

There were 72 time cards received late in the Weekly Payroll Division in August as follows:

Week Ended	Number
8-7-49	19
8-14-49	34
8-21-49	7
8-28-49	12
TOTAL	72

It is necessary each week to give special attention to preparation of the payroll for employees whose time cards are received late as they cannot be included with the regular payroll. In such cases, salary checks are delivered to superintendents on Friday whereas they normally would be delivered to supervision in the Areas on Thursday.

* * * * * * * * *

Atomic Energy Commission Reimbursement Authorization No. 63 was received in August authorizing revisions and additions to approved employment policies and wage and salary schedules, made necessary as a result of Agreement Between Hanford Atomic Metal Trades Council and General Electric Company executed on May 31, 1949. The revisions and additions apply to employees within the Bargaining Unit as certified by the National Labor Relations Board.

Reimbursement Authorization to extend the provisions of the Union Agreement to those non-exempt employees not included in the Hanford Atomic Metal Trades Council Bargaining Unit has not yet been received. However, letters from the Commission dated August 22, 1949 and August 26, 1949 authorize the Company to extend the provisions of Reimbursement Authorization No. 63 to Non-bargaining Unit non-exempt employees with certain reservations, and to establish the proposed Progression Schedule and Procedure for Administration and revised and additional job classifications.

General Accounting Divisions

PAYROLLS (CONT.)

Payments to non-exempt weekly paid employees in accordance with the above documents have been made effective August 15, 1949 with the exception of shift differential and isolation payments which were made effective August 8, 1949. Payments retroactive to April 11, 1949 resulting from the Agreement will be distributed to employees as soon as possible.

In connection with calculation of the payments retroactive to April 11, 1949, requisitions were placed in July for twelve comptometer operators and requisition was placed in August for fifteen additional operators which will be necessary in order to complete the calculations within a reasonable time. As of August 31, sixteen of these requisitions were still unfilled. However, we have been informed by the Employee and Community Relations Division that applications for employment have been received from nine qualified comptometer operators and these operators will be hired as soon as possible.

When all requisitions have been filled, it is expected that approximately twenty-five employees will work 48 hours per week on calculation of the retroactive payments and approximately 25 employees of the Payroll Calculation Section will work eight hours each Friday and eight hours each Saturday on this work.

Arrangements have been made to use the hutment at the rear of Building 720 for the group who will work full time in calculating the adjustments.

Approximately fifty employees of the Weekly Payroll Division were placed on a 48 hour schedule effective August 20 in order to calculate the retroactive payments and make necessary changes to our payroll records.

In connection with changes in job classifications, rates and progression schedules resulting from the Union Agreement, it was necessary to change approximately 2900 addressograph plates and to post changes to the employment record cards of the employees involved.

* * * * * * * * *

Request for Reimbursement Authorizations were prepared and submitted to the Atomic Energy Commission in August covering proposed changes in the schedule of benefits and employee contributions under the Group Disability Insurance Plan; deferment of vacations; and exceptions to approved salary schedules.

Draft of a separate policy for Hanford Works under the Group Disability Insurance Plan was reviewed with the Atomic Energy Commission, and with approval of the Commission, the Secretary's Office was notified to proceed with application to the Metropolitan for the separate policy.

* * * * * * * * *

Morrison-Knudsen Company has completed operations in connection with Sub-contract G-1012 including work necessary to the final disposition of records and reports in connection with the closing of the contract. Accordingly, Weekly Payroll Division prepared the final payroll for the week ended August 28, 1949 under Sub-contract G-1012.

* * * * * * * * *

Due to the unusual turnover of personnel in the Monthly Payroll Division, reconciliation of various payroll bank accounts had been delayed. During August the backlog of work was completed and this work is now on a current basis.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - AUGUST 1949

SUMMARY

There were no lost time injuries during the month. This further increases the number of consecutive injury-free days to 129.

Industrial fire losses for the month were $110.00.

Volume of process laundry increased from 135,628 pounds in July to 155,162 pounds in August. The increase is attributed mainly to the introduction of operating clothing from the 234-5 Area.

By agreement with the local Atomic Energy Commission Security Office on August 5, 1949, the administration of security, as applied to the Kellex Corporation facility in New York, will be handled through the Hanford General Electric Company and the Atomic Energy Commission Security Office, rather than the New York Atomic Energy Commission District Office as in the past. The Atomic Energy Commission Security Office at the Knolls Atomic Power Laboratory will accept Personnel Security Questionnaire forms, etc. from the Kellex Corporation for original processing.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - AUGUST 1949

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

	Beginning of Month	End of Month	Increase	Decrease
Staff	3	3		
Patrol and Security	585	580		5 (a)
Safety and Fire Protection	145	150	5 (b)	
Office Services (General Services, Clerical Services, and Records Control)	260	254		6 (c)
TOTALS	993	987	5	11

NET DECREASE 6

(a) - Patrol and Security

1 - New Hire (Patrol-Clerical)
1 - Returned from Leave of Absence (Patrol)
1 - Transferred to Community (Patrol)
1 - Transferred to General Services (Patrol)
3 - Terminations (Patrol)
1 - Removed from Roll due to Leave of Absence (Patrol)
1 - Retired (Patrol)

(b) - Safety and Fire Protection

5 - Rehired (Fire Protection)
1 - Transferred from Construction (Safety)
1 - Termination (Fire Protection)

(c) - General Services

1 - Rehired
1 - Returned from Leave of Absence
2 - Transferred from Community
1 - Transferred from Patrol and Security
2 - Retired
2 - Terminations
2 - Terminations due to Reduction of Force

Clerical Services

6 - New Hires
1 - Rehire
6 - Terminations
5 - Transfers to other Divisions
2 - Removed from Roll due to Leave of Absence

Plant Security and Services Divisions

ORGANIZATION AND PERSONNEL (Continued)

Records Control Division
1 - Transferred from North Richland Realty

SAFETY AND FIRE PROTECTION

Injury Statistics

Days since last Major Injury	129
Accumulated Exposure Hours since last Major Injury	5,045,410
Major Injury Frequency Rate (Start-up to date)	0.836

	July	August	Year to Date
Major Injuries	0	0	7
Sub-Major Injuries	3	5	26
Minor Injuries	282	362	2904
Exposure Hours	1,162,767	1,264,899	10,458,280
Major Injury Frequency Rate	0.0	0.0	0.67
Major Injury Severity Rate	0.0	0.0	0.023
Minor Injury Frequency Rate	2.43	2.86	2.78

Sub-Major Injury No. 151

August 1, 1949, at approximately 3:30 P.M., an employee of the Village Maintenance Division, working at No. 3 Warehouse at Pasco, incurred chip fracture of the right index finger when he caught it between a bumper block that he was holding in place and the back door of a large transport truck.

Sub-Major Injury No. 152

August 11, 1949, at approximately 9:30 A.M., an employee of the 100-F Area Maintenance, Minor Construction, Division, sustained a fracture of the distal end of the distal phalanx of the left index finger when he struck it with a hammer.

Sub-Major Injury No. 153

August 16, 1949, at approximately 1:15 P.M., an employee of the Purchasing and Stores Division working in the 1100 Area, incurred a fracture of the distal phalanx of the left middle finger when he caught his finger between a 6-foot length of 4-inch shafting and the floor of a truck or a piece of bar stock on the truck.

Sub-Major Injury No. 153½

August 19, 1949, at approximately 1:15 P.M., an employee of the Construction Division working in the 100-H Area sustained a fracture of the left knee when he tripped over a cable.

Sub-Major Injury No. 154

August 24, 1949, at approximately 11:00 A.M., an employee of the Transportation Division working in the 3000 Area lumber pile, sustained a fracture of the right wrist while placing dunnage on top of a load of lumber five feet from the ground. He gave the piece of lumber a tossing motion but it did not go to the top of the

SAFETY AND FIRE PROTECTION (Continued)

pile. When the dunnage slipped back, the injured attempted to catch it with his hand, he missed the piece with his right hand but struck the edge of the falling timber with his right wrist receiving the injury.

100 Areas Activities

Some machinery recently installed in the 108-B Building was not properly designed and consequently is hazardous to operate and use. Efforts are being made to have this condition corrected.

Facilities for handling and storing gas cylinders have been unsatisfactory from the standpoint of safety for a long period of time. Supervision in both the "P" and Maintenance Divisions have been advised, but corrective action has been delayed due to the cost involved for new construction.

The P-10-A Group has been confronted with a problem in storing classified scrap material. This has been submitted for disposition.

A few cases of defective tools have been brought to the attention of the Supervision involved and corrective action taken.

The periodic monthly inspection of chain hoists has not been done with the exception of a few pieces of equipment. This seems to be due to the fact that one man is assigned to cover all the 100 Area equipment of this type.

A satisfactory method of using carbon tetrachloride to clean large motors in the Electrical Shop has not been set up. However, the Division has been advised of the unsatisfactory condition and recommendations from this Office have been offered for their consideration.

A set of safety standards for a material hoist was developed and delivered.

An employee was found using perchlorethylene in an open pan on a work bench. He apparently was unaware of the toxic nature of the solvent. The use of the solvent in this manner was discontinued immediately.

200 Areas Activities

A proposal was made to the 200-West Area Council for establishing building inspection committees. Comments are to be made at the next meeting of the Council.

An inspection was made of the Maintenance Shops and jobs in progress in the 200-East Area. The inspection has been established as a permanent one to be made twice a month. A committee consisting of the Assistant Area Engineer, other members of the Maintenance Division, and the Safety Engineer will make the inspection.

A study is being made of materials and design for a more suitable and safer type acid hood. A Vinyl plastic sheeting, of which some hoods are being made by manufacturers, has been put to test and all indications are that it will meet requirements.

The safety report has been revised for the 200 Areas and will be published in the new form for the month of August.

Plant Security and Services Divisions

Assistance was given in establishing procedures for handling of hydrofluoric acid.

Tests are again being made on duplicating machine fluids to eliminate those which cause illness, nausea, burning to the eyes, etc. Recommendations are being prepared for ventilating operating rooms.

300 Area Activities

New construction on building 384 (Power House) has been completed. Effort is now being concentrated on picking up the loose ends to correct several unsafe conditions arising from coal dust.

One tractor was found to be in very unsafe condition and was tagged out of service.

The use of safety glasses in the 3706 Building will be under special observation for a period of time. Laxity in their use has been noted.

700-1100 Area Activities

The subject of safety shoes was discussed at the Safety Division staff meeting. It was felt by the group that until better service can be given personnel on safety shoes that our shoe program will not be a success.

A study was made on the storage of acids and recommendations were made to Stores. Work Orders have been issued and action has been taken to take care of all recommendations.

Fire escapes on the 703 Building were inspected and recommendations for repairs were made.

FIRE PROTECTION

Plans of the Redox Buildings and P-11 operating units were reviewed.

The study of hazardous chemicals in 234-5 Building is continuing.

The bad weed condition in the lumber yard at White Bluffs was brought to the attention of the Construction Division.

The auxiliary brigades from 100-D and 100-F Areas were brought to White Bluffs and given training in extinguishing actual fires.

A special report was given the Chief Supervisor of Safety & Fire Protection on unsafe wiring and live ammunition in the National Guard warehouse in the Pasco Area (Warehouse #7).

INDUSTRIAL FIRES

Division	Area	No. of Fires	Cause	Loss
Electrical	100-B	1	Electric	$ 100.00
Power	101	1	Spontaneous Ignition	None
Purchasing & Stores	Pasco	1	Electric	None
P Division	300	1	Process Fire	None
Technical	300	1	Electric	$ 10.00
TOTAL		5		$ 110.00

Plant Security and Services Divisions

INDUSTRIAL INVESTIGATIONS

Division	Area	No. of Fires	Cause	Loss
Transportation	White Bluffs	1	Motor Vehicle	$ 116.59
Technical	100-B	1	Process Fire	None
Maintenance	300	1	Welding	None
TOTAL		3		$ 116.59

CONSTRUCTION FIRES (Industrial Areas)

Division	Area	No. Of Fires	Cause	Loss
Construction	100-H	1	Welding	$ 10.00
Construction	Outer	1	Spontaneous Ignition	$ 900.00
TOTAL		2		$ 910.00

CONSTRUCTION INVESTIGATIONS (Industrial Area)

Division	Area	No. of Fires	Cause	Loss
Construction	White Bluffs	1	Electric	None
TOTAL		1		None
TOTAL NUMBER OF FIRES		11	TOTAL LOSS	$ 1,136.59

OFFICE SERVICES DIVISION

General Services

Laundering volumes were as follows:

Plant Laundry (Building 2723)	July	August
Coveralls - Pieces	26,384	30,583
Towels - Pieces	7,852	9,509
Miscellaneous - Pieces	61,804	69,185
Total Pieces	96,040	109,277
Total Dry Weight - Lbs.	135,628	155,162

Richland Laundry (Building 723)		
Flatwork - Pieces	62,708	71,135
Rough Dry - Pieces	29,979	35,777
Finished - Pieces	3,811	3,808
Total Pieces	96,498	110,720
Total Dry Weight - Lbs	61,724	71,968

Plant Security and Services Divisions

Monitoring Section (Building 2723-W)	July	August
Poppy Check - Pieces	55,890	78,308
Scaler Check - Pieces	76,661	95,296
Total Pieces	132,551	173,604

2723 Laundry

Increased volume in this laundry brought about by the increased activity in the 234-5 Building.

Clerical Services

Telephone Exchange

In order to properly cover the volume of business in the telephone exchange as well as train the operators in the new dial system, it was necessary to go to a scheduled 6-day work week until the cutover.

The final copy on the new telephone directory was furnished to the printer.

The Community Division was informed that there would be no dial phones installed in the dormitories at the time of the cut-over to the dial system and that all telephones in the dormitories could be used for local calls only.

A meeting was held during the month with the Interstate Telephone Company and an agreement was reached that after October 26, 1949 the Interstate Telephone Company will prepare all toll statements rather than the Community Accounting Division. This is a substantial saving in salary and work for the plant.

		July		August	
Lines working as 1 - O Lines		633		633	
2 - O		43		48	
O - PBX		27		27	
1 - N		25		20	
2 - N		4		4	
2 OR		1		1	
Total Official Lines Working			738		733
Lines working as 1 - F Lines		119		122	
2 - F		21		16	
F - PBX		7		9	
1 - R		8		9	
2 - R		1182		1191	
"Both"	997				
"W"	124				
"J"	90				
Lines working as 2 - RF Lines		93		93	
3 - RF		2		1	
Total Non-Official Lines Working			1432		1441
Vacant Lines			30		25
Total Lines in Multiple Bank			2200		2200

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Plant Security and Services Divisions

Mail Room

	July	August
Pieces of Internal Mail Handled	192,368	206,491
Pieces of Postal Mail Handled	50,703	49,117
Pieces of Registered Mail Handled	1,076	1,019
Pieces of Insured Mail Handled	240	197
Pieces of Special Delivery Mail Handled	132	140
Total Mail Handled	244,509	256,964
Total Amount of Postage Used	$ 2,143.75	$ 1,321.62
Teletypes sent out	772	1,331
Teletypes Received	710	1,330
Total Teletypes Handled	1,482	2,661
Total Number of Store Orders Filled	1,426	1,499

Office Equipment

An Office Equipment and a Construction Division representative completely inspected this entire division for excess office equipment. All items possible were picked up and returned to our stock or to excess.

Requisitions covering the purchase of miscellaneous items of office equipment were partially approved by the Atomic Energy Commission during the month and we expect delivery during the month of September.

The Office Equipment Section personnel was reduced by two employees during the month, leaving seven mechanics in the shop. This was possible due to reduced volume of repair work.

The entire stock of office equipment was moved from Warehouse #1 in Pasco to Warehouse #8 during the month.

Plans were also made to remove our small stock of office equipment from the Records Hutment and to move to storage in 722-A Building.

	July	August
Office Machines repaired in Shop	168	163
Office Machine service calls	194	236
Total Machines Serviced	362	399

Printing

Due to heavy volume of work, it was necessary to add another employee in this section.

	July	August
Multilith Orders Received	330	335
Multilith Orders completed	329	343

Plant Security and Services Divisions

	July	August
Multilith Orders on Hand at month end	45	37
Mimeograph Orders received	2154	2330
Mimeograph Orders completed	2154	2330
Mimeograph Orders on hand at month end	0	0
Ditto Orders received	924	1018
Ditto Orders completed	924	1018
Ditto Orders on hand at month end	0	0

Stenographic Services

	July		August	
	Hours	Quantity	Hours	Quantity
Dictation and Transcription	0	0	0	0
Machine Transcription	28:30	42	14:30	38
Letters	120:50	144	112:25	188
Manual and Procedures	36:45	78	12:30	23
Duplicating - Stencils, Dittos	191:00	332	346:40	554
Special	376:35	568	522:50	577
Training	177:20	—	81:20	—
Total Hours	931:00		1,088:95	
Employees loaned to other Divisions	625:00		785:15	
Total Hours Available	1556:00		1874:10	

Miscellaneous

Projects were approved and work started during the month on repair of radiators, windows, and air conditioning in Building 703.

Records Control Division

Records Inventory is 75% complete for the Manufacturing Divisions.

Flow and Retention Schedule of records was completed for Purchasing and Stores Division. Records Committee and A.E.C. approval is all that is necessary to place the schedule into effect.

Installation of fire alarm detector system was completed for the Records Storage Hutments.

A meeting was held with the Atkinson & Jones Construction Company concerning the inventory of Atkinson & Jones records.

	July	August
Cases of Records Received and Processed:	59	129

Plant Security and Services Divisions

Summary of records received and processed in August:

Accounting Division	14	#1	Oxford	Transfer Cases
Community Division	8	#1	"	" "
Construction Division	4	#1	"	" "
Design Division	35	#1	"	" "
Manufacturing Accounting Div.	5	#1	"	" "
Technical Divisions	3	#8	"	" "
Transportation Division	1	#1	"	" "

Sub-Contractors:

C. C. Moore Co.	6	#1	"	" "
J. A. Terteling & Sons	35	#1	"	" "
J. A. Terteling & Sons	10	#13	"	" "
J. A. Terteling & Sons	8	#8	"	" "
TOTAL	129		Transfer Cases	

	July	August
Cases issued to various divisions for filling:	226	218
Persons viewing records:	53	75

PATROL AND SECURITY

General

Security orientation talks for new employees who received their "Q" clearance have increased due to the increase in the number of hires for the General Electric Company. These orientations are presently being scheduled daily by the Security Office.

Effective August 1, 1949, the Curtis Sand and Gravel Company started daily use of the Connell gate. The Patrolman stationed at the Hanford Ferry unlocks and opens this gate at 8:00 A.M. and closes and locks it at 4:00 P.M. Monday through Friday.

The 200-W Area Patrol escorted "X" material from the 200-W Area to the Richland Atomic Energy Commission Airport on August 4, 1949. The escort started at 4:00 A.M. and was completed at 6:00 A.M.

On August 4, 1949, Security Patrol assumed the responsibility of notifying the Health Instrument Group at Foster Ranch in the event of an actual evacuation. The notification will be made by the Patrolman stationed at the Hanford Ferry.

By agreement with the local Atomic Energy Commission Security Office on August 5, 1949, the administration of security, as applied to the Kellex Corporation facility in New York, will be handled through the Hanford General Electric Company and the Atomic Energy Commission Security Office, rather than the New York Atomic Energy Commission District Office as in the past. The only exception will be that the Atomic Energy Commission Security Office at the Knolls Atomic Power Laboratory in Schenectady will accept Personnel Security Questionnaire forms, etc. from the Kellex Corporation for original processing.

Plant Security and Services Divisions

Effective August 8, 1949, one Patrolman was stationed at the intersection south of 100-H Area to direct traffic from 4:30 P.M. to 4:45 P.M., Monday through Friday. This traffic direction is necessary because of the changing of the "Stop" sign.

A memorandum was issued by General Electric Security to all Division Heads entitled "Security Policy-Issuance, Transmission and Control of Rough Drafts", on August 9, 1949. It concerned the security policies relating to the issuance, transmittal and control of rough drafts embracing the term "Restricted Data".

Effective August 10, 1949, Airlock #100 post in the 234-5 Building, 200-W Area, was discontinued.

Effective August 11, 1949, Gate 3-A in the 234-5 Building, 200-W Area, will be manned on the Number 2 Shift only. This gate has previously been manned twenty-four hours daily.

Beginning August 12, 1949, 300 Area Security Patrol will escort all vehicles within the "controlled" area which establish a height over fourteen feet from ground level. An Electrical Division representative must also escort these high loads at all times. In the event the Electrical Division escort abandons the load, Patrol will detain it until another Electrical Division escort is provided.

The 100-F Area SEcurity Patrol maintained a special watch of the Columbia River about one mile up the river from 100-B Area for personnel attempting to pass through the project by boat. Watch was from 4:00 P.M., August 15, 1949, to 4:00 P.M., August 16, 1949.

Effective August 16, 1949, 300 Area Patrol assumed the responsibility of escorting the "Waste Truck" from the 3706 Building, 300 Area, to the 200-East Area.

Beginning August 16, 1949, the 272-Z Exclusion Area, 200-W, was re-classified to the category of Top Secret. Personnel with Top Secret clearance for the 235 Operations will automatically be cleared for the 272-Z Area.

The Number 1 Storage Room in the 105-DR Building, 100-D Area, became a routine inspection point for 100-D Area Patrol on August 17, 1949.

Two General Electric Security Bulletins were issued - Bulletin No. 40 "Unnecessary Risks" on August 5, 1949 and Bulletin No. 41 "Engineers Joint Council Survey" on August 19, 1949.

An inspection of all area weapons was begun August 19, 1949. This inspection was completed August 30, 1949.

On August 22, 1949, the Curtis Sand and Gravel Company discontinued the use of the Connell gate.

H. W. Instructions Letter No. 125 "Authorization and Control of Visitors" was issued on August 25, 1949, to establish a uniform procedure for the control of visitors to and from Hanford Works.

Effective August 26, 1949, personnel leaving either the 303, 305, and 3706 Buildings, 300 Area, will not be required to walk through the badge house, but will show their Photo Passes to the guard and remain in their vehicles.

Plant Security and Services Divisions

Effective at 12:01 A.M., August 26, a Kardex identification system was placed in operation at the 305, 321 and 3706 Buildings, 300 Area.

Effective August 29, the Security Patrol assumed the responsibility for inspection of all perimeter fences.

Effective August 29, the Health Instrument Division will receive requests and be responsible for the badging of personnel in the 200-North Areas. In the past, this function was performed by the Security Patrol.

At 12:01 A.M., August 31, the 105 Construction Badge House, 100-H Area, was closed. The Operations 105 Badge House will be used by the Construction personnel

Mobilization Plan "A" practices were held as follows:

August 12	7:37 A.M.	from 100-B Area
August 12	8:37 A.M.	from 100-D Area
August 13	7:22 P.M.	from 200-W Area
August 13	9:45 P.M.	from 200-E Area
August 14	1:51 A.M.	from 200-W Area
August 14	1:50 A.M.	from 200-E Area
August 14	6:35 P.M.	from 200-E Area
August 26	11:20 A.M.	from 100-D Area
August 26	8:54 A.M.	from 100-B Area

PATROL

The 200 Areas handled 74 process escorts between the areas.

Requests handled totaled 604, consisting mainly of opening doors and gates and escorting employees of other divisions.

Two Construction employees were escorted into areas for First Aid treatment.

A total of 86 Unusual Incident Reports was received, consisting mainly of lost badges, pencils, contrabands picked up at barricades, traffic accidents and fires.

Patrol supervision handled one First Aid case during the absence of the area Nurse.

Classified escorts totaling 43 were handled during the month.

Practice evacuations were held as follows:

100-B Area	8-18-49	12:37 P.M.
100-D Area	8-18-49	10:35 A.M.
100-F Area	8-11-49	10:06 A.M.

Arrest Summary

	July	August
Citation tickets issued	0	0

Accident Summary

	July	August
Total Accidents	3	4
Government permits revoked	0	0

Plant Security and Services Divisions

	July	August
Warning tickets issued	0	0
Verbal warning given	0	6
Citation tickets issued (traffic only)	0	0

Training

The courses for instruction at the Training School this month were:

	Hours
Pistol	2
Security Topic - Bulletins 37, 38, and 39	1
Safety Topic - "Have I promoted Safety"	1/4
Health Talk - "You Can Beat the Heat"	1/4
Class on Directional Finding and Altitude	1/2
Code of Ethics of Security Patrolmen	1/2
Familiarization of Classified Material	1
Report Writing	2 1/2

The "Burma Shave" type security signs on project roads were replaced by the Training School personnel.

The competitive safety program is being continued.

SECURITY

Operations Section

There were 283 Security Meetings held and attended by 3,854 General Electric employees.

Employee Clearance

Class "Q" clearances received on old employees this month	0
Class "Q" clearances received on old employees to date	4,455
Class "Q" clearances received on new employees this month	93
Class "Q" clearances received on new employees to date	6,033
Class "Q" clearances received on both old and new employees since February 17, 1947	10,488
Formal "P" clearances awaiting change to "Q"	29
Authorizations issued this month	55

Statistical Summary of Outstanding Area Badges

July	A	B	C	Total	August	A	B	C	Total
100-B	642	1605	487	2734	100-B	627	1639	477	2743
100-D	764	785	544	1093	100-D	750	817	527	2094
100-F	721	1576	494	2791	100-F	775	1579	490	2844
200-E	993	1654	372	3019*	200-E	991	1674	357	3022*
200-W	1443	1592	352	3387	200-W	1457	1622	339	3418
300	1342	1579	248	3169	300	1307	1601	238	3146
200-N	49	853	128	1030	200-N	44	866	126	1036

Plant Security and Services Divisions

241-BY closed out 7-6-49 - - - - -

*Includes 41 "A" badges at Riverland Yards

*Includes 40 "A" badges at Riverland Yards

Visitor or Temporary Badges

Area	July	August
100-B	390	411
100-D	782	822
100-F	677	696
200-E	586	605
200-W	478	469
300	1129	1183
200-N	945	966
Total	4,987	5,152

Special Clearance Section

Following is a statistical summary of clearance status of vendor and consultant vendor companies:

Total companies forwarded to AEC this month:	4	Personnel:	9
Total companies forwarded to AEC last month: (3 consultant personnel included)	7	Personnel:	26
Total companies forwarded to AEC to date:	212	Personnel:	2,117
Total companies cleared for restricted data this month:	5	Personnel:	13
Consultant Company	1	Personnel:	1
Total companies cleared for restricted data last month:	4	Personnel	15

New companies forwarded to the Atomic Energy Commission this month:

Pacific Water Work Supply Company
2900 First Avenue South
Seattle 4, Washington

Number and type of clearance granted by the Atomic Energy Commission this month to vendors and consultants:

Formal "Q"	14
Formal "P"	24

HANFORD WORKS
General Electric Company
Richland, Washington

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Restricted Data Unclass	Areas
MEDICAL DIVISION							
I. Visitors to this Works							
S. T. Cantril Tumor Institute Swedish Hospital Seattle, Washington	Medical consultation	W. D. Norwood, M.D. P. A. Fuqua	8-23-49	8-24-49	X		
CONSTRUCTION DIVISION							
I. Visitors to this Works							
H. A. Lovely Diamond Power Specialty Co. Detroit, Michigan	Check and adjust boiler equipment and inspect soot blower installation in 100-E Area	J. W. Mercke H. A. Hauser	8-2-49	8-5-49		X	100-B 100-H
L. J. Cohan Combustion-Engineering-Superheater, Inc. New York, New York	Check and adjust boiler equipment in 100-H Area	J. W. Mercke	8-1-49	8-15-49		X	100-H
C. A. Johansen Link-Belt Company Chicago, Illinois	Inspection in connection with the Crusher installation 100-H Area, 184 Bldg.	J. W. Mercke	8-28-49	8-31-49		X	100-H
J. D. Weaver Whiting Corporation Harvey, Illinois	Supervise installation and testing of equipment furnished by his firm on order HWC-726	H. A. Hauser	8-1-49	8-3-49		X	
A. M. Mohr American Blower Company Detroit, Michigan	Supervise installation and testing of equipment furnished by his firm on order HWC-6679	H. A. Hauser	8-1-49	8-3-49		X	

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Restricted Data Unclass	Areas
A. McDonald General Electric Company Seattle, Washington	Supervise installation and testing of equipment furnished by his firm on order HWC-7537	H. A. Hauser	8-1-49	8-31-49		X	100-H
L. B. Swann General Electric Company Portland, Oregon	Supervise installation and testing of equipment furnished by his firm on order HWC-5459	H. A. Hauser	8-3-49	8-6-49		X	
A. Wellington Refinite Corporation Omaha, Nebraska	Supervise installation and testing of equipment furnished by his firm on order HWC-1836	H. A. Hauser	8-11-49	8-12-49		X	
F. B. Chamberlin Arthur Forsyth Company Seattle, Washington	Supervise installation and testing of equipment furnished by his firm on order HWC-7545	H. A. Hauser	8-8-49	8-11-49		X	
J. Culos Terry Steam Turbine Company Hartford, Connecticut	Supervise installation and testing of equipment furnished by his firm on order HWC-6176	H. A. Hauser	8-15-49	8-19-49		X	
C. T. Angle Allis Chalmers Company Seattle, Washington	Supervise installation and testing of equipment furnished by his firm on ordersHWC 5671 & 1387	H. A. Hauser	8-17-49	8-19-49		X	
D. K. McCurdy Western Gear Works Seattle, Washington	Supervise installation and testing of equipment furnished by his form on order HW-5458	H. A. Hauser	8-29-49	8-31-49		X	
G. M. Deiter Minneapolis Honeywell Regulator Co. Spokane, Washington	Supervise installation and testing of equipment furnished on Requisition # D-19432	H. A. Hauser	8-29-49	8-31-49		X	

II. Visits to other Installations

J. C. Hamilton to: Western Gear Works Seattle, Washington	Inspect material, check status of fabrication and furnish additional instructions	A. J. Sorenson	8-23-49	8-24-49	X		

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Restricted Data Unclass	Areas
J. C. Hamilton to: Washington Iron Works Seattle, Washington	Inspect material, check fabrication and furnish additional instructions	F. G. Frink, Jr.	8-23-49	8-24-49	X		
J. C. Hamilton to: Ravenna Metal Products Co. Seattle, Washington	Inspect material, check fabrication and furnish additional instructions	K. O. Hiatt	8-23-49	8-24-49	X		
J. C. Hamilton to: City Galvanizers Portland, Oregon	Inspect material, check fabrication and establish inspection procedures	Mr. Williams	8-25-49	8-25-49		X	
J. C. Hamilton to: Iron Fireman Company Portland, Oregon	Inspect material, check fabrication and establish inspection procedures	- -	8-25-49	8-25-49		X	
J. C. Hamilton to: Scientific Research Co. Portland, Oregon	Inspect material, check fabrication and establish inspection procedures	- -	8-25-49	8-25-49		X	
J. C. Hamilton to: Leopold & Stevens Portland, Oregon	Inspect material, check fabrication and establish inspection procedures	- -	8-25-49	8-25-49		X	
L. G. Jones to: City Galvanizers Portland, Oregon	Replace absent inspector to inspect nozzles being galvanized	Mr. Williams	8-31-49	8-31-49		X	
DESIGN DIVISION							
I. Visitors to this Works							
R. H. Horton General Electric Company Schenectady, New York	Installation of the H Dolly	D. L. Peterson	8-15-49	9-15-49	X		100-B 105
G. R Reds General Electric Company Schenectady, New York	Installation of the H Dolly	D. D. Streid	8-8-49	8-18-49	X		100-H 231 200-W,234,235,-105

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
E. Long General Electric Company Schenectady, New York	Complete details of some Schenectady work	D. D. Streid	8-10-49	9-1-49	X		200-W 234 235
S. Dunning Sheldon Dunning Company Seattle, Washington	Discussion of coatings " "	M. J. Rutherford E. F. Smith	8-3-49 8-4-49	8-3-49 8-4-49		X X	
B. W. Farnes Farnes & Martig Company Portland, Oregon	Discussion of instruments	C. O. Clementson	8-10-49	8-10-49		X	
A. V Osborne Stainless Engineering Corporation Oakland, California	Engineering consultation	A. J. Karnie	8-24-49	8-24-49		X	
J. D Winters Stainless Engineering Corporation Oakland, California	Engineering consultation	A. J. Karnie	8-24-49	8-24-49		X	
R. L. Tower C. J. Yost Company Seattle, Washington	Discuss instrumentation	W. E. Johnson J. W. Conley	8-25-49	8-25-49		X	
A. V. Osborne Stainless Engineering Corporation Oakland, California	Engineering consultation	G. S. Cochrane A. J. Karnie	8-25-49	8-25-49		X	
J. D. Winters Stainless Engineering Corporation Oakland, California	Engineering consultation	G. S. Cochrane A. J. Karnie	8-25-49	8-25-49		X	
II. Visits to other Installations							
R. J. Schier to: Bureau of Mines Station Albany, Oregon	Discuss fabrication in connection with pile design	S. M. Sheldon	8-8-49	8-10-49		X	

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Unclass	Areas
H. S. Isbin to: Oak Ridge National Lab. Oak Ridge, Tennessee	Information on Reactor Program Project C-300	M. D. Peterson	8-23-49	8-24-49	X		
J. R. Wolcott to: Oak Ridge National Lab. Oak Ridge, Tennessee	Information on Reactor Program Project C-300	M. D. Peterson	8-23-49	8-24-49	X		
G. H. Syrovy to: Oak Ridge National Lab. Oak Ridge, Tennessee	Information on Reactor Program Project C-300	M. D. Peterson	8-23-49	8-24-49	X		
H. S. Isbin to: Argonne National Laboratory Chicago, Illinois	Information on Reactor Program Project C-300	W. H. Zinn	8-22-49 9-1-49	8-22-49 9-2-49	X X		
J. R. Wolcott to: Argonne National Laboratory Chicago, Illinois	Information on Ractor Program Project C-300	W. H. Zinn	8-22-49 9-1-49	8-22-49 9-2-49	X X		
G. H. Syrovy to: Argonne National Laboratory Chicago, Illinois	Information on Reactor Program Project C-300	W. H. Zinn	8-22-49 9-1-49	8-22-49 9-2-49	X X		
H. S. Isbin to: Atomic Energy Commission Washington, D. C.	Information on Reactor Program at Hanford Project C-300	A. V. Peterson	8-25-49	8-25-49	X		
J. R. Wolcott to: Atomic Energy Commission Washington, D. C.	Information on Reactor Program at Hanford Project C-300	A. V. Peterson	8-25-49	8-25-49	X		
G. H Syrovy to: Atomic Energy Commission Washington, D. C.	Information on Ractor Program at Hanford Project C-300	A. V. Peterson	8-25-49	8-25-49	X		
H. S. Isbin to: Atomic Energy Commission New York, New York	Information on programs for material development-C-300	S. Roboff	8-26-49	8-26-49	X		

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Restricted Data Unclass	Areas
J. R. Wolcott to: Atomic Energy Commission New York, New York	Information on programs for material development-C-300	S. Roboff	8-26-49	8-26-49	X		
G. H. Syrovy to: Atomic Energy Commission New York, New York	Information on programs for material development-C-300	S. Roboff	8-26-49	8-26-49	X		
H. S. Isbin to: Brookhaven National Lab. New York, New York	Heat transfer consultation - Project C-300	T. B. Drew	8-26-49	8-26-49	X		
J. R. Wolcott to: Brookhaven National Lab. New York, New York	Heat transfer consultation - Project C-300	T. B. Drew	8-26-49	8-26-49	X		
G. H. Syrovy to: Brookhaven National Lab. New York, New York	Heat transfer consultation - Project C-300	T. B. Drew	8-26-49	8-26-49	X		
H. S. Isbin to: Knolls Atomic Power Lab. Schenectady, New York	Information reactor program-Project C-300	K. H. Kingdon	8-29-49	8-30-49	X		
J. R. Wolcott to: Knolls Atomic Power Lab. Schenectady, New York	Information reactor program-Project C-300	K. H. Kingdon	8-29-49	8-29-49	X		
G. H. Syrovy to: Knolls Atomic Power Lab. Schenectady, New York	Information reactor program-Project C-300	K. H. Kingdon	8-29-49	8-29-49	X		
H. S. Isbin to: Mass. Inst. Technology Cambridge, Massachusetts	Material testing and development information Project C-300	A. R. Kaufman	8-31-49	8-31-49	X		
J. R. Wolcott to: Mass. Inst. Technology Cambridge, Massachusetts	Material testing and development information Project C-300	A. R. Kaufman	8-31-49	8-31-49	X		

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
G. H. Syrovy to: Mass. Inst. Technology Cambridge, Massachusetts	Material testing and development information Project C-300	A. R. Kaufman	8-31-49	8-31-49	X		
D. D. Streid to: Argonne National Lab. Chicago, Illinois	Engineering consultation	N. J. Palladino	8-19-49	8-28-49	X		
D. D. Streid to: General Electric Company Schenectady, New York	Engineering consultation	R. S. Neblett	8-19-49	8-28-49	X		
D. D. Streid to: General Electric Company Lynn, Massachusetts	Engineering consultation	C. W. LaPierre	8-19-49	8-28-49	X		
J. B. Medlin to: City Galvanizers Portland, Oregon	Contact vendor of galvanized nozzles	Mr. Williams	8-22-49	8-25-49		X	
J. B. Medlin to: Puget Sound Navy Yard Bremerton, Washington	Contact vendor of galvanized nozzles	S. F. Allison	8-22-49	8-25-49		X	
D. D. Streid to: Gen. Eng. & Consulting Lab Schenectady, New York	Engineering consultation 452 Project	D. H. Marquis	8-22-49	8-26-49	X		
ELECTRICAL DIVISION							
I. Visitors to this Works							
W. C. Bason General Electric Company Seattle, Washington	Inspect equipment	H. A. Carlberg G. M. Clifton	8-8-49	8-9-49		X	100-H
HEALTH INSTRUMENT DIVISION							

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class.	Restricted Data Unclass	Areas
I. Visitors to this Works							
Mrs. M. M. Trojanowski General Electric Company Schenectady, New York	Study bio-assay work at Hanford	J. W. Healy	8-15-49	8-26-49	X		200-W 221-T
P. B. Pearson Division of Biology and Medicine Atomic Energy Commission Washington, D. C.	Study biology methods	H. A. Kornberg	8-10-49	8-12-49	X		300all 100-F 105 200-W 221-T 231 272-Z
II. Visits to other Installations							
J. M. Smith, Jr. to: Oak Ridge National Lab. Oak Ridge, Tennessee	Study of health physics procedures and Redox consultation	D. G. Reid	8-1-49	8-15-49	X		
INSTRUMENT DIVISION							
I. Visitors to this Works							
K. E. Atwood Bailey Meter Company Seattle, Washington	Inspect instrument installations 100-H, 105	E. Hilgeman	8-9-49 8-17-49	8-10-49 8-31-49	X		100-H 105
PROJECT ENGINEERING DIVISION							
I. Visits to other Installations							
H. J. Bellarts to: Puget Sound Navy Yard Bremerton, Washington	In regard to E.R. 1093	S. L. Allison L. Wolfe	8-17-49	8-17-49	X		
MANAGEMENT							
I. Visitors to this Works							

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anization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
ectric Company y, New York	General Discussion	W. I. Patnode	8-15-49	8-16-49	X		
ING MANAGEMENT							
to other Installations							
or al Eng. & Consulting Lab.), New York	Consultation and inspection Project 432	D. H. Marquis R. S. Neblett	8-1-49	8-6-49	X		
AND STORES DIVISION							
rs to this Works							
n ectric Company Oregon	Supervise and test installation of equipment on order RWC-5459	R. M. Brennan	8-3-49	8-3-49		X	100-H
l ectric Company ashington	Supervise and test installation of turbines 100-H Area	R. M. Brennan	8-1-49	9-2-49		X	100-H
y ral Hauling Washington	Deliver load of creosoted poles for fencing, 300 Area	E. O. Monson	8-9-49	8-9-49		X	300 XXX
N							
to other Installations							
Atomic Power Lab. , New York	Discuss future production problems	R. P. Lee	8-31-49	9-3-49	X		
l Electric Company , New York	Consultation on KAPL program	L. L. Ferguson	8-29-49	9-2-49	X		

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
"S" DIVISION							
I. Visits to other Installations							
H. A. Moulthrop to: Gen. Eng. & Consulting Lab. Schenectady, New York	Consultation and inspection Project 432	D. H. Marquis R. S. Noblett	8-1-49	8-6-49	X		
TECHNICAL DIVISION							
I. Visitors to this Works							
J. C. Maguire Argonne National Laboratory Chicago, Illinois	Consultation on P-10 Project	A. A. Johnson	8-29-49	9-1-49	X		300 3706 100-B 105 200-W 221-T
G. A Anderson Argonne National Laboratory Chicago, Illinois	Discuss future pilot channel test	J. B. Lambert	8-22-49	8-26-49	X		100-H 105 300 3706
A. R. Jamrog Argonne National Laboratory Chicago, Illinois	Discuss future pilot channel test	J. B. Lambert	8-22-49	8-26-49	X		100-H 105 300 3706
F. W. Thalgott Argonne National Laboratory Chicago, Illinois	Discuss future pilot channel test	J. B. Lambert	8-22-49	8-26-49	X		100-H 105 300 3706
G. H. Tenney Los Alamos Scientific Laboratory Los Alamos, New Mexico	Consultation on radiography	B. Weidenbaum	8-4-49	8-5-49	X		300 3706 321 303 200-W 221-T 231 234 and 235

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
I. B. Venable Los Alamos Scientific Laboratory Los Alamos, New Mexico	Chemistry and metallurgy consultation	B. Weidenbaum	8-15-49	8-19-49	X		200-W 221-T 231 234 and 235
J. W. Dutli Los Alamos Scientific Laboratory Los Alamos, New Mexico	Assist in calibration of radiography unit	B. Weidenbaum	8-24-49	9-1-49	X		200-W 231 234 and 235
J. F. Flagg Knolls Atomic Power Laboratory Schenectady, New York	Redox consultation and Redox analytical methods	R. H. Benton D. W. Pearce H. R. Schmidt	8-30-49	9-1-49	X		300 3706 321
C. F. Metz Los Alamos Scientific Laboratory Los Alamos, New Mexico	Sample exchange program between Hanford and Los Alamos	D. W. Pearce A. H. Bushey W. A. Briggs	8-3-49	8-4-49	X		300 3706 200-W 231
G. O'Keeffe Argonne National Laboratory Chicago, Illinois	Assist in start-up of P-10A operation	E. A. Smith R. Teats R. Ward	8-2-49	8-9-49	X		300 3706 303 100-B 105
C. J. Coffin General Electric X Ray Corp. Seattle, Washington	Installation of X-ray unit	J. H. Bach J. B. Burnham	8-1-49	8-5-49	X		300 3706
A. G. Greene Library Section Technical Information Branch Oak Ridge, Tennessee	Inspect classified document control systems and review library procedures	C. G. Stevenson	8-15-49	8-18-49	X		300 3706 200-W 221-T 100-D 105
I. A. Warhoit Library Section Technical Information Branch Oak Ridge, Tennessee	Inspect classified document control systems and review library procedures	C. G. Stevenson	8-15-49	8-18-49	X		300 3706 200-W 221-T 100-D 105

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
II. Visits to other Installations							
L. A. Bennett to: Inst. of Mathematical Statistics Boulder, Colorado	Meeting of Institute of mathematical statistics		8-29-49	9-1-49		X	
A. W. Koenig to: Oak Ridge National Lab. Oak Ridge, Tennessee	Investigation of corro-sion problems	M. D. Peterson	8-25-49	8-26-49	X		
L. D. Turner to: Argonne National Lab. Chicago, Illinois	Discussion and inspection of methods for making radio-metallurgical examinations	H. Payne	8-8-49	8-9-49	X		
L. D. Turner to: Oak Ridge National Lab. Oak Ridge, Tennessee	Discussion and inspection of methods for making radio-metallurgical examinations	J. H. Frye	8-11-49	8-12-49	X		
L. D. Turner to: Mass. Institute Technology Cambridge, Massachusetts	Discussion and inspection of methods for making radio-metallurgical examinations	A. R. Kaufman	8-15-49	8-16-49	X		
L. D. Turner to: Knolls Atomic Power Lab. Schenectady, New York	Discussion and inspection of methods for making radio-metallurgical examinations	J. P. Howe	8-17-49	8-18-49	X		
R. Teats to: Detroit Gasket & Mfg Co. Detroit, Michigan	Supervise extrusion of P-10 alloy	J. Emmons	8-30-49	8-30-49	X		
C. G. Stevenson to: American Library Association Vancouver, B. C., Canada	Attend regional meeting of American Library Association	--	8-21-49	8-25-49		X	
J. G. Bradley to: Oak Ridge National Lab. Oak Ridge, Tennessee	Redox consultation	D. G. Reid	8-1-49	8-12-49	X		

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Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
P E. Collins to: Gen. Eng. & Consulting Lab. Schenectady, New York	432 Project inspection and consultation	D. H. Marquis	8-8-49	8-19-49	X		
A. A. Johnson to: Brookhaven Nat'l Lab. New York, New York	Attend conference on radiation damage	J. C. Slater	8-21-49	8-24-49	X		
F H. Reinker to: Brookhaven Nat'l Lab. New York, New York	Attend conference on radiation damage	J. C. Slater	8-21-49	8-24-49	X		
R. E. Nather to: Radiation Laboratory Berkeley, California	Consultation on special requests	E. Brown G. T. Seaborg	8-2-49	8-3-49	X		

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PURCHASING AND STORES DIVISIONS
SUMMARY
AUGUST, 1949

Personnel of the Purchasing and Stores Divisions showed a net increase of fifty-eight people. The Stores Division increased fifty-nine people due to increased excessing activity and the agreement previously reached with the Transportation Division to handle their stocks of automotive spare parts. There was no change in the number of people in the Purchasing Division and the Traffic Section was reduced by one.

	Total Personnel as of 7-31-49	Total Personnel as of 8-31-49	Net Change
Exempt	45	46	Plus 1
Non-Exempt	200	257	Plus 57
TOTALS	245	303	Plus 58

The work load in the Purchasing Division increased an additional ten per cent over July.

Only one known claim is still open so far as 1948 Construction purchase orders are concerned.

The screening of purchase requisitions has resulted in approximately $5,000 per week being issued from excess materials rather than being supplied by direct purchase.

General Stores inventories were reduced $122,282.62.

Total savings in freight charges amounted to $13,898.95.

There were numerous increases in freight rates announced amounting to an overall four per cent which are to become effective September 1, 1949.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION
AUGUST, 1949

GENERAL

An increase in the work load was again noted during the month. 1,267 purchase orders were placed as compared to 1,152 placed in July. 1,998 purchase requisitions were received as compared with 1,864 received during July. Requisitions on hand at month end total 533 as compared with 447 at the end of the previous month.

Two additional orders were placed for material for Project P-10-A and completed the scheduled procurement for this project.

With the assistance of the other Divisions of the Nucleonics Department, the Purchasing Division prepared and issued a report on strategic and critical materials to be studied for the purpose of stock-piling for use in the event of a National emergency. This list consisted of 38 procurement items and specified the form in which the items are being used at the Hanford Works Operations.

Two of the three remaining vendors' claims pertaining to 1948 Construction orders were satisfactorily settled during the month. The only open claim is one involving the American Machine and Foundry Company with respect to their orders for stainless steel hoods. Action on this claim is pending receipt of the formal Settlement Proposal Forms.

The thirty cars of coal ordered for test purposes from the Big Horn Coal Company were received and evaluated. The coal did not meet the quoted analysis; however, it was comparable to coal being furnished by the Continental Coal Company on our present contract and suitable for our use. In accordance with the terms of our contract, the Continental Coal Company was given an opportunity to meet the more favorable price offered by Big Horn Coal Company. They chose to meet the price and a formal amendment to the contract will be issued, effecting an approximate $6,000 reduction in cost.

The Stauffer Chemical Company was awarded a contract to supply our requirements of Ferric Sulphate for the period October 1, 1949 to September 30, 1950.

Invitations to bid were mailed requesting quotations on our estimated requirements of Chlorine and Hydrated Lime.

PERSONNEL

	Total Personnel as of 7-31-49	Total Personnel as of 8-31-49	Net Change
Exempt	21	22	Plus 1
Non-Exempt	24	23	Minus 1
TOTALS	45	45	0

One non-exempt employee terminated during the month for whom a replacement was requested and received. Three additional non-exempt employees turned in their resignations to become effective during the month of September. Requests for replacements of these persons have been forwarded to the Employment Division.

SAFETY AND SECURITY

Safety and Security Meeting Scheduled	1
Number of Employees Attending	46
Minor Injuries	0

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

STATISTICS

	G	D	Total
Requisitions on hand 8-1-49 (Includes 25 assigned to Govt.)	417	30	447
Requisitions assigned during August	1,886	112	1,998
Requisitions placed during August	1,800	112	1,912
Requisitions on hand 8-31-49 (Includes 46 assigned to Govt.)	503	30	533

		Number	Value	
HW Orders Placed		1,184	$482,205.25	
HW Alterations Issued		99	16,333.39	Cr.
	Total:	1,283	$465,871.86	Dr.
HWC Orders Placed		83	$ 30,107.55	
HWC Alterations Issued		48	76,881.77	Cr.
	Total	131	$ 46,774.22	Cr.
AEC Orders Placed		157	$176,439.75	
DC Orders Placed		20	14,769.19	

	OR	ORC	Total
Government Transfers	3	0	3

Open Orders	
HW Orders	1,100
HWC & HWN Orders	171
Govt. Orders	13
Total:	1,284

Number of new orders requiring inspection during month	15
Number of completed orders requiring inspection during month	1
Number of orders outstanding requiring inspection at close of month	72
HW orders expedited (Special Request)	266
HW orders expedited (Routine)	425
HWC orders expedited (Routine)	239

PURCHASING AND STORES DIVISIONS
STORES DIVISION
AUGUST, 1949

During August, 1949, general Stores inventories were reduced from $2,590,231.83 as of the close of July to $2,467,949.21 as of the close of August. In addition to the above, obsolete and surplus materials valued at $102,830.29 were declared excess during the month. 1473 items previously carried as active stock were discontinued. Value of materials declared excess is not included in the above inventory total for August.

Effective August 15th, responsibility for automotive materials, previously controlled by the Transportation Division, was assumed by the Stores Division. Inventories of automotive parts have been completed in two of three locations, and upon completion of the third location, credit will be issued to the Transportation Division.

A 50% increase in receiving reports was noted during the past month. This is due largely to decreased inventories and frequency of scheduled shipments from vendors. This increased work load is being handled on a current basis with sixteen employees instead of twenty-six as previously required.

The procedure for screening purchase requisitions effective August 3rd indicates that materials in excess of $5,000.00 per week are being furnished from plant sources, thereby curtailing the expenditure of new funds.

Personnel requisitioned to inventory surplus materials and equipment declared excess by the Construction Division and subcontractors has been partially received and inventories are progressing satisfactorily.

Excess lists Numbers 134 through 137, 146, 147, 148, 150, 161 through 164, a total of twelve, were transmitted to the Commission during the month. Eleven field lists were circulated throughout the Project. Eight lists were approved as excess and eighteen lists are pending.

Forty-three representatives of Government agencies and private businesses were escorted through our warehouses and scrap yards for the purpose of negotiating the purchase of scrap and transfer of excess property.

The Commission has requested that we dispose of scrap material remaining in the Hanford Area and steps are being taken to comply.

Lists of various construction equipment, including some automotive equipment, have been received from the Commission requesting that the equipment as listed be retained for possible construction requirements. This equipment is being held in the category of controlled items.

PURCHASING AND STORES DIVISIONS
STORES DIVISION

PERSONNEL

	Total Personnel as of 7-31-49	Total Personnel as of 8-31-49	Net Change
Exempt	21	21	-0
Non-Exempt	166	225	Plus 59
TOTALS	187	246	Plus 59

SAFETY AND SECURITY

Inventory Control

Safety and Security Meetings Scheduled	1
Number of Employees Attending	26
Minor Injuries	0

Receiving, Warehousing & Disbursing

Safety and Security Meetings Scheduled	7
Number of Employees Attending	61
Minor Injuries	1
Sub-Major Injuries	1

Surplus, Salvage and Scrap

Safety and Security Meetings Scheduled	6
Number of Employees Attending	131
Minor Injuries	4

STATISTICS

Inventory Control

Number of items added to Stores stock	16
Number of items deleted from Stores stock	1,473
Items in Stores stock at month end	47,056
Store Orders filled	17,540
Inventory valuation (903-all captions, 906 & 912)	$2,467,949.21
Inventory valuation (Spare Parts) at month end	1,524,329.49
Total value inventories at month end, including Spare Parts	3,992,278.70
Value of Disbursements, not including cash sale items	188,763.71*
Value of Cash Sales	999.47
Value of materials declared excess	638,387.44
Value of materials returned to Stores stock for credit	2,026.00

*Includes $18,061.41 disbursed to Construction and CPFF subcontractors.

PURCHASING AND STORES DIVISIONS
STORES DIVISION

Receiving, Warehousing & Disbursing

Receiving Reports Issued	3,285
Emergency Store Orders Filled	4
Returnable containers on hand at month end	5,422
Returnable containers on hand over six months	1,408
Shipments processed (containers and material) during this month	225

Surplus, Salvage & Scrap

Excess Account #10.10 Balance 7-25-49		$ 7,772,153.35
Receipts 7-25-49 to 8-25-49		
Lumber	1,059.18	
Automotive Equipment	1,751,741.29	
Machine Tools and Equipment	36,963.12	
Office Furniture, Machines, etc.	9,874.80	
Household Furniture, etc.	2,244.60	
Material and Supplies	60,666.53	
Miscellaneous Equipment	361,600.65	
Material in process - not classified	4,724,848.60	
	$6,979,020.27	6,979,020.27
		$14,751,173.62
Disbursements 7-25-49 to 8-25-49		
On Project:		
Lumber	317.28	
Automotive Equipment	80,124.80	
Machine Tools and Equipment	6,182.73	
Office Furniture, Machines, etc.	571.65	
Household Furniture, etc.	32.50	
Material and Supplies	2,215.23	
Miscellaneous Equipment	17,399.82	
Pile Area Material	3,740.00	
Off Project:		
Lumber	129,453.20	
Automotive Equipment	8,199.86	
Machine Tools and Equipment	14,151.89	
Office Furniture, Machines, etc.	3,403.94	
Household Furniture, etc.	6,926.30	
Material and Supplies	46,076.78	
Miscellaneous Equipment	2,830.00	
	$ 321,627.98	321,627.98
Balance of Account #10.10 as of 8-25-49 (See attached list for breakdown of materials in this account by classifications)		$ 14,429,545.64

PURCHASING AND STORES DIVISIONS
STORES DIVISION

Total Receipts to Date	$ 17,016,442.77
Total Disbursements to Date	2,586,697.13
Scrap and Salvage Disbursed	
Scrap Sales Completed	10
Scrap Sales in Process	4
Scrap Sale Revenue for the month	$ 18,027.37
Total Scrap Sale Revenue to Date	$ 94,405.97

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10

Class	Description	Monetary Value
1	Gun Emplacements, Fire Control Instruments	$ 1.25
2	Small Arms	1,429.02
3	Lethal Device Equipment	10.00
4	Ammunition	181.90
5	Flags, Bunting, Pennants, etc.	201.71
7	Fuel	10.34
8	Motor Vehicles: Electric trucks, tires	201,005.01
10	Outboard Motors and all accessories	343.67
11	Pumps and Pump Parts	75,514.14
12	Marine Hardware	174.72
13	Engine & Fireroom Fittings	116.32
14	Lubricants	6,637.40
15	Electric Cable and Insulated Wire	20,540.45
16	Radio and Sound Signal Apparatus	13,065.48
17	Electric Apparatus	857,924.79
18	Instruments of Precision & Photographic Equipment	25,323.38
19	Blocks	12,983.18
21	Cordage: Hemp, Jute, Oakum, Twine, etc.	290.00
22	Wire Rope, Bare Wire, etc.	4,665.82
24	Canvas, Duck, Tentage, etc.	173.90
26	Furniture	91,480.71
27	Textiles: Thread, Findings, Floor Coverings	39,765.24
29	Toilet Articles	24.38
30	Bathroom and Toilet Fixtures	4,723.28
31	Non-Electric Lighting Apparatus	23.46
32	Fire-Surfacing and Heat Insulating Materials	29,773.82
33	Gaskets, Hose, Packing, Sheet and Strip, Rubber, Hose Fittings, Flexible Tubing	13,709.65
34	Belting, Harness, (Leather) etc.	656.49
36	Music and Musical Instruments	8.50
37	Special Wearing Apparel and Athletic Equipment	14,178.44
38	Brooms and Brushes	268.70
39	Lumber	1,603,657.26
40	Machine Tools	186,004.12
41	Hand Tools	22,658.06
42	Builders and General Hardware	31,536.56
43	Bolts, Nuts, Rivets, Screws, Washers, etc.	25,757.01
44	Pipe and Non-flexible Tubes and Tubing	171,000.42
45	Pipe Fittings	253,540.87
46	Metal in Bars: Including Flat, Hexagon, etc.	11,375.42
47	Metal in Plates and Sheets	412.74
48	Metal Shapes and Structural	398.58
51	Acids, Chemicals, etc.	17,346.47
52	Paints and Paint Ingredients	51,310.93

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10 - (Cont.)

Class	Description	Monetary Value
53	Pens, Pencils, Paper, Drafting Room and Printers' Supplies	$ 21,356.55
54	Office Equipment	40,569.25
55	Clothing	2,611.95
57	Laboratory Equipment	34,007.73
58	Fire Fighting Apparatus: Railway Equipment, Prefabricating Buildings, etc.	125,351.39
59	Building Materials: Asphalt, Brick, etc.	33,171.10
60	Boilers and Power Plants	49,081.89
62	Tableware	7,130.80
64	Kitchen Utensils and Apparatus	62,120.36
65	Ovens, Ranges, Stoves, etc.	18,244.41
66	Machinery: Pneumatic Tools, etc.	278,382.87
69	Animal and Hand-Drawn Vehicles	3,824.93
70	Agricultural Implements	1,849.29
72	Boots, Shoes, Leather & Rubber Clothing	190.32
73	Caps, Hats, Gloves, etc.	317.20
74	Infantry and Landing Force Equipment	512.62
78	Motorized Equipment and Heavy Construction Equipment	5,235,675.46
83	Airplane Accessories, Equipment and Parts	95.33
	Material in Process, not classified	4,724,848.60
	Total Account 10:10	$14,429,545.64

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION
AUGUST, 1949

GENERAL

The interim increases granted the railroads by the Interstate Commerce Commission in Ex Parte 168 were cancelled effective September 1, 1949, and new increases of 10% within and between Eastern and Southern Territories, 9% within Zone 1 of Western Trunk Line Territory, 8% within Western Territory other than Zone 1 of Western Trunk Line Territory, and 9% to apply interterritorially, except between Eastern and Southern Territories, become effective. This will result in a 4% overall increase, except on certain commodities on which a maximum increase was set, i.e.,: Lumber, 6¢ per cwt.; Anthracite and Bituminous Coal, 35¢ per net ton.

Several important changes in demurrage rules and charges were approved by the Interstate Commerce Commission, to become effective September 1, 1949:

a. Saturdays, in addition to Sundays and holidays, will be excluded in computing time, except that Saturdays, Sundays and holidays will be counted after the fourth debit day begins to run.

b. Only the following holidays will be excluded in computing time:

New Year's Day	Independence Day
Washington's Birthday	Labor Day
Memorial Day	Thanksgiving Day
	Christmas Day

c. Debits will be increased to $3.00 each and excess debits to $6.00 each.

The Milwaukee Road paid our claim GEM-O/C 299 in the amount of $15.32, which covered diversion charges on seven cars of Sand shipped from Eau Claire, Wisconsin. These cars were originally waybilled to Kennewick and we issued orders to have them diverted to Hanford. Upon receipt of the bills of lading it was found that the cars were consigned to Richland and the origin agent, without contacting the shipper, changed the destination to Kennewick. We contended the agent at origin erred in executing bills of lading which were contradictory and therefore impossible of execution. Payment of the claim upholds this viewpoint and sets a precedent whereby recovery of overcharges may be effected on any carload shipments consigned to Richland which have in the past or will in the future arrive at Kennewick.

As a result of rate reductions obtained from the carriers, there was a total savings in freight charges for the month of August amounting to $13,898.95. This makes a total savings to date of $1,130,475.74.

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

SAFETY AND SECURITY

Safety and Security Meetings Scheduled	1
Number of Employees Attending	9
Minor Injuries	0

STATISTICS

Savings Report

1. Rate reductions obtained from the carriers:

Commodity	Origin	Savings for August	Savings thru July	Total Savings to Date
Gas, Chlorine	Tacoma, Wash.	$ 270.00		
Liners, Furnace	Morgantom, N.C.	7,956.00		
Soda, Caustic	Tacoma, Wash.	942.13		
Sulphate, Ferric	East Point, Ga.	4,730.82		
		$13,898.95	$1,116,576.79	$1,130,475.74
2. Freight Bill Audit		72.86*	45,606.73	45,679.58**
3. Loss & Damage, & Overcharge Claims		831.03	73,450.27	74,281.30
4. Ticket Refund Claims		159.36	6,436.88	6,596.24
5. Household Goods Claims		34.50	13,830.88	13,865.38
		$14,996.69	$1,255,901.55	$1,270,898.24

* Includes $9.01 for the AEC
** Includes $19,336.22 for the AEC

Work Volume Report

Reservations Made	Rail	43
	Air	67
	Hotel	44
Expense Accounts Checked		63
Household Goods & Automobiles		
	Movements Arranged Inbound	6
	Movements Arranged Outbound	11
	Shipments Traced	6
	Insurance Riders Issued	1
	Insurance Bills Approved	5
	Furniture Repair Orders	2
	Claims Filed	2
	Claims Collected - Number	2
	Claims Collected - Amount	$34.50
Ticket Refund Claims		
	Filed	6
	Collected - Number	10
	Collected - Amount	$159.36

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Work Volume Report (Cont.)

Freight Claims	Filed	15
	Collected - Number	20
	Collected - Amount	$831.03
Freight Bill Audit Savings	GE	$ 63.84
	AEC	9.01
Freight Shipments Traced		28
Quotations	Freight Rates	76
	Routes	28
Bills Approved	Air Freight - GE	1
	Air Express - GE	8
	AEC	3
	Carloading - GE	79
	AEC	2
	Express - GE	97
	AEC	48
	Rail - GE	634
	AEC	10
	Truck - GE	197
	AEC	46
Carload Shipments	Inbound	679
	Outbound	71

Report of Carloads Received

Atkinson & Jones Construction Co.	Bolts	1
E. J. Bartells Co.	Asbestos	1
McCorkle Construction Co.	Asphalt	4
Newport, Kern & Kibbe	Asphalt	14
Richland Concrete	Cement	4
Richland Transportation	Coal	25

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STATISTICS (Cont.)

Report of Carloads Received (Cont.)

General Electric Company			
	Asphalt	3	
	Bichromate of Soda	1	
	Caustic Soda	11	
	Cement	9	
	Chemicals	3	
	Chlorine	6	
	Coal	552	
	Electrical Hardware	1	
	Express	2	
	Ferric Sulphate	4	
	Ferrous Ammonium Sulphate	1	
	Furnace Liners	10	
	Helium	1	
	Hydrofluoric Acid	1	
	Infusorial Earth	1	
	Machinery	1	
	Merchandise	4	
	Methyl Isobutyl	1	
	Nitric Acid	7	
	Pipe	1	
	Potash	1	
	Salt	5	
	Soda Ash	3	
	Sulphuric Acid	1	630
Total Entire Project			679

EMPLOYEE AND COMMUNITY RELATIONS DIVISION

SUMMARY--AUGUST, 1949

Open requisitions decreased from 267 at the beginning of the month to 206 at the end of the month. Total plant roll increased during the month from 7,385 to 7,522. Turn-over rate, including terminations due to lack of work, during August was 1.73%. Turn-over rate, exclusive of terminations due to lack of work was 1.58%. Arrangements were made for recruiting stenographic help and comptometer operators in Portland, Oregon, and Seattle, Washington.

Four employees retired during August, two of which were on optional retirement. One hundred thirty-nine visits were made to the Kadlec Hospital for the purpose of contacting employees confined because of illness. A visit was made to the Department of Labor and Industries and also the Boeing Aircraft Company with respect to compensation matters. Three meetings were held with Training and Program Development Group members, as well as Community Relations representatives, on the proposed General Electric Health Insurance Plan to be presented to employees in the near future.

Thirty-five meetings in which 760 supervisory employees participated, were held by the Training and Program Development Group on the Revised Nonexempt Rating Plan. There were 264 employees given orientation during the month of August.

The activities of the Labor Relations and Wage Rate Division during August were primarily concerned with interpretations of the GE-HAMTC Contract, processing of grievances, completing the necessary records to convert classifications and wage rates. The Office Workers International, Building Service Employees and the Architects and Technical Employees Unions contacted this Division relative to negotiating contracts and were advised of Company policy on such matters. A petition was received from the NLRB for investigation and certification of the Office Workers International. A conference was held with the NLRB relative to the Guards Union setting forth the intent of the Company to extend certain benefits to union employees of the HAMTC to nonunit employees. Reimbursement order was signed for bargaining unit employees. A special report was prepared covering planned activities in recognition of Mr. C. E. Wilson's 50th Anniversary with the Company. Another report was prepared covering organizational accomplishments and objectives of this Division. Two meetings were held with the Council Grievance Committee. New wage rate manuals were distributed together with Instructions Letters for both unit and nonunit employees. No new reimbursement authorizations were submitted during August. Classification reviews were conducted in several divisions. Numerous meetings were held with supervisors on the new wage rate procedure. Several meetings were held with HAMTC representatives negotiating job classifications and definitions.

Employee and Community Relations Division

Summary

The Charles E. Wilson 50th Anniversary Program of the General Electric Company provided an opportunity for the Nucleonics Department to participate in an over-all Company event, and a considerable amount of time was spent by Community Relations personnel in preparing the tentative Nucleonics Department Plan. A copy of this plan was forwarded to the Advertising and Publicity Coordinator for the Wilson 50th Anniversary Program, and the minor revisions were subsequently made in the tentative plan as a result of suggestions received from members of the Nucleonics Department Steering Committee.

The Community Relations Division Head was appointed Employee and Community Relations representative on the Steering Committee, and Secretary of that Committee.

Four meetings of the Steering Committee were held during the month of August during which the specific plans of various Nucleonics Department Divisions were developed and made a part of the over-all Nucleonics Department Plan for participation in the 50th Anniversary Program.

During the month of August, 19 informative releases were sent to 10 newspapers and 3 radio stations which comprise the "Local List", maintained by the Nucleonics Department News Bureau. Also during the month 11 news releases of more general nature were sent to 67 daily newspapers and, in some instances, to 120 weekly newspapers in the Pacific Northwest.

Special Programs contributed advertising and publicity services on a wide variety of projects during the month. The outstanding ones, because of their important effect upon the operation of Hanford Works by the Nucleonics Department included the production of 6,000 GE-HAMTC Agreement Booklets. Upon completion of the printed booklets, they were distributed through designated individuals within each division included in the bargaining unit.

Many favorable remarks have been received concerning the Special Programs booklet produced as a recognition of the completion of a fourth year of operation without a lost-time injury by the 100-B area. The 28-page booklet, contained in a two-color cover, was written, the layout and art work produced, and necessary pictures and arrangements for printing through the Hanford Works print shop were all accomplished by Special Programs. "You and G.E. at Hanford Works" was placed in the hands of the printer as a result of the work of Special Programs during the month. This was accomplished in time to provide copies of the booklet for distribution during the middle of October, the date set in the Employee and Community Relations Plan for observance of the Charles E. Wilson 50th Anniversary Program.

The organization arrangements completed during the month which have resulted in the assignment of the woman employee who formerly served as Assistant to the Editor of the Works NEWS has resulted in an improved coverage of women's activities at Hanford Works from an information standpoint. This was accomplished by transferring to Employee Relations a number of the

Employee and Community Relations Division

Summary

functions previously performed by Women's Activities. The duties remaining for the women's feature writer included preparation of the Women's Page for the Works NEWS each week, the recreation information for employee relations for the Works NEWS, and the column in the Works NEWS which lists rides available for Hanford Works people to distant points, and riders seeking transportation to various week end and vacation points.

In addition, since the women's feature writer is assigned to the Nucleonics Department News Bureau, the remainder of her time each week is being spent on public relations work which consists of preparation of special request features for various newspapers in the Northwest.

Hanford Works NEWS played an important part in publicizing the G.E. Education Program during the month. A full page was devoted to listing the 1949 term catalogue of courses, and through the medium of the Works NEWS this information was made available to all Hanford Works employees.

Hanford Works NEWS also served as a medium for communicating with all Hanford Works employees concerning the decision to extend the same increase shift differential and isolation pay benefits which were included in the GE-HAMTC Agreement.

EMPLOYEE AND COMMUNITY RELATIONS DIVISION

AUGUST, 1949

ORGANIZATION AND PERSONNEL

Employee Relations

Employment:

Effective August 1, 1949, a General Clerk "D" was added to the Investigation and Files Section.

Effective August 16, 1949, a Stenographer-Typist "D" was added to the Procurement and Procedures Section.

Effective August 22, 1949, a Stenographer-Typist "A" was transferred to the Health Instrument Division, and upgraded to a Secretary "B".

Effective August 29, 1949, a Stenographer-Typist "D" was added to the Investigation and Files Section as a replacement for an employee who resigned.

Employee Services:

Effective August 15, 1949, a Stenographer-Typist "B" was transferred to the Employment Group, and upgraded to a Stenographer-Typist "A".

Effective August 15, 1949, a Stenographer-Typist "B" was added to the Employee Services Group to replace the employee who transferred.

Training and Program Development:

No organization changes were made in this Group during August.

Labor Relations and Wage Rate

Effective August 31, 1949, a Stenographer-Typist "B" was added to the payroll of this division.

Community Relations

Effective August 15, 1949, a Publicity Writer was added to the Special Programs Section.

Number of employees on Payroll	August, 1949
Beginning of month	76
End of month	80
Net increase	4

This increase was due to an increase in the volume of work.

Employee and Community Relations Division

ACTIVITIES

Employee Relations

Employment:

	7-1949	8-1949
Applicants interviewed	1, 546	1, 924
Open requisitions		
Exempt	1	0
Nonexempt	266	206

Of the 266 nonexempt open requisitions at the beginning of the month, 192 were covered by interim commitments. Of the 206 nonexempt open requisitions at the end of the month, 139 were covered by interim commitments. At the end of August there were no requisitions on file for exempt, nontechnical personnel.

	7-1949	8-1949
Employees added to the roll	129	266
Employees removed from the roll	137	129
Net gain or loss	- 8	+ 137

Of the 129 employees removed from the roll during the month, 12 were terminated due to lack of work, including 9 who were outside the bargaining unit.

Turn-over rate for the month of August, including those who were terminated due to lack of work was 1.73%. Turn-over rate of employees, exclusive of those employees who were laid off for lack of work, was 1.86%.

During the month of August, 37 new requests for inter-Divisional transfers were received and reviewed by the Employment Office. As a result of these requests, 16 transfers were effected.

In addition, 12 transfers were effected for employees who had received notice of termination due to lack of work.

Due to a continuing shortage of qualified stenographic help available from the local labor pool, as well as a need for a comparatively large number of comptometer operators, arrangements were completed during the last week in August to recruit this type of personnel in Portland.

Oregon, and Seattle, Washington. In addition, newspaper advertising in Walla Walla and Yakima was utilized for this type of help.

On August 24, 1949, the Investigation and Files Section completed the Seniority Lists as defined in the Agreement between the Company and the HAMTC. The work on these lists has covered a period of approximately two and one half months.

Employee Services:

During the month of August, the Employee Services Group was assigned the responsibility of co-ordinating all phases of the promotional and publicity work for the new General Electric Health Insurance Plan, which will be placed into effect at this Works in the near future. Considerable time was spent with the Training and Program Development Group, as well as representatives of the Community Relations Group, for the purpose of explaining the differences in benefits, as well as the changes in procedure, which will become effective under this new Plan.

An over-all plan for the presentation of the G.E. Health Insurance Plan to all employees has been devised. In addition, information for the Health Insurance Booklet, as well as for publicity, has been obtained from the Corporate Affairs Department in Schenectady.

During the month of August, 139 visits were made to G.E. employees, who were confined in the Kadlec Hospital. The purpose of these visits was to ascertain the employee's progress and also make available to them any answers that they might have in respect to Group Disability and Hospital Insurance Plan. As of possible interest; all employees visited with the exception of two were participants in the Group Disability and Health Insurance Plan, and one of these employees requested applications in order that he might begin participating.

Eight visits were made during August to the Areas by the Employee Services Counselor, and during one of these visits arrangements were made for the installation of a bulletin board in the 100-H Area and also the posting of the Special Hazards Fund announcement for this Area.

Questions and answers on Employee Benefit Plans for five issues of the Works News were prepared and published during the month.

Investigations were conducted into the status of the 15 employees who had been removed from the payroll because of illness and whose absence had exceeded three months. These investigations were conducted in order to determine when such employees would return to work. The information obtained in this connection was forwarded to the Payroll Division.

Employee and Community Relations Division

During the month of August, 8 letters were received on the same number of employees relative to their indebtedness. In each instance the employees were notified of the receipt of these letters.

The following employees retired during the month of August:

Earl B. Ford, Plant Security and Services Division;
John H. Moseley, Plant Security and Services Division, (Optional);
Claire G. Sircolcumb, Accounting Division; and
Benjamin M. Sutherland, Plant Security and Services Division, (Optional).

All of the above named employees were participating in the Pension Plan, and were interviewed prior to their retirement and fully informed as to the benefits each would receive under this Plan.

The salary checks of three employees absent due to illness were delivered to them personally during the month of August.

Six resignations from employees laid off due to lack of work were received during August in order that they might be refunded their Pension contributions. The information concerning these resignations was forwarded to the Payroll Division in order that a check might be forwarded to each employee.

The 100-D regular monthly Area Council Meeting was attended by a representative of the Employee Services Group.

Suggestion System

At the end of August, the volume of work in the Office of the Secretary of the Suggestion System was as follows:

	7-1949	8-1949	Total since 7-15-1947
Suggestions received	40	81	3, 725
Investigation Reports completed	38	94	3, 561
Awards granted by Suggestion Committee	38	0	390
Cash Awards	$ 955	$ 0	$ 4, 785

Insurance and Compensation

Public Liability

Edman Krom and Cecil Reddoll v.s. J. A. Terteling & Sons, Inc., seeking damages in the amount of $ 42,912.00, Claim No. B-6194193 -- This case, which arose out of injuries on the part of the plaintiffs when they drove into a ditch on Stevens Drive, two miles north of Richland, and

in which they alleged negligence on the part of the defendant in not providing proper barricades, will be tried in the Spokane County Superior Court. No information has been received, however, as to what term this case will be placed on the docket.

Compensation

[redacted] -- This claim arose out of a back injury, which occurred in 1945 while the claimant was employed by the [redacted]. Since that date the claimant has received $ 1,354.00 in time loss and approximately $ 700.00 for medical aid payments from the Department of Labor and Industries. Recently the State Department of Labor and Industries advised that on the basis of medical examinations conducted by Yakima and Pasco physicians, it will be necessary to place this claimant on a pension. The Company's Medical Division's opinion was to the contrary, and it was felt that this claimant was a malingner, and that there was definitely no total permanent disability. An investigation into this man's activities conducted by an outside source indicated that he was capable of performing ordinary work. Based on this information, the State Department of Labor and Industries was requested to have [redacted] submit to a complete neurological and orthopedic examination by recognized specialists in Spokane. These examinations were conducted on May 13 and 16. As a result of these examinations, it was ascertained that this claimant was not handicapped, and it was recommended by these specialists that the claimant return to work since there was no disability. Based on this information, the Department of Labor and Industries has closed this case without further payments.

During the month of August a representative of the Insurance Group, together with a representative of the Medical Division, visited the State Department of Labor and Industries in Olympia, at which time approximately thirty active claims were reviewed with representatives of the Department of Labor and Industries for the purpose of establishing the validity of their active status. A review was also made of five cases pending before the Board of Industrial Insurance Appeals. During this visit a specific request was made of the Supervisor of Industrial Insurance of the Department of Labor and Industries to provide the Company with three copies of all correspondence relating to General Electric claims. This request was later confirmed by letter to the Director of the Department of Labor and Industries.

In view of the fact that Boeing Aircraft Company in Seattle operates under the Workmen's Compensation Law in a manner similar to that which the General Electric Company operates, a visit was also made with officials of that organization for the purpose of obtaining any additional information that might be of benefit to us on compensation procedures.

Employee and Community Relations Division

Life Insurance

Code information for use by insurance companies in issuing insurance to employees of this Works was furnished to 34 insurance companies and investigation agencies during the month of August.

Training and Program Development:

During the month of August, a total of 35 meetings were held over a four-week period, to which all supervisors were invited to participate, at which time the Revised Rating Plan for nonexempt employees was discussed in detail. Prior to these meetings a preview meeting was presented to 42 members of Management in order that they might be aware of the information that was being passed on to all supervisors relative to the Rating Plan. A record of attendance maintained at these meetings reflected that there were a total of 760 supervisors who attended.

During August there were 175 new employees and 87 re-engaged employees given orientation. Of this number 47% elected to participate in the Group Life Insurance Plan, and 59% elected to participate in the Group Disability Insurance Plan. The low rate of acceptance for benefit plans in this instance is explained by the fact that approximately 50 of the new employees placed on the rolls were temporary employees, who will not become eligible to participate in the plans.

Copies of the Employee Relations Handbook for Supervisors was forwarded to the New York office for their information during the month of August.

A number of conferences were held with employees of the Training and Program Development Group regarding the Revised General Electric Health Insurance Plan. The purpose of these meetings was to familiarize those persons present with the changes and procedures to be followed under the new Health Insurance Plan.

Employee and Community Relations Division

STATISTICS

Number of employees on rolls	7-31-1949	8-31-1949
Exempt	1, 620	1, 615
Nonexempt	5, 765	5, 907
Totals	7, 385	7, 522

ADDITIONS

	Exempt	Nonexempt	Total
New Hires	3	160	163
Re-engaged	2	84	86
Reactivations	4	12	16
Transfers (From other plants)	1	0	1
Actual Additions	10	256	266
Payroll Exchanges	5*	7**	12
Gross Additions	15	263	278

TERMINATIONS*****

Actual Terminations	10	89	99
Removals from Roll	3	27	30
Payroll Exchanges	7***	5****	12
Gross Terminations	23	129	159

GENERAL

	7-31-1949	8-31-1949
Applicants interviewed	1, 546	1, 924
Photographs processed	4, 307	5, 912
Fingerprint impressions taken (in duplicate)	180	458
Procurement letters written	327	486

ABSENTEEISM STATISTICS (Weekly Salary Roll)******

Male	1. 50 %	1.47 %
Female	2. 52	3.07
Total plant average	1. 76	1.86

* Transferred from Weekly Salary Roll
** Transferred from Monthly Salary Roll
*** Transferred to the Weekly Salary Roll
**** Transferred to the Monthly Salary Roll
***** Approximately 80% of all terminations were on a voluntary basis, and most of these were for the following reasons: (a) Personal Reasons, (b) Returning to school, (c) Another job.
****** Statistics furnished by Weekly Payroll Division

Employee and Community Relations Division

INVESTIGATIONS STATISTICS

	7-31-1949	8-31-1949
Cases pending at beginning of month	941	996
Cases received during the month	263	331
Cases closed	208	184
Cases pending at month end	996	1,143
Number found satisfactory for employment	198	310
Number found unsatisfactory for employment	4	7
Cases closed before investigation completed	5	12
Special investigations conducted	14	12

	7-1949	8-1949	Total since 9-1-1946
Claims received and reported to the Department of Labor and Industries	84	68	2,955
Claims received and reported to the Travelers Insurance Company	8	12	348

Labor Relations and Wage Rates

Labor Relations

The activities of this division relative to labor relations have been primarily concerned with the handling of problems arising from the HAMTC Contract and the processing of grievances submitted by bargaining unit personnel.

This division was requested by the Office Employee's International Union to enter into negotiations for the purpose of arriving at a collective bargaining agreement. This request was made by a letter dated August 8, 1949 and on August 11 the Office Employee's International was advised that it is the established policy of the General Electric Company not to recognize any union as a bargaining agent prior to certification by the National Labor Relations Board. On August 22 we received a petition for investigation and certification from the NLRB. A meeting was held on August 23 by the Employee and Community Relations Division for the purpose of discussing clerical rates at Hanford Works in comparison with rates of industries in the Northwest.

On August 4 a stipulation correcting testimony was submitted to the Guard's Union with the request that it be transmitted to the NLRB.

A meeting was held between Mr. Dupuy and C. F. Steinhaus on August 11 in the office of Kenneth McClaskey of the NLRB in Seattle, Washington. Mr. Dupuy informed Mr. Steinhaus that the HAMTC-GE Agreement would be extended to cover all non-unit employees including the Guards. Mr. Steinhaus advised Mr. Dupuy that he would not consider this action to be coercive or unfair with respect to the organizing activities of the International Guard's Union at Hanford Works. On August 15 a letter was sent to Mr. Steinhaus by Mr. Dupuy summarizing the above. A letter was received from Mr. Steinhaus on August 17 formally agreeing to the above.

A letter was received from H. R. Chubb of the Building Service Employees International Union on August 22 requesting a meeting for the purpose of discussing bargaining rights for hospital personnel, janitors, nurses aides, orderlies, etc. This letter was answered on August 23 outlining the Company policy on such matters.

A representative of the Architects and Technical Employees Union verbally requested bargaining rights for this group and was advised of Company policy in this connection. It is not known whether the NLRB was being petitioned relative to holding an election. This Union seems to be interested only in layout people, who number 16 employees.

Instructions letters have been prepared covering the following subjects that are being held pending the signing of the Reimbursement Order for non-unit personnel by the Atomic Energy Commission:

1. Provision of lunches (to conform with Article VIII in the Contract).

2. Lunch periods.

Employee and Community Relations Divisions

A listing has been prepared of all unusual shifts worked by employees within the bargaining unit as agreed to in Article VII of the HAMTC Contract. This listing is being held pending changes in some of these shifts before being submitted to the HAMTC Council.

A letter was received from theGeneral Accounting Office on August 25 requesting interpretation of several articles of the Contract. Answers were given by letter on August 29.

The HAMTC was advised by a letter dated August 22, 1949 of the procedure to be followed when temporarily upgrading an employee to a higher classified job.

Seniority lists have been prepared and submitted to this division by the Employee Relations Division with the exception of the few people in the warehouseman's group. These lists have, in turn, been submitted to the HAMTC with the exception of the chemical workers group which is being held by this division until some matters relative to this group are settled.

Revised stewards lists have been received for certain crafts from the HAMTC and the divisions involved have been notified of these changes.

A report in outline form was prepared and submitted covering the scope of the planned activities of this division in recognition of Mr. C. E. Wilson's 50th anniversary with the General Electric Company.

A report was prepared covering the organization, accomplishments and objectives of the Labor Relations and Wage Rate Division for Mr. Prout to use in conferences which he is attending in Schenectady.

Only two meetings were held between the Council Grievance Committee and the Company Negotiating Committee during the month of August. The decrease in the number of grievances enabled the Company and the Council to reduce the meetings from once a week to once every two weeks. Meetings were held on August 4 and August 18. During these meetings the following topics were discussed: -

August 4, 1949 - Topics

Craft Jurisdictional Disputes

The Company pointed out that an industrial plant was faced with a difficult problem with respect to adherence to strictly craft lines and that our over-all desire was to utilize the forces that we had on the rolls, adhering as soon as possible to the accepted craft lines. The work requirements vary, however, and it is impractical to lay off and rehire on a temporary basis when qualified people are on the rolls and are capable of performing the work to be done.

The Council indicated that they recognize this problem and realize that the Company was attempting to be fair and stated they would discuss the matter with their members.

August 18, 1949 - Topics

Job Contents - Operating Divisions

The Council advised that they would present their objections to certain job contents applied to certain production operators in a written report to this division so that the Company and the Council could negotiate any differences.

Fire Brigade Pay

The Council asked for a report on the status of the reimbursement request covering the additional pay for employees serving on the auxiliary fire department. The Company explained that the AEC had not as yet approved the reimbursement request but that the approval was expected soon.

Seniority - Employee Returning to the Bargaining Unit

The Council requested a statement from the Company indicating their attitude relative to this subject. The Company explained that both Mr. Foster and Mr. McCusker of the HAMTC had indicated that the Council was agreeable to having those employees who are transferred back into the bargaining unit retain any previous seniority accumulated prior to the time they were transferred out of the bargaining unit. The Council indicated that they were not wholly in accord with this thinking and regarded this subject as an item which will require further negotiation.

Contract Interpretation Meeting for Stewards

In response to the request of the Council, the Company indicated that they would arrange a series of meetings with the stewards for the purpose of discussing the correct interpretation of the Agreement if the Council would submit a written request indicating the number of stewards who were interested and the dates and time they would prefer to attend such meetings. The Company emphasized that any such meetings would be attended by the stewards on a strictly voluntary basis and that the meetings must be held after working hours as the stewards would not receive any pay for time spent in attending such meetings.

Temporary Upgrading of Employees

The Council requested a letter from the Company describing the procedure previously discussed requesting a temporary assignment of employees to jobs of a higher classification. The Company agreed to prepare the letter immediately.

Special Shifts and Work Schedules

The Council requested that the Company review the special shifts being worked by certain bus drivers and auto mechanics in the Transportation Division. It was the Council's thinking that the mechanics and bus

drivers could be assigned to a standard shift at a more desirable hour. The Company indicated that steps would be taken immediately to discuss the matter with the Transportation Division.

Hospital Plan - Deduction Authorization Slips

The Council indicated that their employees were very anxious for the new hospital plan to go into effect and asked about the procedure for signing up for the new plan. It was suggested that the Council contact Mr. Allen of the Employee Relations Division on all matters pertaining to this plan.

Salary Adjustments Within the Bargaining Unit

The Company explained that all employees in the bargaining unit would receive salary adjustments, isolation pay and shift differential pay in accordance with the Agreement on checks distributed August 26, 1949.

Seniority Groupings

The Company informed the Council that the revised seniority groupings to conform with the Agreement would be completed by August 24, 1949.

Jurisdictional Question

Mr. Conway of the Council reported that certain Firemen were performing work that, in his opinion, should be done by painters. He was instructed by the Chairman of the Council Grievance Committee to present the matter in a formal grievance, if after investigating the condition he felt the matter warranted such action.

Grievance Statistics

There were 17 grievance reports received during the month, bringing to 88 the total received to date.

Mfg. Electrical	1
Mfg. Instrument	1
Mfg. Maintenance	1
Mfg. Transportation	4
Mfg. "F" Division	2
Service	2
Plant Security Patrol	1
Village Labor	1
Village Maintenance	4
Total	17

Employee contact reports are regarding the following subjects:

Absences	1
Call-In	4
Job Classification	1
Jurisdiction	3
Lunch Period	1
Supervision	3
Upgrading	1
Wage Rate	2
Work Assignment	1
Total	17

The status of the grievances received to date is as follows:

Settled satisfactorily, step one	- 30
Not settled satisfactorily, step one	- 58
Total	88

Of the 58 grievances not settled at the step one level, 25 have been settled satisfactorily at the step two level. A letter was received dated August 8 stating that any grievances submitted prior to that date would not require processing at the step two level.

Only 5.6% of the total grievances received to date have been submitted by employees outside of the bargaining unit. This is an indication that the grievance procedure apparently is not being fully adhered to by non-unit employees or their supervision. Of the total grievances, 77.2% have been received from seven divisions within the bargaining unit, namely

Mfg. Electrical
Mfg. Instrument
Mfg. Maintenance
Mfg. Transportation
Mfg. "F" Division
Service
Village Maintenance Division

The Labor Relations and Wage Rate Division receives a copy of each grievance submitted and conducts an investigation to determine the circumstances responsible for the grievances. Every effort is made to satisfactorily settle all grievances at the step one level. If this cannot be done, however, sufficient material is prepared to defend the grievances in the event it is scheduled for settlement at the step two level by the EAMTC.

Wage Rates

The activities of this division relative to wage rates have been concerned with the preparation of change of wage rate system procedure and the mechanics of completing the necessary records to convert the classifications and wage rates of all non-exempt employees affected by the GE-EAMTC Contract provisions:

a. Employees in the bargaining unit.

b. Employees not in the bargaining unit (where provisions of contract are being extended).

The reimbursement order for those employees in the bargaining unit was approved on August 11, 1949. Rates and classifications were delivered to Payroll on unit employees August 16, 1949. This was applied to employees working outside the unit where the classifications were the same as in the unit. Payment was made to employees on a current basis on August 25 and 26, 1949. Reimbursement order extending all provisions of the Contract to non-unit employees has not as yet been approved. In a letter dated August 22, the AEC extended the provisions of the reimbursement order for unit employees to those not in the unit with some exclusions. These rates and classifications were delivered to Payroll on August 23. Payment will be made on September 1 and 2 on a current basis and retroactive back to August 15 so that both unit and non-unit employees would have been paid since August 15 on the same basis.

The new wage rate manuals with the new job classifications and progression schedules were distributed to all divisions with employees:

a. In the bargaining unit

b. Out of the bargaining unit.

In conjunction with the manual distribution the following Instructions Letters were issued:

a. Revised No. 94 - Non-Unit Wage Rate Rules

b. No. 124 - Bargaining Unit Wage Rate Rules

In accordance with Article XX, Paragraph 5, those employees who have not shown ability to progress beyond their present job and rate of pay, the following has been done:

a. Divisions notified August 15, 1949

b. Employees notified not later than August 25, 1949

c. Council notified August 31, 1949.

The retroactive story was delivered to Payroll August 31, 1949 for the following divisions for both unit and non-unit employees:

a. Mfg. - Maintenance Division

b. Mfg. - Electrical Division

c. Mfg. - Instrument Division

d. Mfg. - "P" Division

e. Mfg. - "S" Division

f. Mfg. - General Division

The Wage Rate Division is currently preparing the same story for all other divisions and will present to Payroll when completed. In conjunction with the above, complete information is being prepared for distribution to all divisions.

Studies have been made and submitted to the Legal Division relative to the placement of the Community Fire Department on a two-platoon system.

Together with the above, a number of reviews of classifications have been made in various divisions.

Numerous meetings have been held with supervisors for the purpose of discussing and clarifying the mechanics of the new wage rate procedures.

Several meetings were held with representatives of the HAMTC for the purpose of negotiating job classifications and definitions.

The following reimbursement authorizations have been approved by the AEC:

1. Reimbursement Authorization #63, approved on August 11, 1949, setting up new classifications, wage rates and progression schedules for those employees within the bargaining unit.

No new reimbursement authorizations were submitted during August.

STATISTICS

Transfers from Weekly to Monthly Payroll	1
Transfers Approved	83
Job Reclassifications Approved	146
Automatic Increases	152
Merit Increases	69

Employee and Community Relations Division

Community Relations

"Public Information"--Community

Informative newspaper releases made during the month to the "Local List" of newspapers and radio stations served, which includes the VILLAGER, TRI-CITY HERALD, SPOKANE CHRONICLE, HANFORD WORKS NEWS, WALLA WALLA UNION-BULLETIN, PASCO EMPIRE, PASCO HERALD, KENNEWICK COURIER-REPORTER, YAKIMA MORNING HERALD, LIND LEADER, radio stations KPKW, KWIE, KIT including release dates were as follows: (A large number of both local and general news releases are being sent out for immediate release. In such cases the date on which the release was sent from this office is indicated below).

8/1 Photographs of Captain J.O. Hawkins of the Richland Fire Department, who made the highest score at the 1949 annual state fire school, were sent with appropriate cut lines to the local media. An informative release about Hawkins' accomplishment was also sent to the local media.

8/2 A KWIE radio broadcast featuring three Richland children who told Tri-City drivers what they think of them--as drivers--was announced in an informative release.

8/2 It was announced that fewer traffic accidents occurred during the month of July than in any other month in the past four years in Richland.

8/2 Power outages scheduled for August 5 were announced in an informative release.

8/4 The Patrol Traffic Section announced that Washington State Drivers' licenses could be renewed on August 5 and 6 at Patrol Headquarters.

8/10 The Supervisor of Tenant Service stated in an informative news story that lawn irrigation in the ranch house area should be curtailed in certain areas because telephone installation trucks would be driving across lawns.

8/11 Three power outages scheduled for the following week were announced.

8/11 Copies of a letter from the Mayor of Pasco to the Richland Fire Chief which thanked the Richland Fire Department for its help at a fire at Longfellow School in Pasco were sent to local media.

8/16 The trailer storage lot at Abbot Street will be left unlocked after September 15 according to an announcement by the Community Manager.

8/17 It was revealed that construction would begin within two weeks on a grocery store at the corner of Deportail Street and Wright.

8/19 A spokesman of the Public Works Division advised Richland residents who live in precut and A&J houses concerning the proper quality of fuel oil to be burned in their furnaces.

8/25 Four power outages for the coming week were announced as well as the reasons why the outages would be necessary.

8/25 It was stated that a 5-cent bus fare for school children traveling to and from school would go into effect upon the opening of School on September 6.

8/31 The Chief of Richland Patrol urged that teen-age children who drive automobiles be particularly careful. He stated that the number of traffic fatalities among youths in the 15 to 24 age group are rising.

8/31 Manager of the Medical Divisions announced that effective September 12 room rates at Kadelo Hospital will be increased.

8/31 A power outage scheduled for September 2 was announced.

VILLAGER only--Biographical information concerning A.J. Crona and L.B. Bradley, two Hanford Works employees, was supplied to the VILLAGER on August 29. The two men are candidates for the Villager, Inc. Board.

WORKS NEWS only--It was announced that August rent would be deducted from weekly salary checks issued on August 19. Normally August rent would be deducted from checks issued August 12.

FILM SERVICE

During the 1948-49 school term G-E films were supplied for use in Richland schools. A schedule of films requested by the school system has been received and arrangements are being made to supply the films this year.

The Triple-Teen group, a youth organization in Richland, booked G-E films for every other meeting last spring. The schedule was discontinued during the summer months but a request has been received for its resumption during September. The Club wishes the films for every weekly meeting rather than for every other meeting as in the past.

Employee and Community Relations Division

"Public Information"--General

Informative newspaper releases were sent to 67 of the leading daily newspapers, wire services and radio stations in the Pacific Northwest during the month. The release date is given for each story, and they are as follows:

8/2 J.A. Terteling & Sons, Inc., of Boise, Idaho was awarded the contract to construct a railroad connection between Richland and the Yakima Branch of the Union Pacific Railroad, according to an informative news story sent out on this date.

8/3 It was announced that invitations for bids to extend a steam line to John Ball School in North Richland and to complete pipe work in the school building will be issued in the near future.

8/10 The C & H Food Store located at the corner of Swift and Wright will hold its grand opening on August 17.

8/12 A story based on the Hanford Works Safety Report for July, 1949, stated that Hanford Works is a safer place to work than the average business office or home according to national records. A record low minor injury frequency rate for the month of July, 1949 was also announced. The story was sent to both weekly and daily papers and it was picked up and further circulated over the wires of Associated Press.

8/15 An informative release based on the speech by the Nucleonics Department General Manager given during Atomic Frontier Days was sent to all daily and weekly newspapers on the news bureau mailing lists.

8/15 Twelve photographs, with cut lines, of G.R. Prout speaking at a Sunday evening church service during Atomic Frontier Days was mailed to selected daily papers in the Northwest.

8/16 A story giving the background of Richland's annual civic celebration was sent with 5 photographs taken during Atomic Frontier Days, 1949 to the SPOKESMAN-REVIEW, OREGONIAN, OREGON JOURNAL, SEATTLE POST-INTELLIGENCER, and SEATTLE TIMES. Different photographs were sent to those papers listed above which are located in the same town.

8/18 It was announced that Block's Shoe Store located in the new business district would be open for business on the 19th of August.

8/19 A contract award was made for Richland's first radio station, it was announced by the Commercial Facilities Division.

8/24 It was revealed that a music store will begin operation in Richland's new business district about the first of October.

8/31 Richland's dial telephone system will be placed in operation between October 1 and 15, it was announced by the Superintendent of the Hanford Works Electrical Division.

Employee and Community Relations Division

"Public Information"--Special Request Services

A representative of the TRI-CITY HERALD, because he was particularly impressed with the Nucleonics Department General Manager's Atomic Frontier Days speech, requested an interview with the General Manager. The interview was arranged and resulted in a biographical feature story about the General Manager. The story was checked by members of this office and appeared, with a photograph in the August 21 (Sunday) issue of the TRI-CITY HERALD.

The May-June issue of the G-E MONOGRAM was not received at Hanford Works. Arrangements were made to get the back copies of the MONOGRAM and to have them distributed to supervisory personnel at Hanford Works. A letter was sent to the readers of the MONOGRAM here explaining the delay.

A 1,500 word feature story about the expansion of Richland's business district was prepared at the request of the YAKIMA MORNING HERALD. This story appeared in the August 21 issue of that newspaper. It was published with four photographs and cut lines, selected from a group of 12 photos that were mailed to the editors. The article occupied approximately two-thirds of a page in the Sunday supplement edition of that paper.

A list of questions concerning the history and present status of North Richland was prepared for the WALLA WALLA UNION-BULLETIN. Photographs were also supplied. The special story appeared in the August 30 and 31 issues of the UNION-BULLETIN. It was printed both in the edition that is sent to the tri-city area as well as in the home edition. The UNION-BULLETIN now maintains a staff representative in the tri-city area. His office is in Pasco and the news bureau maintains daily contact with him. He is equipped to teletype stories directly to Walla Walla and the News Bureau is cooperating in every way to help the UNION-BULLETIN cover spot news in this area more thoroughly than it has in the past.

The General News Bureau in Schenectady requested that Frank Stainken of the Hanford Works Manufacturing Division furnish them with biographical information and a photograph for use in a story about General Electric employees who are graduates of Colgate University. The News Bureau made arrangements for taking the photograph and forwarded it to the General News Bureau.

"Employee Information"--Special Programs

The 6000 G.E.-H.A.M.T.C. booklets, which were ordered during July, were received from the printer during August. Distribution to all supervisors and to all employees in the bargaining unit was arranged through plant mail by Special Programs. The number of copies needed for both supervisors and employees in the bargaining unit was determined, and the appropriate number of copies were sent to a

designated individual within each division who arranged for final distribution within his division.

Printing of the 100-B Area Fourth Year Commemorative Safety Booklet was completed during August by the 700 Area Printing Section and distributed to all 100-B Area employees through that Area's Safety Council. Special Programs activities included arranging for pictures, planning layout, writing copy, obtaining necessary approvals, arranging for printing, and preparing appropriate publicity for the Hanford Works NEWS and local newspapers. This 28-page booklet with a two-color cover contains statements by Mr. G. R. Prout and Mr. F. C. Schlemmer, pictures of members of the various divisions represented in 100-B Area and many of the safety activities conducted in the area during the time the fourth major-accident-free year was established. The booklet stresses that safety is a continuing activity and that everyone in 100-B Area is looking toward completing a fifth year without a lost-time injury. It also includes a printed "safety commendation card" which was signed by the individual supervisor and on which each employee's name was lettered. It also contains more than 30 photographs of 100-B Area employees and numerous cartoons which were produced by the Community Relations Division's commercial artist.

Special Programs promotion of the Richland Child Safety campaign included several news stories, pictures, and a series of three articles by the Community Safety Supervisor. Assistance was rendered by Special Programs in the preparation of the three articles.

The Special Programs supervisor attended the August meeting of the Program Committee of the Nucleonics Safety Council and served as the Committee's secretary.

Responsibility for final production of the employees' handbook, "You and General Electric at Hanford Works" was assigned to Special Programs. This included obtaining final approvals and bringing those portions of the booklet up-to-date which had become out-of-date since the original writing. It was decided to delete the listing of all organizations in Richland since the number and types of organizations changes constantly. Arrangements were made with the Community Activities Division whereby current copies of the publication, "Guide to Richland", which contains listings and descriptions of all such organizations, will be supplied to all employees now on the payroll and to all new employees. A new purchase requisition was issued and bids were obtained through the Purchasing Division. Craftsman Press of Seattle was the successful bidder. A representative of this firm received the complete copy, dummy and artwork layout, and discussed all phases of the production of the booklet with the Special Programs supervisor to insure a satisfactory printing job. Delivery is expected about October 3.

As a final part in Special Programs' promotion of "Adventures Ahead" at Hanford Works, a letter prepared by Special Programs and signed by the General Manager was sent to all subscribers. The form letter was personalized by the typing of the first name of each subscriber on each

letter. These were sent in addressographed envelopes prepared from the magazine mailing addressograph plates by the Maqua Company in Schenectady. Since a number of subscription blanks were received naming children under 12 years as subscribers, a separate letter was sent to each sponsoring G.E. parent explaining that children under the age limit are not eligible, but that plans call for the continued distribution of the magazine and that when the child becomes of eligible age, a subscription can be arranged.

The announcement of room rate increases at Kadlec Hospital was prepared during August by Special Programs and distributed to newspapers for publication by the Nucleonics Department News Bureau.

Arrangements were made during August with the Kadlec Hospital administrative staff whereby Special Programs will be informed of all impending changes in hospital procedures, building activities, services, etc., so that appropriate steps can be taken to maintain Kadlec Hospital's community relations activities through the Community Relations Division.

Four booklets recording all of the Nine Point Job Program promotion activities which were conducted at Hanford Works were completed during August by Special Programs.

News stories on the opening of the Richland trailer storage lot and the five cent bus fare for school children were prepared by Special Programs at the request of members of the Community Divisions.

In line with Special Programs function of placing personnel recruiting advertisements and arranging for payment, the following classified advertisements were placed on the dates indicated:

Comptometer Operators--
Spokane Chronicle - August 4 and 5
Spokesman-Review - August 4, 5 and 6

Comptometer Operators and Stenographers--
Oregon Journal--August 28, 29, 30 and 31
Oregonian--August 29, 30, 31 and September 1
Yakima Herald--August 29, 30, 31 and September 1
Yakima Republic--August 28, 30, 31 and September 1
Walla Walla Union-Bulletin--August 28, 29, 30 and 31
Tri-City Herald--August 28, 29, 30 and 31
Seattle Post-Intelligencer--August 31, September 1, 2 and 3
Seattle Times--August 31, September 1, 2 and 3

The Staff Organization page of the forthcoming Hanford Works Organization Directory was prepared and approval obtained through Special Programs.

"Employee Information"--Works NEWS

During the month of August four issues of the Works NEWS were published. "Candid Camera" was inserted in the August 21 issue.

Employee and Community Relations Division

An announcement was made in the August 5 issue of the highest awards given since the beginning of the Hanford Works Suggestion System totaling $625.

A full-page announcement of the fall term of the G.E. Education Program and the 1949 term catalogue of the courses offered by the program appeared in the August 12 issue of the Works NEWS.

In the August 19 issue it was announced that increases in shift differential and isolation payments would be included in checks distributed on that date to all non-exempt employees at Hanford Works.

"Employee Information" -- Women's Features

Two women's pages appeared in four issues of the Works NEWS during the month of August. On August 5 a feature appeared on the H.I. Biology Division's Experimental Farm which is located across the Columbia River from Hanford. On August 12 the General Electric Education Program Fall Catalogue of courses replaced the usual Women's Page. The basic techniques involved in rug making, featuring pictures of a group of G-E housewives who make rugs together, appeared in the August 19 women's page of the Works NEWS. On August 26, "A New Home is Built for Stormy" was the feature about two G.E. women who are successfully building their own house. A second feature on that page emphasized courses in the G.E. Education program of particular interest to women. As the result of a short story on the card game "Canasta", 20 calls were received from readers for free "Canasta" rules provided by one of the mailing services.

Three feature articles appeared on page three of the Works NEWS in a new series on recreation facilities within week end driving distance of Hanford Works. These articles also included activities in the tri-city area of Richland, Kennewick and Pasco. Major college football schedules, art exhibits, plays, fishing derbies, fairs, band concerts, etc., were featured in the articles.

Five glossy prints with captions and an explanation story on Atomic Frontier Days were sent to Candid Camera for publication.

Every week a column appears in the Works NEWS listing rides or riders seeking transportation to various week end and vacation spots. Three hundred and ten requests were received during the month of August for rides or riders to the following destinations: Tennessee, Ohio, Oklahoma, Texas, Colorado, Kansas, New York, Alabama, Georgia, Minnesota, Missouri, Illinois, Michigan; Salt Lake City, Louisville, Kentucky, Detroit, Michigan, Denver, Los Angeles, Memphis, Billings, Kansas City, Casper, Wyoming, Champaign, Illinois, Cheyenne, Chicago, Des Moines; San Francisco, Houston, Texas, Boise, Idaho, Seattle, Portland, Spokane, Coeur d'Alene, Kootney, B.C., White Salmon, Wn. and Yakima.

COMMUNITY DIVISIONS

SUMMARY - AUGUST, 1949

ORGANIZATION AND PERSONNEL

Number of employees on roll:	Beg. of Month	End of Month
Community Administration	6	6
Community Accounting	28	27
Community Public Works	433	438
Community Safety	3	3
Community Commercial Facilities	16	16
Community Housing	38	39
Community Fire	133	132
Community Patrol	83	84
Community Activities	19	18
	759	763

Changes in the force of the Community Divisions during the month of August, 1949, were as follows:

	Reduced	Increased
Community Administration	-	-
Community Accounting	1	-
Community Public Works	-	5
Community Safety	-	-
Community Commercial Facilities	-	-
Community Housing	-	1
Community Fire	1	-
Community Patrol	-	1
Community Activities	1	-
	3	7

TOTAL INCREASE, August, 1949 = 4

GENERAL

Appropriation Request No. 64-Rev., Attic Duct Insulation, Pre-Cut Houses, was approved by the Appropriations and Budget Committee and Project C-345-R was forwarded to the Commission for approval.

At the regular meeting of the Richland Community Council, held August 22, 1949, W. E. Roos was appointed Councilman-at-large replacing E. S. Bell who recently resigned.

A total of twenty-eight part time business permits were issued during the month of August, 1949.

Six new business establishments opened for business during August: Block's Shoe Store, C & E Food Market, Johnny's Minute Man Service Station, Parcell's Automotive Station, A & Z Specialty Shop, and Johnson & Reutlinger.

Community Divisions

Sales of basic items indicate no change inbbusiness activities as compared with July.

The waiting list for housing increased by fifty-seven per cent.

Fire alarms decreased from thirty-nine during July to twenty-two in August.

MTBirns/jak
9/12/49

COMMUNITY DIVISIONS
PUBLIC WORKS DIVISION
AUGUST 1949

ORGANIZATION & PERSONNEL

Number of employees on payroll:	Exempt	Non-Exempt	Total
July 31, 1949	56	377	433
August 31, 1949	57	381	438

Personnel changes made during the month:

New Employees			20
Transfers: From	Power		2
"	Sec. & Services		1
"	Maintenance		2
"	Design & Constn.	2	
"	Electrical		1
To	Transportation	1	
"	Power		7
"	Housing		1
"	Manufacturing		1
"	Sec. & Services		2
"	Electrical		1
"	Maintenance		4
Terminations			6

GENERAL

The newly organized service order repair crew has been operating effectively for the past two months. More efficient control has resulted from the arrangement.

The community policy, effective Aug. 1, 1949, requiring tenants to purchase heating fuels from commercial dealers has relieved the labor section of responsibility for fuel delivery to residences. All coal on hand has been transferred to the Central Steam Plant and fuel oil has been transferred to Pasco Warehouse #8. Those few project facilities requiring coal for heating will be serviced on a work order basis from the coal pile at the Central Steam Plant.

J. R. Goggin was transferred back to the Community Divisions from his assignment with the Design & Construction Divisions. He has been appointed Administrative Assistant to the Public Works Division Superintendent.

H. E. Price was also transferred back to the Community Divisions from his assignment with the Design & Construction Divisions. He will handle all contract work for the Divisions.

Community Public Works Division

PROJECTS

C-253 - North Storage Reservoir Roof Replacement - Part II. Cost data comparison sheet and property record unit prepared and issued 8-15-49.

C-274 - Central Storage for Fuel Oil - Part II. Field release issued 8-25-49.

C-282 - Richland Village Dust & Pollen Control Program. Field release issued 8-18-49. Planting of 13 acres of grass is progressing favorably.

C-288-A, B. C. & D. New Commercial Areas. A weekly progress report and check is being made of unit price contractor. Temporary electric service has been provided to Washington Investment Company and Block's Shoe Store.

C-292 - Van Giesen Road. A weekly progress report and check is being made of unit price contractor.

C-336-R - Additional Water Supply, Well 1100-8. This project is 100% complete. Request to close project was written 8-19-49.

C-314 - Mains Avenue. A weekly progress report and check is being made of unit price contractor.

"S" PROJECTS

147 - Addition to Fire Station No. 1. Work is approximately 50% complete on this project.

149 - Addition to Fire Station #2. Work on this project is 70% complete.

ENGINEERING SECTION

Organization & Personnel

Number of employees on payroll:	Exempt	Non-Exempt	Total
July 31, 1949	16	11	27
August 31, 1949	16	11	27

Personnel changes made during the month:

New Employees	1
Transferred to Manufacturing	1

General

Comparison charts showing relation of school attendance to Village population was completed 8-29-49.

Stocks of construction material formerly held by Construction Division and C.P.E.F. Contractors were made available to all Divisions in order to hold down expenditure of new funds for this type of material. It is now re-

ENGINEERING SECTION (Continued)

quired that all purchase requisitions be checked against such stocks prior to purchase, necessitating expenditure of additional time before vendor contacts are made. All sections of Public Works Division have been warned to anticipate their needs as far in advance as possible, in order to reduce delays to a minimum.

The following routine items were processed during the month:

Requisitions	72
Store Stock Requests	18
Store Stock Adjustments	3
Purchase Orders Expedited	14

Regular field inspections were made in compliance with building permit requirements.

During the month a total of 193 Engineering Service Requests were completed.

Technical information and instructions were furnished the following prospective facility operators:

Dietrich Food Store
Radio Station - Cascade Broadcasting
Kaiser-Johnson Food Store

Administrative engineering work in connection with roads, streets and grounds maintenance was performed as follows:

A survey was made in the field with maintenance forces on various street and drainage problems where continual repetetive repairs have been necessary, and recommendations made.

A field survey was completed, and approximately 90% of the design for the storm sewer and paving of Duane Avenue is complete.

The field survey for storm sewer and paving of Casey was completed.

A design for temporary parking lot at Kadlec Hospital was made.

The responsibility for the inspection of Bailey Bridge was transferred to the Transportation Division with the request that a complete report be submitted at each inspection. The floor planking in the bridge is splitting due to the constant flexing of the bridge. Arrangements are being made to place two 30 inch width steel diamond floor plates on the deck.

The inspection of the rye seeding, which was done this spring, indicates no seed was produced this year and many of the areas will have to be reseeded.

2-11

Community Public Works Division

ENGINEERING SECTION (Continued)

An alteration permit was issued to the Castle Club to remove a partition. Alterations completed during the month were:

Seattle Tent & Awning	- Install neon signs
Thrifty Drug	- Remove partition
Richland Shoe Salon	- Rearrange display windows
C&H Food Store	- Install neon sign.

Initiation of a new procedure requiring permits before any power excavation may be performed has eliminated the great amount of damage formerly done to underground lines.

Due to the poor design of curb and gutter along Hunt at the time of building Big "A" area it has been necessary to rebuild Hunt Street north of Wordrop. Four catch basins were put in and the street built up about 4/10 for approximately 400 feet.

MAINTENANCE SECTION

Organization & Personnel

Number of Employees on Payroll:	Exempt	Non-Exempt	Total
July 31, 1949	18	159	177
August 31, 1949	18	158	176

Personnel changes made during the month:

New Employees		4
Transfers: From	Maintenance	2
"	Electrical	1
To	Sec. & Services	2
"	Electrical	1
"	Maintenance	4
Terminations		1

General

During the month 53 renovations were completed of which 35 were permanent type houses and 18 were prefabs. Six of the permanent type houses were complete paint jobs, twenty were partially painted, and 9 were cleaned only. Seven of the prefab renovations were complete paint jobs, 6 were partially painted, and 5 were cleaned only. There were on hand at the end of the month 33 orders for renovations not completed. A minimum amount of repair painting and cleaning has continued as the policy adopted by housing for renovations and has effected an economy through reduction in force by two janitresses.

Community Public Works Division

MAINTENANCE SECTION (Continued)

In addition to renovations there were completed during the month 3558 service order repairs of which 2392 were on conventional houses, 743 on prefabs, 26 on tract houses, 160 on dormitories, 3 on dormitory apartments, 28 on multiple apartments. Other than for housing there were service order repairs as follows: Community Facilities 108, Civic Activities 52, Patrol 10, fire department 3, maintenance buildings 15, Utility Section 13, and Labor Section 5.

Service orders on hand at the end of the month are: Plumbing 38, electrical 43, heating 4, glazing 30, locksmithing 2, carpentry 55.

A summary of shop work performed for housing included repair of four refrigerators, 14 ranges, 370 screen doors, 66 table top linoleum replacements. Other work as replacements in homes included: 25 laundry trays, 10 bath tubs, 10 water heaters, 5 wash basins, 5 sink faucets, 8 shower stalls, and 30 metal rain gutters.

The pre-heating season inspection and repair to furnaces is 75% complete for oil furnaces and 50% complete for coal furnaces. All radiator valves and traps in Dormitory M-13 have been repaired or replaced..

All outside pit valves and traps to the Multiple Apartments have been repaired. New condensate lines (inside and underground) have been replaced on apartments 11 and 12. These old lines were found to be in very poor condition.

The exterior painting program is now completed for all houses (212) in Division VII. Work has been started on 276 houses in Division 1, 15 of these have already been sprayed. Carpenters are proceding with considerable minor carpentry repair required to the shakes which are badly shrunk and warped.

The exterior painting program on Commercial Facilities has been proceeding ahead of schedule; this has been partially made possible by starting spray crews at an early hour in the morning thus avoiding the confusion of traffic and facility patrons. Painting of the following has been completed:

Garmo's Grocery	Barber Shop	Richland Supply
Village Pharmacy	Thrifty Drug	Klopfenstein's
Desert Inn	Peenywise Drug	Shoe Salon
C. C. Anderson's	Cafeteria	R. Johnson Studio
Greyhound Bus Depot	Carnation Milk	Columbia Service
Elite Shop	Diamond Variety Store	Binyon's
Style Center	Mickey's Shoe Repair	Western Union
Beauty Salon	Campbell's Grocery	

Spray work on all commercial facilities buildings is completed and trim painting is in progress on:

Grocoteria	Village Theatre	Recreation Hall
Richland Theatre	Richland Motor Garage	Safeway Grocery

Community Public Works Division

MAINTENANCE SECTION (Continued)

The Richland Laundry is yet to be trimmed when replacement hardware has been received and windows repaired. Materials are on order for trim painting of the jewelry and liquor store building and the Villager's building.

Considerable progress has been made in the painting of street cross walks, curbs, and center striping. Two men were continuously at this work.

Installation of the steam meter in the commercial laundry is 90% complete.

Four trash wagon beds have been fabricated and two put into service. Others are in process.

All header and main line valves in the 784 power house have been repacked, and 15 tubes have been replaced in No. 3 boiler.

Work in the 700 area included the completion of the installation of steel fire proof windows in the 703 building vault; the repair or replacement of all radiator valves and traps in the 703 building (Done on an evening shift so as not to interfere with ordinary office routines). Routine maintenance included monthly inspection of elevators in 702, 703 and 722 hangar buildings.

Work for Stores Division has included preparation for shipment of 53 railroad cars of lumber and 9 cars of equipment and spare parts.

Work on relocation and alteration of the bus dispatcher's office, ESR No. 189 TR., has been completed.

UTILITIES SECTION

Organization & Personnel

Number of employees on payroll:	Exempt	Non-Exempt	Total
July 31, 1949	9	59	68
August 31, 1949	9	60	69

Personnel changes made during the month:

New Employees	5
Transfers From Power	2
" Labor Section	1
To Power	7

General

Operations at the central steam plant were normal throughout the month. On Thursday, August 11, the 784 boiler plant was completely shut down for four hours to facilitate completing annual routine maintenance and re-

UTILITIES SECTION (Continued)

packing of sectionalizing valves on steam distribution system.

Steam generated	10,978 M. lbs.
Coal Consumed	1,689 M. lbs.
Coal in Storage	9,608.8 M. lbs.

Domestic water operations were normal throughout the month. The north open reservoir at 1182 building was drained and cleaned during the first part of the month. This was the first it had been necessary to clean the reservoir since the first of June, indicating that the control of algae growth by using chlorine has been quite effective.

A new section of 6" water main for domestic water service and fire protection was installed by Construction forces in the light industrial area west of Stevens Drive during the month.

A 90 ft. section of 8 inch water main was replaced by Construction forces east of George Washington Way at Hains Ave. This replacement was deemed necessary because in the improvements on Hains Ave. the section of water main known to be in poor condition was being covered by a concrete curb, gutter and sidewalk.

Some trouble is still being encountered due to sand in the domestic water distribution system. Blowing off fire hydrants and lines in areas affected is being continued.

DOMESTIC WATER SYSTEM

	Well Production Million Gals.	Average Daily Production	Total Consumption Million Gals.	Avg. Daily Con.
Richland	141.4131	4.562	328.2698	10.589
North Richland	167.6820	5.409	68,8979	2.223
Columbia Field	123.7678	3.993		
300 Area			35.7121	1.152
Total	432.8629	13.964	432.8798	13.964

Maximum daily production - million gallons 18.5112 on Aug. 3, 1949
Maximum daily consumption, million gallons 17.9395 on Aug. 1, 1949.

Sewage system operations were normal throughout the month. An electric water heater for sanitary water was installed in the boiler house at the New Disposal Plant.

All grounds around the disposal plant are being cleaned up and prepared for seeding in the near future.

Million Gallons Million Gallons
Total sewage flow - 113.800 / Average Daily flow - 3.671
Average rate of flow - 2549 G.P.M.

Irrigation system operations were normal throughout the month.

Community Public Works Division

UTILITIES SECTION (Continued)

Operations in the Pasco warehouse area were normal throughout the month. The pump suction wells at the river pumping station were inspected during the month and it was found that about 12 inches of sand and silt had settled in the bottom of the pump during the high water period. This silt will be removed as soon as river water level drops sufficiently to allow work on the pump pit.

LABOR SECTION

Organization & Personnel

Number of employees on payroll:	Exempt	Non-Exempt	Total
July 31, 1949	11	146	157
August 31, 1949	10	150	160

Personnel changes made during the month:

New Employees		10	
Transfers: From Sec. & Services		1-	
To Housing		1	
Transportation	1		
Utilities Section		1	
Terminations		5	

General

The irrigation canal was treated for the second time this season. Seventeen barrels of Acrtho Aquatic weed killer was discharged throughout the entire system producing excellent results.

Installation of irrigation system and grading and seeding of area around building 760 has been completed.

Patch seeding of school grounds has been completed with an expenditure of 800 man hours.

Cultivating of project orchards has been completed for the 1949 season.

Irrigation and mowing of public areas continued as usual throughout the month.

Garbage and refuse collections continued as usual with residential trash collection on Wednesday of each week, and garbage collection in residential areas twice weekly.

Garbage and trash collection was made in commercial areas daily except Sunday. Six new facilities were added to the commercial routes during the month and these additions have been handled without additional man power.

Community Public Works Division

LABOR SECTION (Continued)

Eleven shipments of personal furniture were handled during the month. Handling of government furniture and fixtures required a total of 43 man days.

Seventy work orders were completed during August. Excavation work completed included a new tile field for tract house K-817, water and sewer installation for fuel dealer on Wellsian Way & Thayer Drive, extension to No. 1 and No. 2 fire stations, relocation of Village Bus Dispatcher's office which included water and sewer connections, repairs to water service line for Union Oil Station at Williams and Goethals, and irrigation extensions on project C-282.

Routine road and street maintenance is progressing favorably.

COMMUNITY COMMERCIAL FACILITIES DIVISION

August, 1949

ORGANIZATION AND PERSONNEL — AUGUST

Number of employees on payroll

Beginning of month	16
End of month	16

COMMERCIAL FACILITIES

The following figures indicate trends in commercial activities as related to various basic items:

	July	August
Cafeteria meal customers	47,953	51,545
Percent of room-day occupancy - Desert Inn	57%	64%
Gallons of ice cream sold	6,169	6,168
Carnation milk and cream deliveries	73,335	73,249
Darigold milk & cream deliveries	2,954	2,980
Morning Sun Dairy milk and cream deliveries (Units)	34,450	37,315
Theater customer count-	42,726	41,754
Gallons of gasoline sold	130,816	144,294

Total number of Commercial Facilities Operators' employees, full and part-time as of August 31 - 963. This shows a net increase of two over last month's 961.

The Operator of Richland Shoe Salon completed modernization of the store fronts on August 1.

Block's Shoe Store opened for business in New Central Commercial Area, August 12.

Richland Electric and Furniture Company was authorized to establish a photographic studio in its building.

Valley Auto Parts, Inc. started construction on its building, to be located on the west side of Stevens Drive, on August 16.

C&H Food Market, located near the intersection of Swift and Wright, opened for business August 18.

Johnny's Minute Man Service Station, located at the intersection of Williams Blvd. and Jadwin Avenue, opened for business August 19.

Village Food Store discontinued operations on August 20, and the Operating Agreement was terminated as of August 31, 1949 because this building was needed by the School District for administrative offices.

COMMUNITY COMMERCIAL FACILITIES DIVISION

Farrell's Automotive Station, located at the intersection of Swift and Wright, opened for business August 25.

The A&Z Specialty Shop, located in McVicker's Building in New Central Commercial Area, opened for business August 25.

Johnson & Reutlinger, located in Building 82-X, on George Washington Way, opened for business August 26. This store will handle gifts, toys, hobbies, and will service radios and electrical appliances.

Angerman Inc. (Hughes Store) started construction on its building in the New Commercial Area on August 29.

Morning Sun Dairy started construction on its building located on the west side of Stevens Drive on August 21.

Closing inventories were taken of Three Rivers Mineralogy Club and Village Food Store.

The following routine items were processed:

Work Orders	25
Patrol Orders	74
Back Charges	9

CONTRACTS AND NEGOTIATIONS

Supplemental Agreements were entered into with the following firms:

Dawson and Richards Men and Boys' Wear. Supplemental Agreement #I, dated August 1, 1949 - loan agreement default provision entered into, modifying the Lease dated March 8, 1949.

Anderson Motors. Supplemental Agreement #I, dated August 1, 1949 - amendment to Article III of Commercial Facility Lease dated April 15, 1949.

Automatic Laundry Company. Supplemental Agreement #I, dated July 1, 1949 - amendment changing rental provisions of the Operating Agreement dated November 1, 1948.

C. C. Anderson Stores Co. Supplemental Agreement #II, dated August 5, 1949 - amending the term of the basic agreement dated April 16, 1945.

Assignment and Acceptance of Contract, dated August 12, 1949, assigning Henry L. Johnson's right, title and interest as an Individual to Commercial Facility Lease dated July 15, 1949, to Henry LeRoy Johnson, Lillian Charlotte Johnson, Ray C. Reutlinger and Estelle C. Reutlinger.

Assignment and Acceptance of Lease, dated August 4, 1949, was entered into, whereby American Lumber Company assigned all of its right, title and interest in and to the Commercial Facility Lease dated May 23, 1949, unto American Fuel Company.

COMMUNITY COMMERCIAL FACILITIES DIVISION

Binyon Optometrists were authorized to sublease a vacant room in the basement of the Facility to Mr. Leo F. Sharkey of the New York Life Insurance Company for use as a business office.

Dawson-Richards, of Dawson-Richards Men and Boys' Store, were authorized to sublease office space to American Fuel Company during the construction period of the American Fuel Company's building.

Dawson-Richards, of Dawson-Richards Men and Boys' Store, were authorized to sublease space in their building to F. Gerald Johnson of Prosser, Washington for use as a dry cleaning pick-up station.

Karl Diettrich, Operator of Diettrich's Market, was authorized to change his initial lease period of 5 years, with 5 year renewal option, to initial term of 10 years with option to renew for a similar period.

Hanson Enterprises, Inc. was authorized to sublet space to Mannie C. Sullivan for the establishment and operation of a dry cleaning pick-up service to be known as Sullivan's Cleaners.

Commercial Facility Leases were entered into with the following firms for the construction of buildings and operation of businesses as outlined below:

Midstate Amusement Corporation - Leases dated July 1, 1949 - covering the operation of the Village and Richland theaters. Cancels and supersedes preceding Operating Agreements.

Midstate Amusement Corporation - covering construction, maintenance and operation of a theater and store building. Lease dated July 1, 1949.

C. D. Newland - covering the operation of a cafeteria and/or restaurant and other businesses in the existing cafeteria building. Lease dated July 9, 1949.

Valley Auto Parts, Inc., - covering the construction, maintenance and operation of auto supply and accessories store and machine shop. Lease dated July 15, 1949.

Henry L. Johnson - covering the operation of a business in Building 82-X, providing the following merchandise and services: gifts, traffic appliances, toys, novelties, hobbies and radio and electrical servicing. Lease dated July 15, 1949.

Invitations to Bid were mailed on a Hardware to be established in the New Commercial Area, Richland.

Letters requesting formal proposal were mailed on a self-service laundry to be established in the New Commercial Area.

A photographic studio award was made to Ernest W. Ellis, 1280 Willamette Street, Eugene, Oregon. Mr. Ellis is expected to construct his own building.

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COMMUNITY COMMERCIAL FACILITIES DIVISION

A food store award was made to Roy L. Stone, 1023 West Riverside, Spokane, Washington and H. E. Garmo, 704 Symons Street, Richland. Messrs. Stone and Garmo are expected to construct their own building.

REQUESTS FOR ESTABLISHMENT OF BUSINESSES IN RICHLAND

A number of individuals and firms, the majority of which were not interested in constructing their own buildings, expressed a desire during the month to establish and operate businesses in Richland. The types of establishments desired are shown in the following list:

Auto Glass Shop
Baby Shop
Barber Shop
Beverage Store
Dental Laboratory
Dry Cleaning Plant
Hardware Store
Ice Cream Store
Ice Cream Vending
Multiple Business Building
Photographic Studio
Restaurant & Drive-In
Stationery Store
Transfer & Storage
Variety Store

COMMUNITY DIVISIONS

COMMUNITY HOUSING DIVISION

August, 1949

ORGANIZATION AND PERSONNEL

Number of employees on payroll	August
Beginning of month	38
End of month	39
Increase	1

RICHLAND HOUSING

Housing Utilization as of Month End

Houses Occupied by Family Groups	Conventional	Block	T	Pre-Cut	Ranch	Prefab	Apt.	Tract	Total
Operations	2193	261		383	848	1122	61	42	4910
Facilities	139	6		22	72	117	2	10	368
Government	102	32		10	26	29	4	4	207
Kellex Corporation		6		2		2	1		11
Morrison-Knudsen	2			1			1		4
Atkinson-Jones	13	17		7	14	7	1	1	60
J. Gordon Turnbull	1	2		4	3	9	1		20
Giffels & Vallet	2			2	7	8			19
J. A. Terteling & Sons			9	1	2				12
McNeil Construction Co	1			1		2			4
Newberry Neon Electric	1	1		2		1			5
Urban, Smythe & Warren	2	1		1	1	1	1		7
Graysport Construction								1	1
Newport-Kern Kibbe								1	1
Vernita Orchards								6	6
Scott Butner						1			1
TOTAL HOUSES OCCUPIED	2456	326	9	436	973	1299	72	*65	5636
Houses utilized for special purp.								1	1
Houses assigned (leases written)	13	3		5	10	10			41
Houses assigned - awaiting tenants	31	4	1	9	17	23	2		87
Government houses - unassigned								**40	40
	2500	333	10	450	1000	1332	74	106	5805

* Occupancy figure includes 4 houses occupied by Bonneville Power in Priest Rapids and White Bluffs.

** This includes 31 Tract houses boarded up for salvage.

COMMUNITY HOUSING DIVISION

Housing Turnover During Month	Begin Month	Moved In	Moved Out	Month End	Difference
Conventional Type	2453	62	59	2456	Plus 3
Block Type	328	7	9	326	Minus 2
T Type	8	5	4	9	Plus 1
Precut Type	437	14	15	436	Minus 1
Ranch Type	975	36	38	973	Minus 2
Prefab Type	1264	75	40	1299	Plus 35
Apartments	73	1	2	72	Minus 1
Tract	69	4	8	65	Minus 4
Total	5607	204	175	5636	Plus 29

Dormitory Statistics

Dormitories		Occupants	Vacancies	Total Beds
Men - Occupied	13	495	21	516
Men - Unoccupied				
Women- Occupied	15	*494	138	632
Women - Unoccupied				

Women's Dormitories occupied by:	
G. E. Office	1
Education	1
Apartments	1
	31

* This includes space of 6 beds in W-9 being used for Supply Rooms and Dormitory offices.

GENERAL

Allocation Section Statistics

Total houses allocated to new tenants	69
Exchanged houses	41
Moves (within the Village)	54
Total new leases signed	204
Turnovers	24
Houses sent to renovation	73
Houses assigned "As Is"	58
Terminations	114
Total cancellations	175

Tract house M-960 was rented during the month.

Dormitory M-13 was renovated and turned over to school district 400 to house female teachers.

TENANT RELATIONS

The processing of Patrol Orders, Work Orders and backcharges during the month is as follows:

	Issued from July 28 to Aug.30	Incomplete August 26	Issued Previous Month
Service Orders	2094	156	4347
Work Orders	350	665	430
Backcharges	170	10	69

15 Conventional houses exterior sprayed shakes as compared to 76 the previous month.

20 Conventional houses exterior painting completed as compared to 128 the previous month.

57 Home fire inspections were reported and processed. 108 homes were visited.

1078 Pounds of grass seed were issued as compared to 1538 the previous month.

ITEMS OF INTEREST

	Total Outstanding	Total Outstanding Previous Month
Laundry tubs	46	62
Bathtub Replacement	43	48
Faucets	14	101
Sink Linoleum Replacements	150	48
Bathroom Painting (Tileboard)	10	18
Window Glass	24	130

Alteration permits issued during the month of August, 1949 totaled 195 as compared to 161 during the month of July.

Automatic washers	16	Construction of driveway	5
Cooling pads in furnace	20	Back doors in prefabs	2
Construction of patios	2	Air conditioners installed	48
Additional electrical wiring	14	Installation of sprinkler system	1
Installation of water softeners	10	Change position of clothes poles	4
Construction of fences	20	Glazing sunporch	1
Basement excavation	9	Tile on kitchen walls	1
Construction of tool sheds	8	Paint outside of houses	2
Refinish floors	3		

941 Inspections were made during the month of August. A breakdown of the inspections shows the following distribution:

Shades	118	Walls	24
Linoleum	86	Lot Lines	34
Grass Seed	80	Floor Boards	12
Sidewalks	64	Leaking Basements	18
Recaulk and paint bathrooms	51	Miscellaneous	398
Top Soil	56		

TENANT RELATIONS

In addition to these inspections tenants have been contacted in regard to the exterior painting program and parking on lawns and driving on seeded areas.

DORMITORY PROGRESS REPORT FOR AUGUST, 1949.

Attention has been given to the general improvement of all floors throughout the dormitories.

Ironing board covers were completely replaced in all the women's dorms.

Repairs of the steam lines were completed in all boiler rooms.

Blankets are now in the process of being laundered.

The renovation of M-13 has been the major project of the month. Floors are being sanded and sealed, walls painted, radiators checked, shower stalls relined with tileboard, and laundry trays installed. All plumbing and steamfitting items in general were receiving necessary repair.

In compliance with the request of dormitory supervision, Public Health has undertaken the extermination of rodents in the area of women's dormitories.

MS. WAREHOUSE MONTHLY REPORT FOR AUGUST, 1949.

Orders handled for August, 1949.		Items
Recall Orders	33	151
Delivery Orders	12	12
Dormitory Exchange Orders	19	135
Total Orders	64	298

Received from Maintenance	44
Sent to Maintenance	32
Three-burner ranges exchanged in Village	8
Refrigerators exchanged in Village	16
Trips to Pasco	10

Tenant Relations Store:

Orders Disbursed	342	
Items Disbursed	900	
Value	$14,443.38	
Items Received	2897	
Value	$11,676.27	
TOTAL M. S. WAREHOUSE INVENTORY		$69,356.96
TOTAL PASCO INVENTORY		$68,935.93

COMMUNITY SAFETY DIVISION
AUGUST 1949

ORGANIZATION AND PERSONNEL

Number of employees on Payroll	August
Beginning of month	3
End of month	3

GENERAL

A Child Safety Program, scheduled for September has been planned and is now underway. The program involves three radio programs over local stations, adequate printed material for posting in the Village - purchased from the National Safety Council, the total of seven Newspaper articles and build-ups, Safety Instruction sheets distributed by the school teachers to the students in all the elementary schools, the approval and ordering of 5,500 copies of Emily Post's "Motor Manners", these being paid for by a manufacturer in Seattle and a local merchant in Richland. The Motor Manners will be distributed by mail and there will be a hundred per cent coverage of all homes in Richland. To our knowledge, this will be the first city to have received such complete coverage. This office has received from the National Highway Users Association permission for quoting excerpts from Emily Post's "Motor Manners" in a newspaper column.

The Fire Prevention Week program is now in the formulative stage. The Senior Chamber of Commerce is sponsoring the program with the anticipation that they will enter the National Chamber of Commerce contest for Fire Prevention Week.

A fairly extensive program is carried on during the month of August in regard to "Motor Manners" and Courtesy and Defensive Driving. A number of newspaper articles were printed. One radio program was given by the Junior Players of Richland over radio station K N I E the first of the month. The Construction of one highway bulletin was approved by the Chamber of Commerce, who are financing this bulletin, and they will present it to the Community Division to maintain and keep posted. It will be a twenty-four sheet lighted highway bulletin and the twenty-four sheets will be obtained from the outside market in printed form. This is obtainable at a nominal fee, and will be an inexpensive program.

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COMMUNITY FIRE DIVISION

August 1949

Organization and Personnel

Number of employees on payroll	August
Beginning of the month	133
Removal from payroll (due to illness)	1
End of the month	132

	Richland	North Richland
Response to alarms	21	2
Fire Loss (Estimated)		
Hanford Works	0	0
Personal	118,92	0
Investigation of minor fires and incidents	7	1
Safety Meetings held	16	7
Inside drills	78	39
Outside drills	68	54
Alarm boxes tested	173	74

Miscellaneous Fire Department Activities

1. Special movie on "Wet Water" shown to all North Richland shifts.
2. Replaced hose in hose boxes in old Transportation Labor Yard.
3. Captain J. O. Hawkins was awarded a 21-jewel wrist watch for high score in firemen's examination held at Washington State Firemen's School in Vancouver. Captain J. R. Cook of State Department of Vocational Education made the presentation at Richland Kiwanis Club luncheon.
4. Three Boy Scouts were examined for firemanship merit badge.
5. Pumper used twice to increase pressure in sprinkler system of Public Health Building.
6. Assisted Public Works Division by using fire hose to flush blocked culvert under By-Pass Highway south of Van Giesen.
7. Assisted Public Works Division in testing new water main between Swift and Knight on Stevens for installation of four additional fire hydrants.
8. Three standbys maintained during controlled burning in hazardous areas.

COMMUNITY FIRE DIVISION August 1949

Fire Prevention

Fire Inspections:

700 Area Buildings	149
1100 Area Buildings	143
Government Airport Buildings	10
Commercial Facility (Gov't Owned)	205
Schools, Clubs, Churches	41
Homes	57
Dormitories	30
Total	635

Fire Extinguishers:

Inspected	1384
Installed	17
Recharged (CO2)	35
Refilled	156

Miscellaneous Activities:

1. Major servicing of all fire extinguishers in service in the Richland Area was completed during the month.

2. Installation of water pump can extinguishers in exchange for unsatisfactory soda-acid extinguishers in various buildings is held up pending receipt of sufficient pump cans to complete the project.

3. Home Inspections:

   a. Home inspected limited due to inspector's vacation and inspectors being detailed to repairing fire extinguishers.

   b. Home inspections revealed that some tenants in A & J houses were blocking the automatic furnace controls. This hazard will receive publicity in the local papers through Tenant Relations.

4. Fire prevention meetings held with 10 employees of the 700 Area Carpenter Shop and over 60 employees of the Purchasing Division.

5. Investigated report, August 5th, that children were caught setting bonfires on loading platform at Jefferson School. No damage incurred. Complete record in Fire Department file.

6. Sprinkler Systems:

   a. Were notified by Kadlec Hospital administrator that Fire Marshal's recommendation was being carried out, hospital maintenance employee being assigned to checking and pressurizing hospital sprinkler systems weekly. This is to be performed in addition to regular inspections by fire inspector.

   b. Sprinkler systems in Kadlec Hospital, Public Health and 703 Buildings inspected weekly by fire inspector.

c. Sprinkler system in Public Health Building found to be leaking and valve assembly removed for repairs August 22nd. Additional repairs were necessary on the 23rd and 24th.

7. The Greater Richland Chamber of Commerce assumed sponsorship of the Richland Fire Prevention Week campaign and D. F. McGuire appointed general chairman. The Community Fire Protection Division is to work closely with the Chamber of Commerce and plans to prepare entries for both the Fire Waste Council and National Fire Prevention Week contests. Approximately 20,000 pieces of promotional material has been ordered for the campaign from the National Board of Fire Underwriters.

8. Hazardous weed conditions around buildings in the industrial sections of Richland are in the process of being corrected.

9. Serviced all gas masks in the Richland Area.

10. Tested the fire alarm system in the Desert Inn on the 2nd and 4th Thursday's of the month. Tests were satisfactory.

11. Arrangements were completed with Tenant Relations to have all auxiliary fire alarm boxes in dormitories properly adjusted and equipped with a thinner type of break-out glass since boxes are exceptionally hard to operate.

12. Improperly operating manual fire alarm boxes in Desert Inn resulted in a recommendation to replace the eight boxes with standard pull-boxes.

13. Recommendation made that the recently installed air conditioner in 705 Building be connected to the fire alarm system, shutting off automatically in event of an alarm as do the others in that building. Work Order #H38912 was issued August 2nd for this job.

14. Recommended that 703 Building air conditioners be connected to fire alarm system to automatically shut off in event of an alarm. This Division was informed that a work order has been issued.

15. An acceptance test was made of the new fire alarm system in 712-A and B Buildings. Test was satisfactory except for the relays on air conditioners mounted at east end of building.

16. Fire inspections were conducted in all schools prior to the opening of the fall term.

17. Test of fire doors at Carmichael Junior High School revealed that one door failed to operate and another operated improperly. A letter, recommending proper repairs, was sent to the School District.

COMMUNITY DIVISIONS

COMMUNITY PATROL

AUGUST 1949

ORGANIZATION AND PERSONNEL

Number of employees on payroll:	August
Beginning of month	83
End of month	84
Net Increase:	1

Reason: 1 Transfer from Security and Services Division

GENERAL

On August 11, 1949, Community Patrol supervision attended a meeting of police officers at Yakima, Washington. Demonstrations in the use of the Drunk-O-Meter and orientation on recent traffic law amendments were chief topics of the meeting. The meeting was sponsored by the Washington State Patrol.

On August 15, 1949, Patrol was advised that project proposal for installation of new traffic semaphore lights had been submitted for final approval. Community Engineering estimate for completion of the project was approximately November 1, 1949.

On August 15, 1949, responsibility for the master keys to houses and dormitories in the village of Richland was transferred from Patrol to the Housing Division. All requests for admittance to homes and rooms will be referred to Tenant Service of the Housing Division.

Effective August 16, 1949, Community Patrol began making spot checks of subcontractor vehicles which appeared to be leaving the project with government materials. This is being done in compliance with an Instructions Letter originating from the Security Division.

Effective August 19, 1949, Patrol discontinued the practice of opening doors to barracks and houses for tenants in North Richland. Requests for admittance are to be referred to either Bedroll or the Trailer Camp Office, the latter to be contacted in the case of Bremerton houses.

Patrol assumed responsibility for making routine facility checks of several new business establishments during the month.

During the month of August, 16 prisoners were processed through the Richland Jail.

During the month of August, 46 gun registrations were taken by Richland Patrol.

During the month of August, a total of 101 Unusual Incident Reports were received, which consisted mainly of Public Intoxications, Public Nuisances, Domestic Troubles, and Thefts. Regular Traffic Violation and Offense Statistics are presented in separate tables attached to this report.

TRAFFIC

During the month of August, all school crosswalks were repaired, and damaged school zone signs were replaced in preparation for the children returning to school on the 6th of September. Principals of the various schools were contacted and plans made for the organization of the School Boy Patrol. Adequate equipment is available to supply 157 boys to handle the duties of the School Patrol. Regular Richland and North Richland patrolmen will assist these boys each morning and afternoon by patrolling in the vicinity of the schools and by handling any major traffic congestion problem.

Due to a high accident frequency caused by motorists failing to drive in the proper traffic lanes in the vicinity of the Co-Ordinate Club, a number of "chatter bars" were constructed and placed in such a position to prevent cars from entering the wrong lane. The cost of the bars was very low, including reflectorizing for night traffic, and the experiment has proven successful. No accidents have occurred at this location since the bars were installed. This may be a solution to preventing collisions at other high accident frequency intersections.

Pedestrian crosswalk standards and signs were placed at certain locations in the business district of Richland to determine whether or not they will be of value in gaining a higher percentage of voluntary obedience on the part of motorists in yielding right-of-way to pedestrians. They are in the experimental stage and results are being checked.

Nine traffic safety lectures were given and the same number of traffic safety films were shown to various civic and plant groups during August. Several traffic safety articles appeared in local newspapers and the Works News.

TRAINING

Subjects covered in the lieutenant's training classes for the month of August were as follows:

Handling of Firearms on Money Escorts
Ambulance Duties of Patrol
Building and Facility Checks
Public Relations
Civil and Criminal Liability
Law of Arrest
State Traffic and Criminal Laws

Advance training for Community Patrol members at the Small Arms Range for the month of August was divided into field instruction as follows:

Pistol	2 hours
Machine Gun	2 hours

No scores were kept on the Machine Gun Course. Each man, however, fired practice shots and received the regular instructions on the handling and firing of the weapon.

Progress of scores and qualifications on the Army-L Course:

	June		July		August	
	No.	Percent	No.	Percent	No.	Percent
Unqualified	7	10%	4	7%	3	5%
Marksman	9	13%	9	15%	10	18%
Sharpshooter	7	10%	5	8%	6	11%
Expert	46	67%	43	70%	38	66%

ACTIVITIES AND SERVICES (RICHLAND)

	June	July	August
Check on absentees	8	8	6
*Persons assisted	270	236	222
Doors & windows found open in commercial facilities	67	46	89
Lost children found	16	11	12
Ambulance runs	19	30	34
Lost dogs reported	3	4	7
Dog, cat, loose stock complaints	37	67	55
Persons injured by dogs	14	12	14
Bank escorts & details	38	38	45
Fires investigated	23	27	25
Miscellaneous escorts	40	33	38
Complaints investigated	132	106	143
Missing persons reported	5	7	3
Totals	672	625	693

*Includes: Delivery of messages to residents who have no telephones; relay of messages; handling requests of out of town police; miscellaneous aids to private parties; and opening trailer parking lot for individuals.

ACTIVITIES AND SERVICES (NORTH RICHLAND)

	June	July	August
Check on absentees	2	2	0
*Persons assisted	196	164	122
Doors & windows found open in commercial facilities	9	14	11
Lost children found	4	1	1
Ambulance runs	0	5	0
Lost dogs reported	0	0	0
Persons injured by dogs	0	0	0
Dog & cat complaints	7	5	2
Bank escorts & details	41	14	14
Fires investigated	6	10	2
Miscellaneous escorts	20	14	21
Complaints investigated	12	13	13
Missing persons reported	0	0	0
Totals	297	238	186

*Includes: Contacting parties on long distance calls; locating persons wanted for various reasons; relaying messages; assisting outside police agencies; assisting other departments; aiding private persons, etc.

COMMUNITY PATROL DIVISION

FORCE REPORT

AUGUST 1949

Patrol		Entire Patrol 7-31-49	Entire Patrol 8-31-49
Patrol Supervisor		1	1
Captains		5	5
Lieutenants		8	8
Sergeants		11	11
Patrolmen		54	55
	Totals	79	80
Clerical			
Steno-Typists		2	2
Clerks		2	2
	Totals	4	4
	Grand Totals	83	84

COMMUNITY PATROL DIVISION
RICHLAND JUSTICE COURT CASES
AUGUST, 1949

VIOLATION	No. of Cases	No. of Convictions	Total Fines	Total Susp.	Sentenced To Jail	Sentence Suspended	License Revoked	Average Fine Paid	Cases Dismissed	Warrants Issued
Drunken Driving.....	2*	0	0	0	0	0	0	0	0	0
Reckless Driving.....	4**	1	$37.50	None	None	None	1	$37.50	0	0
Negligent Driving.....	11	11	220.00	$32.50	None	0	0	20.00	0	1
Speeding.....	27	27	268.00	0	0	0	0	9.92	0	4
Stop Sign.....	17***	17	60.25	0	0	0	0	5.50	0	5
No Driver's License....	17****	17	50.25	5.00	0	0	0	7.50	0	4
Improper Passing.....	1	1	17.50	17.50	0	0	0	17.50	0	0
Disreg. Traffic Lt.....	2 x	2	5.50	None	0	0	0	5.50	0	0
Parking.....	4	4	14.00	7.00	0	0	0	3.50	0	0
Failure to YHOW.....	1 y	1	None	None	0	0	0	None	0	0
Illegal Disp. of Lic...	1	1	7.50	5.00	0	0	0	7.50	0	0
No Muffler.....	1	1	None	None	0	0	0	None	0	1
No Vehicle Registration.	1	1	None	None	0	0	0	None	0	1
Defective Equipment....	2	2	None	None	0	0	0	None	0	2
Making Illegal U. Turn.	1	1	None	None	0	0	0	None	0	1
Public Intoxication....	9	9	122.50	None	0	0	0	12.50	0	0
Third Degree Assault...	1	1	17.50	15.00	0	0	0	17.50	0	0
Petit Larceny.....	1	1	27.50	27.50	0	0	0	27.50	0	0
Vagrancy.....	3	3	37.50	20.00	1	1	0	12.50	0	0
TOTALS.....	106	101	$885.50	$129.50	1	1	1		0	19

TOTAL FINES.....$885.50
LESS SUSPENSIONS..... 129.50
TOTAL FINES RECEIVED.....$756.00

* 2 Cases Reduced to Negligent Driving.
** 3 Cases Reduced to Negligent Driving.
*** 3 Cases Included with Other Violations.
**** 9 Cases Included with Other Violations.
x 1 Case Included with Other Violation.
y 1 Case Included with Other Violation.

1204-21

PATROL DIVISION - TRAFFIC CONTROL STATISTICS
August - 1949

MOTOR VEHICLE ACCIDENTS:

	Total Number		Fatalities		Major Injuries		Minor Injuries	
	July	Aug.	July	Aug.	July	Aug.	July	Aug.
Richland	7	10	0	0	0	0	2	3
North Richland	3	2	0	0	0	1	1	1
Totals	10	12	0	0	0	1	3	4

ACCIDENT CAUSES:

	Negligent Driving		Failure to Yield Right of Way		Reckless & Drunken Driving		Other Causes	
	July	Aug.	July	Aug.	July	Aug.	July	Aug.
Richland	5	5	3	3	0	1	1	1
North Richland	1	2	0	0	0	0	1	0
Totals	6	7	3	3	0	1	2	1

PLANT WARNING TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Parking		Imp. License		Def. Equipment		Other Violations		Totals	
	July	Aug.	July	Aug.	Jul.	Aug.	July	Aug.	July	Aug.	July	Aug.	July	Aug.
Richland	1	1	1	0	86	106	0	1	5	0	1	0	94	108
North Rich.	1	0	1	0	11	4	0	0	7	4	0	0	20	8
Totals	2	1	2	0	97	110	0	1	12	4	1	0	114	116

COURT CITATION TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Drunken Dr.		Reckless Dr.		Right of Way V.		Neg. Dr.		Parking		Other V.		Totals	
	Jul.	Aug.	July	Aug.	July	Aug.	July	Aug.	July	Aug.	Jul.	Aug.	Jul.	Aug.	Jul.	Aug.	Jul.	Aug.
Richland	32	21	10	10	2	2	0	3	2	0	8	7	1	4	13	8	68	55
N. Rich.	7	4	7	2	0	0	1	0	0	0	4	1	1	0	1	4	21	11
Totals	39	25	17	12	2	2	1	3	2	0	12	8	2	4	14	12	89	66

TRAFFIC VOLUME: Average 24-hour Traffic Volume Count for week ending on August 29, 1949, at intersection of Swift Boulevard and Goethals Drive - 9,410 Cars.

COMMUNITY PATROL DIVISION - CONT.

CRIME PREVENTION SECTION
MONTHLY REPORT
AUGUST, 1949

Classification of Offenses	Offenses Known or Reported to Patrol	Offenses Unfounded	Actual Offenses July	Actual Offenses August	Offenses Cleared By Arrest	Offenses Cleared By Other Action	Perpetrators Involved	
Assault	3	0	2	3	2	1	4	a.
Attempted Arson	0	0	1	0	0	0	0	
Breaking & Entering	2	0	2	2	0	0	u	
Attempted Brk. & Entering	1	0	1	1	0	1	1	
Burglary	3	0	0	3	0	2	3	b.
Larceny (Except Auto & Bike)								
Over $50.00	11	2	8	9	0	3	1	
Under $50.00	22	1	16	21	0	15	8	c.
Larceny By Check	5	0	1	5	2	1	3	d.
Forgery	3	1	0	2	2	0	1	
Bike Theft	6	0	6	6	0	8	3	
Dest. of Personal Property	3	1	0	2	0	0	u	
Dest. of Government Prop.	3	0	1	3	0	0	u	
Loss or Theft of Gov't. Prop.	2	0	2	2	0	0	u	
Trespassing on Gov't. Prop.	1	0	0	1	0	0	u	
Unauthorized Use of Gov't. Equip.	1	0	0	1	0	1	1	
Investigation	1	0	0	1	0	1	2	e.
Attempted Suicide	1	0	0	1	0	1	1	f.
Disorderly Conduct	0	0	1	0	0	0	0	
Drunkenness	7	0	8	7	7	0	7	
Disturbance	2	0	3	2	0	2	3	g.
Vagrancy	2	0	2	2	2	0	2	
Public Nuisance	0	0	3	0	0	0	0	
Missing Persons	2	0	2	2	0	2	2	
Offense Against Family & Chil.	5	0	3	5	0	5	5	h.
Prowlers	5	0	1	5	0	1	2	i.
Sodomy	1	0	1	1	1	0	1	j.
Co-Habitation	1	0	1	1	0	1	1	
Indecent Exposure	1	0	0	1	0	1	1	k.
Indecent Liberties With a Minor	2	0	1	2	0	1	1	
Indecent Language	1	0	0	1	1	0	1	
Lewdness	0	0	4	0	0	0	0	
Unauthorized Soliciting	1	0	0	1	0	1	1	

(Continued on Page Two)

COMMUNITY PATROL DIVISION - CONTINUED

Page Two—August Monthly Report—Crime Prevention Section—1949

Classification	Offenses Reported	Offenses Unfounded	Actual Offenses July	Actual Offenses August	Offenses Cleared By Arrest	Offenses Cleared By Other Action	Perpetrators Involved
Possible Secret Organization Member.....	1	0	0	1	0	0	u
Altered Birth Certificate.	1	0	0	1	0	1	1 l.
Vandalism.....	2	0	6	2	0	1	3 m.
Malicious Mischief.....	7	0	5	7	0	6	14 n.
Pickup for Outside Agency.	0	0	1	0	0	0	0
Unattended Death.....	1	0	0	1	0	1	0
Miscellaneous.....	0	0	10	0	0	0	0
TOTAL.....	110	5	92	105	17	57	73 x

a. 1 Case Perp. by 2 Juv. Ages 13 & 15.
b. 1 Case Perp. by 1 Juv. Age 15.
1 Case Perp. by 1 Juv. Age 11.
c. 1 Case Perp. by 1 Juv. Age 16.
11 Cases Perp. by 3 Juv. Ages 12,13 & 15.
1 Case Perp. by 1 Juv. Age 14.
1 Case Perp. by 1 Juv. Age 15.
1 Case Perp. by 1 Juv. Age 14.
d. 1 Case Perp. by 1 Juv. Age 17.
e. 1 Case Perp. by 2 Juv. Ages 16 & 17.
f. 1 Case Perp. by 1 Juv. Age 20.
g. 1 Case Perp. by 1 Juv. Age 19.
h. 1 Case Perp. by 1 Juv. Age 16.
i. 1 Case Perp. by 2 Juv. Ages 11 & 13.
2 Cases Perp. by 2 Juv. Ages 15.
j. 1 Case Perp. by 1 Juv. Age 20.
k. 1 Case Perp. by 1 Juv. Age 18.
l. 1 Case Perp. by 1 Juv. Age 19.
m. 1 Case Perp. by 3 Juv. Ages 10,11, & 12.
n. 1 Case Perp. by 2 Juv. Ages 6 & 8.
1 Case Perp. by 2 Juv. Ages 6 & 8.
1 Case Perp. by 1 Juv. Age 7.
1 Case Perp. by 3 Juv. Ages 13,13, & 10.
1 Case Perp. by 3 Juv. Ages 5,6, & 8.
x. 1 of the Perp. Involved is Colored.
u. Represents Unknown.

Value of Property Recovered for Month—$1,120.00 (8 bikes)

Number of offenses known to police per 10,000 inhabitants in cities between 10,000 and 25,000 inhabitants:

	Wash. Oregon & Calif.		Richland and North Richland		
Classification	Six Months (Jan-June 1948)	One Month Average	Six Months (Jan-June 1948)	July 1949	August 1949
Murder.....	181	.031	0	0	0
Robbery.....	3.47	.58	1.00	0	0
Aggravated Assault.	1.75	.29	6.66	1.33	2.00
Burglary.....	35.69	5.95	4.63	2.00	2.00
Larceny.....	127.06	21.18	47.16	20.6	27.33
Auto Theft.....	15.56	2.59	3.10	0	0

Number of offenses known to police per 10,000 inhabitants regardless of whether offenses occurred in cities or rural districts:

	State of Washington		Richland and North Richland		
Classification	Six Months (Jan-June 1948)	One Month Average	Six Months (Jan-June 1948)	July 1949	August 1949
Murder.....	.140	.023	0	0	0
Robbery.....	4.90	.82	0	0	0
Aggravated Assault	.78	.13	6.66	1.33	2.00
Burglary.....	36.91	6.15	4.63	2.00	2.00
Larceny.....	92.22	15.37	47.16	20.6	27.33
Auto Theft.....	18.15	3.03	3.10	0	0

The portion of offenses committed by persons under the age of 25 years, is shown by the following figures:

	National Average	Richland and North Richland		
Classification	Six Months (Jan-June 1948)	Six Months (Jan-June 1948)	July 1949	August 1949
Robbery.....	55.5	0	0	0
Burglary.....	59.9	8%	0	66%
Larceny.....	45.2	13%	48%	19%
Auto Theft.....	71.6	0	0	0

Note: Statistics of Juvenile offenses throughout the United States were taken from the Uniform Crime Report published by the Federal Bureau of Investigation, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower age groups because of the practice of some jurisdictions not to fingerprint youthful offenders."

COMMUNITY DIVISIONS

August, 1949

COMMUNITY-ACTIVITIES DIVISION

ORGANIZATION AND PERSONNEL

Number of employees on roll

Beginning of Month		19
Additions (full-time)	1	
Terminations	2	
End of Month		18

SCHOOLS

There is a total of 352 people employed by School District #400.

On August 8, 1949, representatives from Design and Construction Division, J. Gordon Turnbull, and representatives from the Activities Division inspected and tested the ventilating system in all lavatories, the cafeteria, kitchen, gymnasium, and locker rooms in the Carmichael Junior High School. This test was made to determine whether or not the exhaust system in the Carmichael Junior High School was in satisfactory working condition. Satisfactory results were obtained.

The scheduling and billing of school facilities was transferred to the School District #400 on August 17, 1949. All inquiries regarding the use of school facilities will be handled by the School District Business Office, phone 881W.

Permanent oil circuit breakers were installed in transformer vaults at Marcus Whitman and Spalding Grade School on August 22 and 23, 1949. Arrangements for these outages were made through the Activities Division.

CHURCHES

The following is a tabulation of full-time paid personnel, as of August 31, 1949:

	Ministers	Staff	Total
Assembly of God	1	0	1
Catholic	2	2	4
Central United Protestant	2	2	4
Church of Christ	1	0	1
Church of God	1	0	1
Episcopal Church	1	0	1
Free Methodist	1	0	1
Mission Baptist	1	0	1
Mo. Synod Lutheran (Redeemer)	1	1	2
National Lutheran	1	2	3
Nazarene	1	0	1
Regular Baptist	1	0	1
United Protestant - North Richland	1	0	1

	Ministers	Staff	Total
United Protestant - West Side	1	0	1
United Protestant - South Side	1	0	1
United Protestant - Northwest	1	0	1
	18	7	25

The lease for the Church of Jesus Christ of the Latter Day Saints, located on the corner of Goethals Drive and Jadwin Avenue, was approved by the General Electric Company and the Atomic Energy Commission, August 5, 1949.

Ground was broken on the building site for the Latter Day Saints, Reorganized Church and work is now being done on the foundation of the church by volunteer labor. The building permit was issued August 22, 1949.

The Town Planning Board assigned a plot of ground 150' x 150' to the Christian Science Church at the intersection of Williams Blvd. and Goethals Drive.

The contractor for the Richland Lutheran Church completed his contract on Friday, August 19, 1949. The building will be completed by the church members.

The exterior of the Nazarene Church, located on the corner of Humphreys and Wright, has been completely shingled and work on the interior has begun. The building is approximately 85% complete.

A map of the sewer, domestic water and irrigation lines in the vicinity of the Catholic Church property has been turned over to the Catholic Church as reference for the architect employed for the building of the parochial school.

The Activities Division distributed the leases to all pastors for homes assigned to the churches. These leases were signed by the Chairman of the Church Board so that the houses will be permanently assigned to the church. With this procedure the pastors leaving Richland will merely vacate the house and a replacing pastor will have a home available to him immediately.

CLUBS AND ORGANIZATIONS

As of August 31, 1949, organizational personnel included:

Villagers, Inc.	7
American Legion	2
Coordinate Club	1
Youth Council	1
Boy Scouts	1
Camp Fire Girls	2
Hi-Spot Club	1
Red Cross	3
Castle Club	1
Post Office	59
Veterans Administration	2
Girl Scouts	2
	82

Community - Activities Division

Representatives of the Activities Division and the Sacajawea Rifle and Pistol Club inspected the well and the club site. This well supplies water for the tract house leased to the club. This inspection was made to determine needs for supplying the club with adequate water the year around. At present, this well is dry during the winter months. This inspection was made August 11, 1949. An Engineering Service Request was issued to prepare an estimate for deepening the well.

On August 16, 1949, representatives of the Hanford Atomic Metal Trades Union Council and the Activities Division inspected the tract house 108-X (located at 1319 Lee Blvd.) to determine if the building was suitable for their offices. This building was accepted by the Hanford Atomic Metal Trades Council. Work orders were issued to remove the fence around this building and to perform a general clean-up of the area. The lease date is September 1, 1949. Renovations are being made by members of the Council on a volunteer basis.

A member of the Village Safety Division and a member of the Activities Division inspected the Castle Club concerning the installation of a new indoor shuffleboard. It was determined that the emergency exit would be more accessible providing the shuffleboard was moved approximately 3 feet south.

On August 17, 1949, the Youth Council offices were moved from their headquarters in the Recreation Hall to 108 Falley. The handicraft equipment was removed from 108 Falley and placed in the old office. (west social room).

Representatives of the Village Safety Division and the Activities Division studied the necessity of providing sufficient fire escapes in the American Legion Hall. Upon completion of this inspection, it was agreed that these additional exits were necessary and should be installed according to the Uniform Building Code. An Engineering Service Request was issued to obtain a cost estimate for making those renovations.

The Activities Division was notified that the lease held by the Three Rivers Mineralogy Club (0-1204) was cancelled retroactive to July 31, 1949. An inventory was taken by the Community-Property Division and the Activities Division of the government equipment in this building and final property and rental settlement has been made.

On August 24, 1949, representatives of the United States Army Engineer Corps, Walla Walla, and the Activities Division inspected the premises of Tract House 0-1204 to determine the preliminary work required to move this tract house. This house is being moved approximately 100 feet north of its present location so that it will not interfer with the construction of the dike.

On August 17, 1949, approval was requested from the Atomic Energy Commission for the assignment of additional land to the Richland Riders Club.

The Camp Fire Girls Day Camp was completed August 4, 1949, with a "sleep out" in the Village Park. Ninety-five girls attended this camp during the ten day period.

The Disabled American Veterans were granted permission by the Activities Division on August 8, 1949, to hold their annual Forgot-Me-Not Sale on August 12 and 13, 1949.

Community-Activities Division

The regular monthly inspections of all club and organization buildings were made by representatives of the Fire Protection Division and the Activities Division on August 30 and 31.

The number and types of organizations presently served by the Activities Division include 13 business and professional clubs, 24 churches and church organizations, 5 civic organizations, 16 fraternal organizations, 8 music and art associations. 10 private instructors, 46 recreation and hobby groups, 8 schools and 8 parent teachers associations, 2 social clubs and organizations, 11 veteran and military organizations, 5 welfare organizations, 19 Boy Scout groups, 15 Camp Fire Girl groups, 42 Girl Scout troops, 8 other youth groups, and 11 miscellaneous organizations.

On August 9, 1949, the Recreation Advisory Committee held the regular monthly meeting. No new organization requests for approval were filed since the July meeting. The 1949 Community Chest Campaign budget for 1950 institutional operations was reviewed. The Campaign will be held from September 30 through October 15, 1949.

RECREATION

Descriptions and location maps of Parks and Playgrounds including those tentatively approved by the Town Planning Board and those areas recommended have been completed. These will include the placement of recreational equipment and landscaping for the areas.

Program Administrated by Activities Division

A. Due to lack of attendance at school playgrounds, the playground program was moved to the Grange Park at the corner of Steves and Van Gieson on August 1, 1949. According to the attendance figures listed below this move was a good criteria that shaded areas and turf are essential items for a successful playground. Attendance at the Grange Park is as follows:

Week Ending	Boys	Girls	Total
8/7	360	229	589
8/14	426	223	649
8/21	493	230	723
8/28	347	206	553
	1626	888	2514

The summer playground will close on September 2, 1949, with the exception of the Richland Swimming Pool which will remain open through September 5, 1949. Attendance figures for the Village Park are as follows:

Week Ending	Boys	Girls	Adults	Total
8/7	1471	1364	241	3076
8/14	940	787	175	1902
8/21	1439	1276	311	3026
8/28	1339	1088	270	2697
	5189	4615	997	10,701

Community-Activities Division

Attendance figures for the Swimming Pool are as follows:

Week Ending	Number Attended
8/1	5,004
8/8	2,588
8/15	4,734
8/22	4,154
8/28	1,828
	18,308

The lowest attendance was 39 on Friday, August 12. The highest attendance was 1050 on Monday and Tuesday, August 1 and 2.

B. Special programs conducted at the Village Park included the Bubble Gum contest held on August 3, Ninety (90) boys and ninety-seven (97) girls participated. On August 10, a Hobby Show was held with twenty-five entries. The Talent Contest was held on August 17, with twenty-one entries. A Handicraft show with seventeen boys and twenty-nine girls participating was held on August 24. Over 135 entries participated in the Field Day held on August 31. It was estimated that over 600 spectators attended these contests.

On August 12, Mrs. Betsy Carlile, folk dancing instructor and play leader, terminated. Mrs. Carlile was replaced by Miss Ruth Jean Mandel. Miss Mandel was hired by the School District @400 to complete the remainder of the summer program. Over 500 attended the dancing classes during the month.

The Junior Theatre Play, "Papa Pompino and the Prize Fighter" was presented August 20 and 30 at 8:00 PM. Estimated attendance for both performances was 700.

Programs Assisted by the Activities Division

A. Atomic Frontier Days

Arrangements were made for permanent installation of electrical outlets and 25 K.V.A. transformers installed on Lee Blvd. north of the Village Park. This installation was made to supply electrical power for the midway during the Frontier Days' program and will be used for like purposes in the future. Also scrap lumber, electrical wiring, and canvas tarps were supplied to be used in the construction of booths on the midway.

The bandstand located in the Village Park was moved to the High School stadium and electrical wiring to the stand was installed to facilitate lighting. After the program, it was returned to the Village Park. This work was paid for by the Atomic Frontier Days organizations. Amplifiers, speakers, and microphones were loaned to the Atomic Frontier Days committee for use during the three day celebration.

Arrangements were also made to barricade the parade route and police the grounds immediately following the parade.

Janitorial service and clean-up service was furnished at the high school stadium and the Village Park throughtout the entire celebration. Garbage and trash collections were made during this period. The Activities Division provided two men as overseers for the Atomic Frontier Days. Duties consisted of supervising the general clean-up, sprinkling of parking areas, proper use of vehicles, and general liaison duties.

Eight hundred "Park" steel folding chairs for use in the high school stadium were supplied by the Activities Division.

C. State Softball Tournament, August 25 - 28, 1949

Arrangements were made for proper lighting and wiring for the public address systems at the high school stadium and Memorial Softball Field. Also the purchasing and installation of the new bleachers, capacity 330 persons, at the Memorial Softball Field for the State Tournament. These bleachers will also be used in the future for other major community events.

The grading and maintenance of all ball diamonds used during the Tournament and the sprinkling of all parking areas was jointly carried on by the Activities Division and the Softball Association.

The final meeting on the preparation for the 1949 Washington State Softball Team was held on Tuesday, August 23, 1949. The Activities Division was represented by two members assigned to the Tournament Committee. General instructions for the Tournament were as outlined below:

> Collections to be taken at all parks except Bomber Bowl and Memorial Field which will have a 25¢ children's admission and 50¢ adults. Final game admission at Bomber Bowl will be adults 75¢ and children 25¢. Tournament tickets were sold for $3.50 - adults, $1.75 - children.
>
> Games were played in Kennewick, Pasco, and Richland (Bomber Bowl, Memorial Field, High School Baseball Field, and #3 Softball Field at the Village Park).

Known attendance figures for the Bomber Bowl during the State Tournament were Thursday - 2600, Friday - 2400, Saturday - 3200, and Sunday - 4300.

Figures known for Memorial Field were Sunday AM - 1200, and Sunday afternoon - 1600.

The Tournament was won for the second consecutive year by J. A. Tortoling & Co. Second place winner was the Cougar Quarterback team of Spokane. It was stated by the State Softball Commissioner, Art Spencer, that "this was the finest State Softball Tournament he had ever witnessed".

D. Red Cross - Swimming

Junior swimming classes were conducted the last two full weeks in August

each week day and Saturday morning. Approximately 180 children took advantage of this fine activity conducted under the leadership of the Red Cross and assisted by the Activities Division.

E. Final plans and arrangements were made by the Activities Division and Shriner officials for the Shriners' parade to be held in Richland October 1; also the sponsoring of a football game at the Bomber Bowl. Participating teams will be Richland and Toppenish. Proceeds of the game will be turned over to the Shriners' Hospital Fund.

Adult evening swimming classes continued through the Month of August. Latest available statistics supplied by the Red Cross shows the following figures and certificates awarded.

Date	No. of Swimmers	No. Passed	Type of Certificate
June 13	125	7	Swimmers
June 27	125	9	Swimmers
July 11	33	19	Jr. Life Saver
July 11	12	10	Sr. Life Saver
July 25	125	23	Swimmers
August 15	212	27	Swimmers

MAJOR EVENTS DURING MONTH

August 2	Eastor Star Picnic	Richland Park
8	Treble Clef Picnic	Richland Park
8-13	City Softball Tournament	Memorial Softball Field
12,13,14	Atomic Frontier Days	Village
16	Kennel Club Picnic	Richland Park
14-21	District #6 Softball Tournament	Memorial Softball Field
19	Redox Mech. Section Picnic	Richland Park
20	Transportation Picnic	Richland Park
23	Medical Dept, Picnic	Richland Park
25 - 28	State Softball Tournament	Richland Park
28	Catholic Church Picnic	Richland Park
29 - 30	Jr. Theatre Play	Richland Park
30	American Inst. of Chemical Engineers Picnic	Richland Park

GENERAL ELECTRIC COMPANY
HANFORD WORKS
COMMUNITY ACCOUNTING DIVISION

MONTHLY REPORT FOR AUGUST,1949

ORGANIZATION

Employees - Beginning of Month	28	Exempt	6	Male	10
Transfers	1	Non-exempt	21	Female	17
Total	27		27		27

One employee (Steno-typist in Accounts Payable) was transferred to Community Activities Division to fill an existing vacancy in that section. There is a temporary replacement until a permanent assignment is made.

ACCOUNTS RECEIVABLE

RENTS

	AUGUST	JULY
House leases processed:		
New leases	188	162
Modifications	16	None
Cancellations	189	170
Active total house leases	5645	5646
Dormitory:		
New assignments	191	102
Removals	160	97
Total	985	954

Rental revenue was as follows:	AUGUST	JULY
Equipment	$ 53.47 Cr.	$ 76.50
Houses	252,850.25	240,722.52
Dormitories	13,128.98	13,189.52
Facilities	32,457.52	39,940.31
	$298,383.28	$293,928.85
Unoccupied house revenue loss	$ 4,895.50	$ 4,695.82
Unoccupied dorm revenue loss	$ 2,668.52	$ 2,607.98

Ten facilities still have equipment on a rental basis.

House rental for the month of August was collected on the basis of the new rates. Because of complications in securing revised payroll deduction authorizations, the weekly deduction was postponed from the second payroll period in August to the third payroll period.

There were, as of August 31, a total of 80 employees who had not yet returned a revised wage deduction authorization.

Community Accounting Division

TELEPHONE

	AUGUST	JULY
Number of work orders processed	181	130
Number of working phones	2600	2578
Revenue including services	$5,325.19	$5,228.37

An agreement was reached with the Interstate Telephone Company on August 18, 1949, whereby their office will handle individual subscriber toll posting which was formerly done at this Project. This will take place at the beginning of the first toll billing period following the conversion to dial equipment or on October 26, 1949. It is expected that we will be able to release two employees for other duties and reduce operating costs by their wages and related expenses.

A recommendation to revise telephone rental rates was transmitted to the Atomic Energy Commission by letter of August 15, 1949.

MISCELLANEOUS

There were 194 invoices issued during August accounting for $1458.58 in revenue. This is an increase of 101 invoices and $902 over July invoices. This increase was expected as a result of the new policy concerning the tenant's responsibility for minor maintenance items.

Revenue from dog licenses amounted to $17. The following building permits were issued:

LESSEE	AMOUNT
A.R. Nieman	$ 167.20
Reorganized L.D.S. Church	118.50
Riggle and Creighton	139.05
Angerman Co. Inc.	168.40
Total August fees	$ 593.15
Previously reported	2,835.76
Total to date	$3,428.91

Government-owned equipment located in the respective facilities was sold during August to the following at the agreed price:

Safeway Stores Inc.	$ 1,285.48
Previous Sales	90,475.28
Total to date	$91,760.76

Twenty-six collection letters were written resulting in payment of seven accounts in the total amount of $116.36.

Community Accounting Division

ACCOUNTS PAYABLE

STATISTICS

	AUGUST	JULY
Accounts Payable Vouchers Processed	219	231
Freight bills processed	13	15
Purchase Orders received	51	44
Net amount of Purchase Orders	$5,420.67	$10,853
Receiving reports received	70	66
Total net amount disbursed	$40,358.98	$55,139.08

The volume of purchase orders received has increased although the amount of orders has decreased.

A tentative contract has been prepared covering the supplying of meals to prisoners at the jail by the Newland's Cafeteria. This contract is expected to be signed and approved within the next two weeks.

The freight account still retains a zero balance each month. There are five items open in the Accounts Payable balance totaling a $1,150 credit.

Final payments were made to Graysport Construction and Lone Pine Roofing and Paving on Subcontract G-187 and G-227 respectively.

A summary of active subcontracts is shown below:

SUBCONTRACTOR	SUBCONTRACT NO.	AMOUNT AWARDED	PAID THIS MO.	TOTAL PAID	AMOUNT RETAINED
Frederickson, Dr.J.L.	---*	$ 186.00	$ -0-	$ 186.00	$ -0-
Richland Maint. Co.	---*	28,723.02	14,625.04	28,723.02	-0-
Graysport Constr.Co.	G-187	20,807.80	2,357.80	20,807.80	-0-
West Coast Painters	G-219	46,449.19	-0-	18,640.97	2,071.22
McAtee & Heathe	G-223	45,209.94	-0-	44,803.70	-0-
Lone Pine Roofing & Paving Co.	G-227	7,500.00	750.00	7,500.00	-0-
		$148,875.95	$17,732.84	$120,661.49	$2,071.22

*Total amount of contract will be total of estimates as submitted.

Community Division estimated cash disbursements for September amounted to $48,600 and estimaed cash receipts were $97,500.

COST

REPORTS

The July operating report was completed and distributed on August 19, 1949. The following revisions were made in the report as compared to the 1949 Fiscal Year.

1. Budget amounts shown on the report were completely broken down by Object Classification codes.

2. Report 1A was used to accumulate Grounds Maintenance rather than Public Safety.

3. Report 3, Community Summary, breaks down indirect charges from other Divisions by item.

4. Public Safety, Schedule 1A2, within the General Government Division is shown on a separate sheet rather than combined with General Government. Also the Public Safety functions of Crime Prevention - Richland, Traffic and Accident Prevention - Richland, and Fire Prevention are closed to this section and the total taken to Report 1 rather than using Report 1A as an accumulation sheet.

5. Schools, Schedule 1D1, does not reflect the detailed costs as these were transferred to the General Ledger Account, Accrued Liabilities, and a lump sum representing 1/12 of the anticipated supplemental payments for schools was shown under "other". This was done in anticipation of the schools being handled in the near future as a direct subcontractor to the AEC.

6. Civic Activities - Churches, Schedule 1D4, was opened and utilized to accumulate church costs. These costs previously were included in Civic Activities - Clubs and Organizations.

7. Public Works - Labor, former Schedule 1G4, was further sub-divided.

The July Utility Report was issued September 1, 1949.

The Comptroller's Appropriation and Project Report for July was issued on August 22, 1949.

There were four detailed letters written recommending changes in various phases of Community operation in order to reduce cost. These are now under consideration.

WORK ORDERS

Service orders regarding tenant calls from houses in the Village dropped off greatly after August 1, 1949 which was the effective date when tenants assumed minor maintenance responsibility in the homes. However, the backlog of orders received prior to August 1 were completed.

The following statistics are listed for information:

(A Work Order month runs from 26th of one month to 25th of the following month).

	Number of Service Orders		Total	
Craft	July	August	July	August
1. Plumbing	1,009	1,171	$2,349.45	$2,989.64
2. Electrical	1,168	1,451	3,237.28	3,921.45

3. Heating & Vent.*	241	35	$ 444.57	$ 115.87
4. Glazing	225	325	850.37	1,196.75
5. Lock and Key	149	191	624.10	698.59
6. Carpentry	288	456	660.96	1,226.20
	3,080	3,629	$8,166.73	$10,148.50

*This craft discontinued the first portion of August.

Statistics covering regular work orders

	JULY	AUGUST	NET CHANGE
Active routine orders	467	459	- 8
Active normal orders	635	698	+63
	1102	1157	+55
Work orders received	398	573	
Work orders completed	532	518	
		+55	

GENERAL LEDGER

The July trial balance and supporing financial statements were forwarded to the General Division for consolidation on August 16, 1949

STATISTICS

	NO	AMOUNT
*Second Class Invoices Received	86	$363,028.38
Second Class Invoices Issued	44	149,969.27

* This figure does not include the invoice which transferred prior year's cost to the General Division in the amount of $2,254,028.65.

RHH:jam

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DESIGN DIVISION

AUGUST, 1949

PERSONNEL

Additions

3 Senior Engineers
1 Junior Engineer
1 Draftsman I
1 Designer III
3 Steno-Typist B
2 Senior Engineers on loan
2 A-J Personnel on loan

Separations

1 Assistant Project Engineer
1 Senior Engineer
1 Section Supervisor
3 Steno-Typist B
1 Consultant on loan

Total Number of Employees on Payroll

	Beginning of Month	End of Month	Net Increase or Decrease
Design Division	247	250	+3
On Loan to Design Division	9	12	+3
	256	262	+6

PILE AREA "G" - PROJECT C-300

The Project Proposal for Phase Two of Pile Area "G" development was submitted to the Atomic Energy Commission August 12, 1949.

The estimated expenditures on this project as of September 1st were $210,000. It is estimated that the funds previously authorized in the amount of $250,000 will be substantially expended or committed by October 1st.

Three engineers of the 100 Area Design Section, and one member of the local Atomic Energy Commission office, visited various Atomic Energy installations engaged in reactor development during the latter part of August. The primary purpose of this trip was the assimilation of information pertinent to the current and future development program of the Hanford type reactor. A trip report will be issued during the month of September.

A meeting of the Pile Area "G" Committee was held on August 23, 1949. The purpose of the meeting was to review policy for Committee operation and to establish responsibilities.

PILE AREA "G" - PROJECT C-300 (Continued)

Following is a brief summary of the progress on various projects under development.

Heat Transfer

Arrangements are being made for the use of buildings and services located in the 100-D Area required for process tube heat transfer experiments. Designs are being developed for the test equipment and for the power and piping facilities necessary.

Third Safety Device Development

The main emphasis on the design of the third safety device has been upon the ball-type system utilizing storage hoppers. Consideration is being given to using sheet-rod accesses for the introduction and retention of balls within the unit.

Recirculating Tests

Flow designs for the proposed recirculating tests to be conducted in the "H" Pile have been prepared and are being coordinated with the Technical and "P" Divisions. An estimate of cost is being prepared and the selection of equipment is in progress.

Sheet Rod Development

The first phase of the sheet rod tests is 50% complete. Preliminary tests were encouraging; information to date indicates a rod of this type may be satisfactory providing suitable gas seals can be developed.

Design of gas seals is continuing, but to date no completely satisfactory design has been developed.

Shielding

Structural design of the rear face is continuing and estimates of the temperature distribution have been made. The design is being modified so as to minimize stress concentration due to thermal expansion of the rear face.

Gas System

An economic study is in progress to provide information on the feasibility of gas cooled regulating and shim control rods.

Process Tubing

The tests to measure radial creep of the present 2S aluminum process tubes have been resumed. These tests were previously interrupted by the failure of experimental facilities.

Continuous Charging and Discharging Equipment

A test was made to determine the feasibility of operating television equipment in the radiation zone at the rear face of the pile. This test was completed after a ten day exposure during the month of August.

PILE AREA "G" - PROJECT C-300

Continuous Charging and Discharging Equipment (Continued)

The equipment operated without visible signs of image distortion or adverse effects of radiation upon the unit.

Instrument Development of Rapid Scanning of Process Tube Temperatures

A scheme of using a rotary mercury-jet for commutation in conjunction with regular automatic electric stepping switches is being tested. This looks very promising as mercury jets on stainless steel contacts give very low switching noise level.

DESIGN OF "DR" WATER PLANT - PROJECT C-342

The scope of work for the design of the "DR" Water Plant has been completed and preliminary approval obtained from the Manufacturing Division. A document will be prepared for final approval by September 9, 1949. A preliminary brief of the scope of work (HDC-1397) was prepared for circulation to interested and cleared architect-engineering firms for the purpose of describing the nature of the project. The architect-engineering firms under consideration for this job have been narrowed to C. T. Main Co., and the Bechtel Corporation. Discussions with these two firms are currently in progress.

An investigation of comparative costs of geared turbine drives for process pumps for the 100-DR Water Plant, is being made by the Mechanical, Power and Water Group at the request of the 100 Area Section. The costs of rebuilding direct drive steam turbines now in excess stores into geared drive units, as compared with the costs of buying new geared drive units, are being compared. An investigation is also being made of possible methods of extension of coal conveyor service between coal bunkers in Building 184-D.

Total expenditures on this project are approximately $17,500 as of August 31.

PILE AREA "H" - PROJECT C-165-A

Approximately 75% of the acceptance tests for Area "A", and 80% for Area "B" have been completed. A list of final design changes were agreed upon with the Power and "P" Divisions. Design details covering this final list will be completed by September 2, 1949.

Incomplete data available from creep tests of the slotted process tubes, which were to be used in conjunction with the moderator drying system, indicate that tubes of this type will be unsatisfactory.

Instrumentation

The 3-inch quartz insulated ionization chamber has been tested in a low level neutron flux with results similar to that obtained in a gamma field. A test in an operating pile has been requested.

Tests were conducted at the 100-F Area on neutron sensitive thermopile units which are contemplated for installation in the octant monitoring openings in the H Pile. The location at which these were exposed did not provide sufficient flux to give a significant reading. Installation will proceed without further tests.

REPLACEMENT PILE "DR" - PROJECT C-206-A

Three "As Built" drawings remain to be completed. The drawing schedule is being reworked and is 90% complete.

SIMULTANEOUS OPERATION OF "D" AND "DR" - STUDY GEO-3

Expenditures incurred in connection with this project have been transferred to the Manufacturing Division as "Unusual Expense." The total amount transferred was $22,547.56.

234-5 BUILDING PROGRAM - PROJECT C-198

Schedules were prepared and submitted to the Atomic Energy Commission which were requested in Directive HW-12, Modification 3. These schedules indicated the percentage of completion expected to be achieved on the 15th and last day of each month. These included the design of Phase II and Phase III, construction of Phase II and Phase III, design of entire 234-5 Building Program, and construction of entire 234-5 Building Program, exclusive of the remote mechanical line feature of Phase III.

Technical assistance by the Mechanical, Power and Water Group during operation of Phase I of the projects in Building 234-5 was continued throughout all of the month of August.

Design work in connection with all phases of projects in the 234-5 Building was done by the subject group, as requested by the 234-5 Building Section. This work involved all mechanical equipment of the subject building.

RALA - PROJECT C-343

The directive authorizing design and mechanical development work was issued by the Atomic Energy Commission on August 11, 1949 and received on August 19. However, in the absence of a work authority, no work is being done.

ADDITIONAL WASTE STORAGE FACILITIES

A technical analysis of existing air-cooled condensers for tank farms has been started by the Mechanical, Power and Water Group. The purpose of this analysis is to determine what changes in design will lead to increased effectiveness of these units in meeting current requirements of waste storage equipment. Report to be submitted on or before September 30, 1949.

SOLAR EVAPORATION OF LABORATORY WASTES, GET-13

As directed by PM-1694, dated August 24, 1949, work has been started on a study of the design of a practical system for the solar evaporation of laboratory wastes which will require a minimum of additional energy for the concentration of the waste liquids to convenient volumes.

DEVELOPMENT OF NEW AREAS FOR COMMERCIAL FACILITIES - PROJECT C-288

Liaison work for Architect-Engineer, Design Division, Public Works, and the Atomic Energy Commission on the plans for these projects has continued. The revised scope of work and the plans showing new scope of work were forwarded to the Community Division for approval. When this material is approved, they will be incorporated in the new project proposal.

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PROJECT AND RELATED PERSONNEL - AUGUST 1949

	7-29-49		8-31-49	
GOVERNMENT EMPLOYEES				
Civilian Personnel - ATOMIC ENGERGY COMMISSION	330		329	
Civilian Personnel - G. A. O.	8		8	
Total		338		337
RICHLAND VILLAGE PERSONNEL				
Commercial Facilities (Includes No. Richland)	1,201		1,146	
Organizations, Clubs, Etc.,	85		82	
Schools	317		352	
Churches	25		25	
Total		1,628		1,605
MORRISON-KNUDSEN PERSONNEL (Columbia Camp)		3		-
CONSTRUCTION SUB-CONTRACTORS				
Atkinson-Jones	1,984		1,601	
Newberry Neon	560		421	
Urban, Smyth, Warren Co.,	760		462	
Kellex Corp.,	230		314	
J. Gordon Turnbull	17		17	
Giffels & Vallet, Inc.,	37		35	
Morrison-Knudsen Co.,	8		1	
C. C. Moore	34		-	
Curtis Sand & Gravel	14		-	
National Carbon Co.,	145		55	
J. A. Terteling & Son	35		126	
McNeil Construction Co.,	12		9	
Haughton Elevator Co.,	3		3	
E. J. Bartells Co.,	46		52	
Combustion Eng. Co.,	1		1	
Indust. Eng. & Contractors	12		-	
National Blower & Sheetmetal	8		5	
Warsaw Elevator	-		-	
Scott-Buttner	11		6	
Howard P. Foley	13		31	
No. Electric Mfg. Co.,	17		17	
Newport-Kern-Kibbe	-		51	
Great Lakes Carbon	130		134	
Graham, Anderson, Probst & White Inc.,	17		17	
Anning-Johnson	7		-	
McCorkle Const. Co.,	25		42	
Daley Bros.,	-		36	
Edmund P. Erwen	15		18	
J. B. Head	-		3	
Link-Belt	2		-	
Total		4,143		3,457
GENERAL ELECTRIC PERSONNEL		7,385		7,522
GRAND TOTAL		13,497		12,921

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