RED LABEL

PRIVACY ACT MATERIAL REMOVED

[redacted]

HW 17410 DEL

727807

DECLASSIFIED

[redacted]

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

31539

[redacted]
CLASSIFICATION REVIEW FOR DECLASSIFICATION BUT LEFT UNCHANGED
By [redacted] 5-[redacted]-73
AEC Division of Classification

REPOSITORY PNL
COLLECTION Atmospheric Releases
BOX No. N/A
FOLDER N/A

April 20, 1950

HANFORD WORKS

MONTHLY REPORT

MARCH 1950

Classification Cancelled And Changed To
DECLASSIFIED
By Authority of WA Snyder 6-13-91
RLO-CG-4
By J E Savely 8-7-91
Verified By TL Burdette 8-9-91

[redacted]

CAUTION

This document contains [redacted] affecting the National Defense of the United [redacted]. Its transmission or the disclosure of its [redacted] in any manner to an unauthorized person is prohibited and may result in severe criminal penalties under applicable Federal laws.

This Document Consists of

345 Pages. No. 8

of 16 Copies. Series [redacted]

THIS DOCUMENT IS PUBLICLY AVAILABLE

PRIVACY ACT MATERIAL REMOVED

DECLASSIFIED

THIS DOCUMENT HAS BEEN SCANNED AND IS STORED ON THE OPTICAL DISK DRIVE

[redacted]

1220233

[redacted]

HW 17410
April 20, 1950

TABLE OF CONTENTS

General Summary 3

Staff 14

Force Report 15

Personnel Distribution 16

Manufacturing Divisions 26
- Plant Statistics 28
- Production Divisions
  - P Division 32
  - S Division 44
  - Power Division 58
- Mechanical Divisions
  - Instrument Division 63
  - Maintenance Division 68
  - Electrical Division 72
  - Transportation Division 76
- Project Engineering Divisions 80

Technical Divisions 94
- Pile Technology Division 96
- Separations Technology Division 110
- Technical Services Division 128

Medical Division 145

Health Instrument Division 155

General Accounting Division 179

Plant Security and Services Divisions 202

Purchasing and Stores Divisions 234

Employee and Community Relations Division 245

Community Divisions 280
- Public Works 281
- Commercial Facilities 295
- Community Housing 297
- Community Safety 302
- Community Fire 304
- Community Patrol 308
- Community Activities 318
- Community Accounting 324

Design and Construction Divisions 328

Project and Related Personnel 345

1220234

[redacted]

[redacted]

GENERAL SUMMARY

MARCH 1950

MANUFACTURING DIVISIONS

Production Divisions

A total of 54.0 tons of metal was discharged including all remaining Class I and Class II material, thus leaving the piles charged with nothing but Class V material. Forty-one tons were at the goal concentration, and 10 were at 132 percent of the goal concentration. The pile operating efficiency was 93.5 percent, which is a new high for four pile operation. The operating levels at month end were 275 MW at B pile, 305 MW at D and F piles, and 345 MW at H pile. The CO_2 concentration in the circulating gas was 96 percent, 80 percent, 60 percent, and 92 percent at B, D, F, and H piles, respectively.

A total of 92 tons of acceptable slugs was canned at a yield of 93.0 percent. This new high record production for one shift was reached despite the transfer of 13 operators from the 300 Area during the month. The machining yield of 77.3 percent matched last month's record high. The Melt Plant produced 24 tons of billets at a yield of 68.2 percent. This represents a record production for one shift operation. The canning of enriched uranium alloy slugs for the P-10 program was started.

A total of 81 batches was started in the Canyon Buildings, 81 were processed through the Concentration Buildings, and 88 were completed through the Isolation Building. The average for completed batches was 98.6 percent.

Mechanical Divisions

The Division's backlog of scheduled work shows a decided upward trend. For example, railroad car movements increased to 2,978 for March as compared with 1,433 in February.

The electrical peak demand for March of 78,200 KW is a substantial reduction from the February all time high of 88,200 KW.

The first application of immersion welding of tantalum in carbon tetrachloride was performed.

The program to reduce inactive stores inventories resulted in the excessing of $29,720 of materials.

TECHNICAL DIVISIONS

Pile Technology Division

The major effort of the Physics Section involved planning for the loading of the central 600 tubes of the H Pile for increased P-10 production. Experimental work in the DR Pile is being planned to determine the optimum loading arrangement.

A large development program for extraction phases of the P-10 program has been initiated.

Improvements have been effected in the method of canning P-10 fuel slugs.

An improved pile start-up procedure, which has significant advantages over the conventional "reduced power" start-up procedure, was demonstrated.

Precise measurements of the curvature near the inner end of the gun barrel in top central tubes of the piles show that the worst condition prevails at the F Pile, with a radius of curvature of 660 inches.

Development of equipment for insuring complete transformation of production slugs is continuing.

Separations Technology Division

The first of ca. 450 MWD/ton metal is now being processed in the Separations Plants under close observation. The causes of higher-than-normal product hold-up obtained in recent B Plant Acid Wash Runs are being investigated. Metathesis time cycle shortening by production testing has been satisfactorily obtained and variations in the Isolation Building final product solution volume are being studied via production tests in an effort to improve product accountability and transfers between Buildings 231 and 234. Improvements in Building 234 Dry Chemistry conversion yields are being attempted. Accumulated "scow sweepings" from Dry Chemistry operations have been separately reduced to plutonium metal buttons which are being stored for future recovery operations.

In Redox and Metal Waste Recovery process development, 61 additional solvent extraction column runs were made during the past month, all on TBP process studies. Packed column performance with Shell Deodorized Spray Base as the TBP diluent was poorer than that with Stoddard Solvent previously reported. Additional pulse column runs under optimum conditions have produced waste losses of 0.1 - 0.2% for both the RA and RC Columns for effective "packed" heights of only 5.4 ft. Redox pump testing has advanced satisfactorily to the point where pump specifications for Production Plant design are now being established.

In the research laboratory, Redox studies have eliminated previous concern about possible plutonium precipitation in product streams, and additional scavenging and ozonization data have been obtained. TBP process

studies have included dispersion studies in liquid-liquid extractors, acid butyl phosphates formation and properties, fluoride complexing, and decontamination behavior of various TBP diluents. Process scouting for Building 234-5 operations has involved studies of nitric acid recovery leaching of slag and crucible wastes, "electroless" plating of nickel on plutonium, and coupling of Redox solutions to Building 234 operations. Various potential methods of separating aluminum and U^{235} are being investigated as a necessary requisite to the development of a more desirable process for the recovery of "25".

In the 234-5 process development laboratory, the study of substitution of peroxide for oxalate purification has been continued. A design basis for plutonium "skull" recovery has been issued. Considerable improvement has been made in producing plutonium cores that will pass through the "Go" gage in all directions. Improvements in radiographic methods and techniques have been obtained.

Investigation of sub-normal T Plant sand filter efficiencies has revealed the filter to be saturated with water from steam leaks into the ventilation duct and previous cell flushes. Unusually large quantities of iodine have been trapped in the filter and appear to be the cause of low "apparent" filter efficiency. The steam leaks have all been corrected and the filter bed is being dried out slowly. Pilot runs on the silver reactor for iodine removal and Fiberglas particle filters are being accelerated.

Technical Services Division

Rala laboratory design work continued in the Analytical Section on a 6-day week basis, and fabrication was initiated on several phases of the necessary mock-up in Building 101. Sample sizes and analytical methods continued under study and techniques were proposed for the adequate evaluation of total iodine and I^{131} in gases to be evolved during the dissolution of Rala slugs.

The spontaneous fission counter was received from KAPL and is being installed in the T Plant control laboratory for Analytical Section use with the alpha pulse analyzer in the determination of individual plutonium isotopes in Hanford process materials.

The Analytical Section has initiated a survey of all analytical procedures presently employed in the control of the separations process, with a view to introducing improved methods wherever possible. Particular attention is being given initially to the AT assay.

Shipment to the du Pont Company of copies of essentially all classified records accumulated by the Operation's Central Files during du Pont's tenure at Hanford was made on March 29. This material, comprising 263 packing cases, covers the period from the fall of 1943 through August 31, 1946. Only about 4 packing cases, consisting of records presenting special documentation problems, remain to be processed.

Initial steps were taken to centralize in the Information Group the control of code designations used at Hanford. Meetings were held with representatives from Manufacturing, H. I., Technical, and Design and Construction, and a draft of an Instructions Letter on the subject is being prepared.

HEALTH INSTRUMENT DIVISIONS

The force increased by nine. Four special hazards incidents occurred.

The results of the Operational Division and of the control phases of the Biology and Development Divisions followed normal patterns. Review of past data showed borderline evidence of some accumulation of plutonium in the 234-5 Building personnel.

PLANT SECURITY AND SERVICES DIVISIONS

There were no major injuries during the month. Major injuries for the year remain at one, a frequency rate of 0.27.

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

Volume in both the 700 and 200-West Area laundries increased slightly over January and February.

Work load continues to increase in the Clerical Services Section, particularly in the Printing Section where there is a backlog of three weeks work on multilith orders.

The Records Control Division is now reviewing files in various divisions and setting up retention periods on office and record files. A tabulation of the volume of duplicate material that can be disposed of shows a total of 52.5 percent in the Security and Services Divisions.

On March 9 the preliminary group of the 518th AAA Battalion moved into the Hanford Project and established camp, with the main force arriving at Hanford Works at 1:00 a.m., March 14. This entire force consisted of 1,000 officers and enlisted men. Then 240 mechanized attaches signal corp, engineers and quartermaster troops arrived to increase the number in camp to 1,300. Later during the month, part of the group was moved out of this area, reducing the number stationed at Hanford Works to 900.

Four additional battalions of the 31st AAA Brigade will move in in the near future.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

A total of 1,950 applicants were interviewed during March, 489 of which were individuals who applied for employment with the Company for the first time. In addition, 271 applications were received through the mail. Open requisitions increased from 103 at the beginning of March to 152 at the end of the month. Total plant personnel increased from 7,464 to 7,565. Turnover

rate decreased from 0.899% in February to 0.35 % in March. Investigation of certain employees of commercial facilities operators was discontinued effective March 9. The responsibility for determining that all employees in a particular seniority group have been considered for upgrading prior to transferring employees or engaging employees from the outside was transferred from the Wage Rate Division to the Employment Group effective March 22.

The constitution and by-laws for the proposed G. E. Employees Services Fund were completed and discussed with the HAMTC during March. The plant American Red Cross Drive for 1950 resulted in contributions totalling $13,235.58, or 88.8% of the quota allotted. Six divisions exceeded their quota. The State Director of Selective Service and the local Board Chairman advised during a visit that all single registrants under the Selective Service Act are being classified as rapidly as possible. There were 237 visits made to employees off work because of illness. Four employees retired and one employee death occurred during March. Seventeen suggestion awards, totalling $150, were granted to employees during March. These awards represented an estimated saving of $733.80. Approval has been granted to the Travelers Insurance Company to settle the claim of James G. Oestreicher for the death of his wife in the amount of $30,000. The Board of Insurance Appeals sustained a decision of the Department of Labor and Industries refusing the claim of William D. Shaw who had alleged that he had received a hernia while employed by a subcontractor. Estimated savings resulting from this decision was approximately $500.

Thirty-four supervisors participated in the 40-Hour Training Program during March, which included a luncheon for all participants during the last day of this Program. The Current Event Economics Program for exempt employees, started in February, was extended into March with a total of 803 exempt employees participating during the two months. Seventy-five meetings were held for non-exempt employees on the Current Event Economics Program during March. This program will extend into April, and 2,900 non-exempt employees have already participated. Information meetings for all exempt employees on the Employee Benefit Status Report were held during the last week of March and will extend one week into April. Four additions and six revisions to the Supervisor's Handbook on Employee Relations were distributed during March. A representative of the Training and Program Development Group participated in a conference in New York City on the Labor Law Training Program which is being developed by the New York Office.

Certification of the Industrial Firemen's Union as part of the HAMTC was received from the NLRB, after which negotiating meetings were held. A notice was distributed to all supervisors that the present Agreement with the HAMTC would continue in force for another year. In reply to a request for decertification of the HAMTC, and in answer to a letter received from the CIO seeking recognition, the Company took the position that it would recognize only organizations certified by the NLRB. Two meetings were held with the Council Grievance Committee. The analysis of the wage rate survey revealed that our margin over other companies in the Area has decreased since the 1948 Survey from 12.5% above the community to 8.5%. A survey was made of rates of pay for industrial firemen in the community. As a result of the Trades Council decision to work Pacific Standard Time during the coming months when the Project will be operating on Daylight Saving Time, a survey

was instigated to determine the extent to which such action would affect the over-all continuity of Operations. The dispute over retroactive payments to Plumbers and Steamfitters for travel during April, May, June and July, 1948, was resolved with the plumbers returning to work on March 27.

During the month the News Bureau supervisor, together with others in Community and Public Relations, assisted in the preparation of statements for the local newspapers concerning the possibility of a shutdown of construction work because of the refusal by the Plumbers Union to supply workmen for two companies concerned with plumbing work. The resulting publicity in the newspapers was instrumental in keeping tri-city area residents informed concerning the matter, and it was possible through this method to obtain factually correct stories and to place a final story which announced the reaching of an agreement by which plumbers would be sent to the job.

Through the medium of a press conference, the desires of newspaper representatives serving Richland were fulfilled regarding the Richland Town Plan. Working cooperatively, the News Bureau supervisor and the supervisor of Community Divisions Public Information set up a conference at which copies of the plan were made available to newspaper representatives, and the Community Manager for General Electric, the A. E. C. Community Management Chief, and a representative of the firm which developed the plan answered questions by the newsmen.

The special Safety Supplement commemorating the accomplishment of a third year of operation without a lost-time injury in 100-D Area was completed by Special Programs and inserted in Hanford Works NEWS during the month.

A strike of the personnel of the printer of Hanford Works NEWS caused the editor considerable delay and extra effort during the month. Although the paper was published for one week after the beginning of the strike, the publisher requested that another printer be found to take over the paper for subsequent weeks. Quotations were requested from all printers in the Tri-City Area. The only quotation obtained was from COLUMBIA BASIN NEWS.

The arrival of Army personnel to conduct maneuvers and set up necessary installations on the Hanford Project aroused interest among Richland residents to such an extent that it was necessary that the Community Divisions Public Information supervisor give attention to the satisfying of questions concerning recreation facilities which would be made available to Army personnel.

Arrangements were made for three speaking engagements during the month. These were: A talk by the Employee and Community Relations Manager before all senior and junior classes of Columbia High School, a popularized talk by a member of the Hanford Works Project Engineering Divisions concerning work in an atomic energy plant for the Richland Rotary Club, and a talk by a member of the Technical Recruiting Group before the Benton City P.T.A.

A special visualizer presentation, together with the talk to be used in making the presentation, was prepared for the Employee and Community Relations Divisions Manager. The presentation is to be made before the Atomic Energy Commission Personnel Information Panel at the Knolls Laboratory in Schenectady on April 4, 5, and 6.

PURCHASING AND STORES DIVISIONS

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

	Total Personnel as of 2-28-50	Total Personnel as of 3-31-50	Net Change
Exempt	53	55*	Plus 2
Non-Exempt	238	245**	Plus 7
Totals	291	300	Plus 9

* Includes 5 Administrative personnel not shown on divisional reports.
** Includes 4 Administrative personnel not shown on divisional reports.

The work load in Purchasing, Stores, and Traffic continued to increase during the month.

In order to keep current with the work, it was found necessary, after a survey, to work selected groups in both Purchasing and Stores Divisions overtime on one weekend.

The General Chemical Division, Allied Chemical and Dye Corporation, was the successful bidder on our Aluminum Nitrate requirements. This will necessitate the building of a new plant at a location within 50 miles of the Project.

The coal strike was settled during the month, coal shipments resumed, and at month end our inventories were rapidly being brought to safer levels.

Materials valued at $71,271.74 were declared excess from Stores active inventories.

The disposition of buildings and equipment at Columbia Camp was progressing satisfactorily at month end.

Materials and equipment valued at $492,078.02 were removed from excess inventories for use on the Project.

Negotiations with the California-North Coast Rail Lines resulted in a reduction in freight on Soda Ash in carload lots of approximately $80 per car.

Savings as a result of rate reductions obtained by the Traffic Section amounted to $116,187.85.

COMMUNITY DIVISIONS

Pending applications for housing increased by 23 percent from 203 to 261.

Four new commercial facilities opened for business.

Community Fire Division began operation on a two platoon system as of March 20, 1950.

The United States Chamber of Commerce notified local Chamber of Commerce officials that Richland had won second place in the nation for cities of 20,000 to 50,000 population in its 1949 Fire Waste Contest with an honor certificate to be awarded at a later date.

Nineteen employees were added to the Public Works rolls in order to meet the requirements of seasonal grounds maintenance work.

MEDICAL DIVISIONS

The Medical Divisions' roll changed little, from 361 to 362.

By mutual agreement with the Clinic Physicians and Dentists, May 1, 1950 has been designated as the date for change to private practice.

There was a general increase in industrial medical services due to increased sub-contractor activity.

Weekly employee sickness absenteeism was 1.93% vs 2.06% a year ago.

The hospital census remained constant while the clinic and public health nursing visits increased due to an increase in relatively mild illness.

The net cost of operating the Medical Divisions (before assessments tc other divisions and workmen's compensation costs) was $85,529, an increase of $2,249, due largely to decrease in revenue. The net cost was $26,645 below the budget figure.

GENERAL ACCOUNTING DIVISION

Effective March 1, 1950 an Internal Audit Section was established with responsibilities for developing an internal audit program for Hanford Works, developing related audit procedures, and undertaking the audits indicated by such program. The development of the audit program and preparation of necessary procedures has progressed to the point where regular audits can begin next month.

Audits of General Electric expenditures by both the Atomic Energy Commission and the General Accounting Office are on a current basis. As of March 31, 1950 three unanswered informal inquiries from GAO are on hand. Two of these concern work order procedures and one concerns payments made to shift workers. They advised that there are a number of other questions which may

or may not be put in the form of Informal Inquiries regarding G-E expenditures which are now in process of audit. There were no unanswered inquiries from the AEC Audit Branch.

Budget Estimates for Fiscal Year 1952 and revisions of the 1950 and 1951 Budgets were completed during the month and are ready for submission to the A & B Committee for their review. These included necessary summaries with supporting details, together with narrative justifications for Research and Development, P-10 Production, and Construction Budgets.

Accounts Payable volume sharply increased as evidenced by the fact that the number of vouchers booked in March exceeded those of the previous month by 41% and purchase orders received on which subsequent billings will be made increased 71%. Paid vouchers are being currently processed and cleared by AEC and only nine unapproved vouchers remain on hand which are over 60 days old.

Arrangements were completed during March, and approval of the Atomic Energy Commission was obtained, concerning the forwarding of delinquent accounts receivable to the Yakima Adjustment Service of Yakima, Washington for further action prior to their assignment to AEC. Cost of this service to us is 50% of amounts collected.

Studies were made regarding routines relative to the inclusion in Plant accounts of charges of a capital nature originating from work orders. Procedures are being developed whereby the recording of this information is to become a part of an established routine.

Unit cost studies and reports which have been issued in the past were revised and improved. Plans were made to expand the present reporting of unit costs and to furnish management with pertinent information which heretofore has not been presented.

At conferences attended by representatives of the Medical and Community Divisions, General Accounting Division, and the Atomic Energy Commission a rental rate was established for space to be rented to doctors in private practice.

Payroll Deductions for Red Cross subscriptions were made in March from salaries of 1,129 employees. Check in the amount of $3,303.29 covering these deductions will be made payable to the American Red Cross and forwarded to the Chairman of the Hanford Works Red Cross Drive.

During March, the HAMTC presented 117 new authorization cards for deduction of Union Dues from salaries of employee members of seven unions. The total number of Union members who have authorized payroll deductions of Union Dues as of March 31 was 316.

A plan for purchase of safety shoes by payroll deductions was recommended by the Employee and Community Relations Division in February. Permission to make payroll deductions for safety shoes under the Copeland Act regulations was received from the Secretary of Labor in March. The Safety

Division indicated a desire to make the Plan effective as promptly as possible. Accordingly, representatives of the Payroll Divisions prepared a Payroll Deduction Authorization which was subsequently approved by the Legal Division and a draft of a proposed accounting procedure which had been discussed with representatives of Purchasing and Stores, Safety Division, and the General Accounting Division. The accounting procedure and payroll deduction authorization were forwarded to Employee and Community Relations Division for preparation of a H. W. Instructions Letter covering purchase of safety shoes by payroll deductions. It is expected that the Plan will be placed into effect on April 15, 1950.

During March, salary adjustments retroactive to April 11, 1949, amounting to $6,807.37, were made to 49 employees. As of March 31, 1950, the total amount of salary adjustments made under the Union Agreement was $236,456.78, paid to 5,106 employees.

Approximately 1,400 man hours were expended by Payroll Divisions in preparing statements of each individual employee's personal participation in the principal General Electric Employee Benefit Plans as of December 31, 1949. It is expected that these personal statements, together with the pamphlet "A Report on General Electric's Employee Benefit Plans", will be delivered to employees in April.

Reimbursement Authorization No. 89, covering the Two-Platoon System of Operation in the Community Fire Division, was received in February. Representatives of the Community Division, Union Relations and Wage Rate Division, and Accounting Division met early in March for the purpose of discussing various phases of the Two-Platoon System with respect to salary payment practices. Agreement was reached as to the payment practices to be followed, and the Two-Platoon System was inaugurated on March 20, 1950. Additional approvals where required, with respect to payment practices, will be secured by the Union Relations and Wage Rate Division.

As a result of a survey being conducted by representatives of Booz, Allen and Hamilton, schedules have been prepared in recent months covering all divisions of the Hanford Works listing certain information with respect to exempt personnel.

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

[redacted]

General Summary

	February	March
Disbursements		
Material and Freight - GE	$ 607 297	$ 779 692
Payrolls - GE (net)	1 673 095	2 037 116
Payments to Subcontractors	986 867	1 805 822
Pension Plan - Company's Cost	1 194 626	-0-
Other	946 182	1 298 156
Total	5 408 067	5 920 786
Receipts		
House Rents	101 465	104 320
Hospital and Clinic	67 915	82 858
Telephones	10 105	13 117
Bus Fares	11 416	11 556
Other	22 988	92 690
Total	213 889	304 541
Net Disbursements	$5 194 178	$5 616 245

[redacted]

STAFF

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

FORCE REPORT
MARCH - 1950

	NON EXEMPT		EXEMPT		TOTAL	
	2-28-50	3-31-50	2-28-50	3-31-50	2-28-50	3-31-50
GENERAL	27	30	17	17	44	47
LAW	3	3	3	3	6	6
DESIGN & CONST. DIV'S.						
CONSTRUCTION	28	37	6	7	34	44
CONST. ACCT'G.	58	59	9	10	67	69
DESIGN	185	202	192	192	377	394
NO. RICHLAND REALTY	66	72	17	18	83	90
MANUFACTURING DIV'S.						
GENERAL	4	4	12	12	16	16
PROJ. ENG'R. CONTROL	18	19	23	23	41	42
PROJ. ENG'R. DESIGN	66	67	42	45	108	112
PROJ. ENG'R. MINOR CONST.	167	170	30	30	197	200
MFG. ACCOUNTING	46	49	8	8	54	57
OPERATING DIV'S.						
"P"	274	272	66	69	340	341
"S"	296	303	85	89	381	392
POWER	455	456	82	82	537	538
MECHANICAL DIV'S.						
MAINTENANCE	310	307	52	52	362	359
ELECTRICAL	253	253	48	48	301	301
INSTRUMENT	192	191	48	48	240	239
TRANSPORTATION	538	541	57	57	595	598
TECHNICAL DIV'S.						
GENERAL	2	2	3	3	5	5
PILE TECHNOLOGY	44	50	82	83	126	133
SEPARATIONS TECHNOLOGY	58	59	95	96	153	155
TECHNICAL SERVICES	341	350	109	111	450	461
MEDICAL	279	282	81	80	360	362
H. I. DIVISIONS						
GENERAL	4	4	3	3	7	7
H. I. OPERATIONAL	152	159	59	59	211	218
H. I. DEVELOPMENT	69	68	23	22	92	90
H. I. BIOLOGY	29	32	21	21	50	53
ACCT'G. DIV'S.						
GEN. ACCT'G. PAYROLL	76	72	8	8	84	80
GEN. ACCT'G. ACCT'G.	76	77	15	14	91	91
EMPLOYEE & COMMUNITY RELATIONS DIV.	54	57	28	29	82	86
PLANT SECURITY & SERVICE DIV'S.						
PATROL & SECURITY	520	523	56	57	576	580
SAFETY & FIRE	114	114	35	35	149	149
GEN. & OFF. SERV.	197	201	20	21	217	222
PURCHASING & STORES DIV'S.						
PURCHASING	38	40	34	38	72	78
STORES	200	206	26	23	226	229
COMMUNITY DIV'S.	586	506	144	215	730	721
GRAND TOTALS	5825	5837	1639	1728	7464	7565

PERSONNEL DISTRIBUTION MARCH - 1950

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
GENERAL												
Clerical	-	-	-	-	-	-	-	-	-	-	17	17
Total	-	-	-	-	-	-	-	-	-	-	30	30
	-	-	-	-	-	-	-	-	-	-	47	47
LAW												
Clerical	-	-	-	-	-	-	-	-	-	-	3	3
Total	-	-	-	-	-	-	-	-	-	-	3	3
	-	-	-	-	-	-	-	-	-	-	6	6
DESIGN & CONST. DIVISIONS												
CONSTRUCTION												
Supervisors	-	-	-	-	-	-	-	-	-	5	-	5
Inspectors	-	-	-	-	-	-	-	-	-	2	-	2
Clerical	-	-	-	-	-	-	-	-	-	37	-	37
Total	-	-	-	-	-	-	-	-	-	44	-	44
CONST. ACCT'G.												
Supervisors	-	-	-	-	-	-	-	-	-	10	-	10
Clerical	-	-	-	-	-	-	-	-	-	59	-	59
Total	-	-	-	-	-	-	-	-	-	69	-	69
DESIGN												
Supervisors	-	2	-	-	-	-	-	-	-	10	37	49
Engineers & Estimators	-	6	-	-	-	-	-	-	-	14	116	136
Exempt Others	-	-	-	-	-	-	-	-	-	5	2	7
Draftsmen	-	-	-	-	-	-	-	-	-	-	63	63
Clerical	-	1	-	-	-	-	-	-	-	19	105	125
Others	-	-	-	-	-	-	-	-	-	-	14	14
Total	-	9	-	-	-	-	-	-	-	48	337	394

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
DESIGN & CONST. DIV'S.												
NO. RICHLAND REALTY												
Supervisors	-	-	-	-	-	-	-	-	-	18	-	18
Clerical	-	-	-	-	-	-	-	-	-	14	-	14
Janitors	-	-	-	-	-	-	-	-	-	29	-	29
Others	-	-	-	-	-	-	-	-	-	29	-	29
Total	-	-	-	-	-	-	-	-	-	90	-	90
MANUFACTURING DIV'S.												
GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	6	6
Engineers	-	-	-	-	-	-	-	-	-	-	6	6
Clerical	-	-	-	-	-	-	-	-	-	-	4	4
Total	-	-	-	-	-	-	-	-	-	-	16	16
PROJ. ENG'R. CONTROL												
Supervisors	-	-	-	-	-	-	-	1	-	-	7	8
Engineers	-	-	1	-	-	-	-	1	-	-	13	15
Clerical	-	-	-	-	-	-	-	-	-	-	14	14
Craftsmen	-	-	-	-	-	-	-	-	1	-	4	5
Total	-	-	1	-	-	-	-	2	1	-	38	42
PROJ. ENG'R. DESIGN												
Supervisors	-	-	-	-	-	-	3	1	-	-	33	37
Engineers	-	-	-	-	-	-	-	-	-	-	8	8
Clerical	-	-	-	-	-	-	-	-	-	-	7	7
Others	-	-	1	-	-	-	5	2	5	-	47	60
Total	-	-	1	-	-	-	8	3	5	-	95	112
PROJ. ENG'R. MINOR CONST.												
Supervisors	-	-	-	-	-	-	-	-	24	-	3	27
Engineers	-	-	-	-	-	-	-	1	2	-	-	3
Craftsmen	-	-	-	-	-	-	-	-	158	-	-	158
Clerical	-	-	-	-	-	-	-	-	11	-	1	12
Total	-	-	-	-	-	-	-	1	195	-	4	200

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
MFG. ACCOUNTING												
Supervisors	-	-	-	-	-	-	-	-	-	-	8	8
Clerical	-	-	-	-	-	-	-	-	-	-	49	49
Total	-	-	-	-	-	-	-	-	-	-	57	57
OPERATING DIV'S.												
"P"												
Supervisors	9	11	10	11	-	-	-	14	-	-	2	57
Supv. in Training	1	1	1	-	-	-	-	1	-	-	-	4
Engineers	2	-	-	-	-	-	-	-	-	-	6	8
Operators	40	43	38	36	-	-	-	99	-	-	-	256
Clerical	2	2	2	2	-	-	-	4	-	-	4	16
Total	54	57	51	49	-	-	-	118	-	-	12	341
"S"												
Supervisors	-	-	-	-	-	14	34	-	-	-	3	51
Supv. in Training	-	-	-	-	-	5	8	-	-	-	3	16
Engineers	-	-	-	-	-	-	9	-	-	-	13	22
Operators	-	-	-	-	-	105	171	-	-	-	-	276
Clerical	-	-	-	-	-	6	16	-	-	-	5	27
Total	-	-	-	-	-	130	238	-	-	-	24	392
POWER												
Supervisors	12	13	12	12	-	5	8	5	1	-	2	70
Engineers	-	4	-	-	-	-	-	-	8	-	-	12
Operators	78	78	79	78	-	27	48	11	14	-	-	413
Clerical	1	1	1	1	-	-	1	-	4	-	2	11
Coal Handling	6	6	6	6	-	-	7	1	-	-	-	32
Total	97	102	98	97	-	32	64	17	27	-	4	538

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
MECHANICAL DIV'S. MAINTENANCE												
Supervisors	1	6	8	4	-	4	15	6	-	-	2	46
Engineers	-	-	-	-	-	-	-	-	-	-	6	6
Craftsmen	17	38	35	25	-	36	82	48	-	-	-	281
Clerical	-	-	3	1	-	2	2	2	-	-	1	11
Others	1	1	3	2	-	3	3	2	-	-	-	15
Total	19	45	49	32	-	45	102	58	-	-	9	359
ELECTRICAL												
Supervisors	1	2	2	3	-	1	5	2	17	-	10	43
Engineers	-	-	-	1	-	-	-	1	1	-	2	5
Craftsmen	12	12	14	15	-	11	15	11	70	-	29	189
Clerical	1	-	1	1	-	-	1	1	4	-	25	34
Operation	4	4	4	4	-	-	-	-	10	-	-	26
Others	-	-	-	-	-	-	2	-	1	-	1	4
Total	18	18	21	24	-	12	23	15	103	-	67	301
INSTRUMENT												
Supervisors	2	2	2	3	-	2	6	8	-	-	4	29
Engineers	-	1	-	-	-	-	2	10	1	-	5	19
Craftsmen	13	14	14	14	-	14	35	53	-	-	11	168
Clerical	-	1	1	-	-	1	2	6	2	-	3	16
Others	-	-	-	-	-	-	-	7	-	-	-	7
Total	15	18	17	17	-	17	45	84	3	-	23	239

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
MECHANICAL DIV'S.												
TRANSPORTATION												
Supervisors	2	3	1	1	-	2	1	1	7	-	34	52
Engineers	-	-	-	-	-	-	-	-	-	-	5	5
Bus Drivers	-	-	-	-	-	-	-	-	-	-	165	165
Journeymen	1	3	3	5	-	5	5	-	12	-	69	103
Trainmen	-	-	-	-	-	-	-	-	24	-	-	24
Servicemen	1	10	3	2	-	3	4	4	8	-	18	53
Clerical	1	1	1	1	-	1	1	1	1	-	20	28
Equipment Operation	3	6	4	4	-	3	6	4	15	-	33	78
Others	10	14	2	2	-	10	4	2	11	-	35	90
Total	18	37	14	15	-	24	21	12	78	-	379	598
TECHNICAL DIV'S.												
TECHNICAL GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	3	3
Clerical	-	-	-	-	-	-	-	-	-	-	2	2
Total	-	-	-	-	-	-	-	-	-	-	5	5
PILE TECHNOLOGY												
Supervisors	2	-	1	1	1	-	-	12	-	-	-	17
Metallurgists & Eng'r.	11	5	-	-	-	-	-	29	-	-	-	45
Physicists	1	2	1	4	2	-	-	11	-	-	-	21
Tech. Grads.	1	-	1	-	-	-	-	2	-	-	-	4
Laboratory Assistants	11	4	1	6	4	-	-	8	-	-	-	34
Clerical	-	-	-	1	-	-	-	6	-	-	-	7
Others	5	-	-	-	-	-	-	-	-	-	-	5
Total	31	11	4	12	7	-	-	68	-	-	-	133

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
TECHNICAL DIV'S.												
SEPARATIONS TECHNOLOGY												
Supervisors	-	-	-	-	-	1	4	14	-	-	1	20
Chemists - Chem. Engr's.	-	-	-	-	-	5	11	58	-	-	2	76
Tech. Grads.	-	-	-	-	-	-	-	2	-	-	-	2
Clerical	-	-	-	-	-	-	3	7	-	-	1	11
Chem. Operators	-	-	-	-	-	-	1	33	-	-	-	34
Others	-	-	-	-	-	-	-	12	-	-	-	12
Total	-	-	-	-	-	6	19	126	-	-	4	155
TECHNICAL SERVICES												
Supervisors	-	-	-	2	3	5	12	29	-	-	4	55
Chemists & Engr's.	1	1	1	-	8	-	3	39	-	-	3	56
Technologists, Tech. Grads.	-	-	-	3	2	6	25	28	-	-	-	64
Lab. Assts.	-	-	-	5	-	32	61	66	-	-	-	164
Clerical	-	-	-	1	1	2	4	38	-	-	33	79
Others	-	-	-	-	29	-	-	14	-	-	-	43
Total	1	1	1	11	43	45	105	214	-	-	40	461
MEDICAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	33	33
Physicians	-	-	-	-	-	-	-	-	2	3	23	28
Dentists	-	-	-	-	-	-	-	-	-	1	9	10
Other Exempt	-	-	-	-	-	-	-	-	-	-	9	9
Technicians	-	-	-	-	-	-	-	-	4	5	12	21
Nurses	1	4	4	1	-	4	5	2	-	3	66	90
Clerical	-	-	-	-	-	-	1	-	3	10	69	83
Others	-	-	-	-	-	-	-	-	-	2	86	88
Total	1	4	4	1	-	4	6	2	9	24	307	362

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
H. I. DIVISIONS												
GENERAL												
Supervisors	-	-	-	-	-	-	-	-	-	-	3	3
Clerical	-	-	-	-	-	-	-	-	-	-	4	4
Total	-	-	-	-	-	-	-	-	-	-	7	7
OPERATIONAL												
Supervisors	2	1	1	2	-	2	5	8	-	-	1	22
Engineers	5	5	5	5	-	5	9	2	-	-	1	37
Clerical	-	-	-	1	-	-	1	1	-	-	-	3
Others	11	16	10	14	-	18	36	41	9	-	1	156
Total	18	22	16	22	-	25	51	52	9	-	3	218
DEVELOPMENT												
Supervisors	-	-	-	-	-	1	4	4	-	-	-	9
Engineers	-	-	-	-	-	5	3	4	-	-	1	13
Clerical	-	-	-	-	-	2	1	2	-	-	-	5
Others	-	-	-	-	-	12	26	16	-	-	9	63
Total	-	-	-	-	-	20	34	26	-	-	10	90
BIOLOGY												
Supervisors	-	-	6	-	-	-	-	1	-	-	-	7
Engineers	-	-	11	-	-	-	1	1	-	-	1	14
Clerical	-	-	1	-	-	-	-	1	-	-	-	2
Others	-	-	29	-	-	-	1	-	-	-	-	30
Total	-	-	47	-	-	-	2	3	-	-	1	53
ACCOUNTING DIV'S.												
GEN. ACCT'G. PAYROLL												
Supervisors	-	-	-	-	-	-	-	-	-	-	8	8
Clerical	-	-	-	-	-	-	-	-	-	-	72	72
Total	-	-	-	-	-	-	-	-	-	-	80	80

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
ACCOUNTING DIV'S.												
GEN. ACCT'G. ACCT'G.												
Supervisors	-	-	-	-	-	-	-	-	-	-	14	14
Other Exempt	-	-	-	-	-	-	-	-	-	-	77	77
Clerical	-	-	-	-	-	-	-	-	-	-	91	91
Total												
EMPLOYEE & COMM. RELATIONS DIV.												
Supervisors	-	-	-	-	-	-	-	-	-	-	21	21
Employee Rel. Counselor	-	-	-	-	-	-	-	-	-	-	1	1
Exempt non Supv.	-	-	-	-	-	-	-	-	-	-	7	7
Clerical	-	-	-	-	-	-	-	-	-	-	46	46
Others	-	-	-	-	-	-	-	-	-	-	11	11
Total	-	-	-	-	-	-	-	-	-	-	86	86
PLANT SECURITY & SERVICE DIV'S.												
PATROL & SECURITY												
Supervisors	5	6	6	5	-	5	9	7	9	-	4	56
Other Exempt	-	-	-	-	-	-	-	-	1	-	-	1
Patrolman	47	65	67	49	-	57	109	71	6	-	35	506
Clerical	-	-	-	-	-	-	-	-	14	-	2	16
Seamstress	-	-	-	-	-	-	-	-	1	-	-	1
Total	52	71	73	54	-	62	118	78	31	-	41	580
SAFETY & FIRE												
Supervisors	8	-	-	-	-	-	4	4	10	-	4	30
Safety Engineers	-	1	-	1	-	1	-	1	-	-	1	5
Firemen	-	44	-	-	8	-	14	14	-	-	14	94
Inspectors	1	3	1	4	-	1	1	1	2	-	1	15
Clerical	-	1	-	1	-	1	-	-	-	-	2	5
Total	9	49	1	6	8	3	19	20	12	-	22	149

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
PLANT SECURITY & SERVICE DIV'S.												
GEN. & OFF. SERV.												
Supervisors	-	-	1	-	-	1	2	-	3	-	13	20
Engineer	-	-	-	-	-	-	-	-	-	-	1	1
Laundry Operators	-	-	-	-	-	-	2	-	-	-	1	3
Janitors & Servicemen	5	6	5	7	2	4	15	13	-	-	37	94
Clerical	-	-	-	-	-	-	-	-	-	-	26	26
Others	-	-	-	-	-	-	32	-	-	-	46	78
Total	5	6	6	7	2	5	51	13	3	-	124	222
PURCHASING & STORES DIV'S.												
PURCHASING												
Supervisors		-	-	-	-	-	-	-	-	-	13	13
Other Exempt	-	-	-	-	-	-	-	-	9	-	16	25
Clerical	-	-	-	-	-	-	-	-	-	-	40	40
Total	-	-	-	-	-	-	-	-	9	-	69	78
STORES												
Supervisors	6	-	-	-	-	-	-	-	-	6	11	23
Clerical	14	-	-	-	-	-	-	-	-	27	39	80
Others	29	-	-	-	-	1	-	-	-	7	89	126
Total	49	-	-	-	-	1	-	-	-	40	139	229

10.

	100-B Area	100-D Area	100-F Area	100-H Area	101 Area	200-E Area	200-W Area	300 Area	Plant General	3000 Area	700-1100 Area	Total
COMMUNITY DIVISIONS												
Supervisors	-	-	-	-	-	-	-	-	-	21	110	131
Other Exempt	-	-	-	-	-	-	-	-	-	-	14	14
Patrolmen	-	-	-	-	-	-	-	-	-	26	29	55
Firemen	-	-	-	-	-	-	-	-	-	25	45	70
Journeymen	-	-	-	-	-	-	-	-	-	-	181	181
Servicemen	-	-	-	-	-	-	-	-	-	-	55	55
Truck Drivers	-	-	-	-	-	-	-	-	-	-	42	42
Power Operators	-	-	-	-	-	-	-	-	-	-	45	45
Clerical	-	-	-	-	-	-	-	-	-	-	91	91
Others	-	-	-	-	-	-	-	-	-	-	37	37
Total	-	-	-	-	-	-	-	-	-	72	649	721
GRAND TOTAL	387	450	404	347	60	431	906	912	485	387	2796	7565

[redacted]

MANUFACTURING DIVISIONS

MARCH 1950

SUMMARY

Production Divisions

A total of 54.0 tons of metal was discharged including all remaining Class I and Class II material, thus leaving the piles charged with nothing but Class V material. Forty-one tons were at the goal concentration, and 10 were at 132 percent of the goal concentration. The pile operating efficiency was 93.5 percent, which is a new high for four pile operation. The operating levels at month end were 275 MW at B pile, 305 MW at D and F piles, and 345 MW at H pile. The CO_2 concentration in the circulating gas was 96 percent, 80 percent, 60 percent, and 92 percent at B, D, F, and H piles, respectively.

A total of 92 tons of acceptable slugs was canned at a yield of 93.0 percent. This new high record production for one shift was reached despite the transfer of 13 operators from the 300 Area during the month. The machining yield of 77.3 percent matched last month's record high. The Melt Plant produced 24 tons of billets at a yield of 68.2 percent. This represents a record production for one shift operation. The canning of enriched uranium alloy slugs for the P-10 program was started.

A total of 81 batches was started in the Canyon Buildings, 81 were processed through the Concentration Buildings, and 88 were completed through the Isolation Building. The average for completed batches was 98.6 percent.

Mechanical Divisions

The Division's backlog of scheduled work shows a decided upward trend. For example, railroad car movements increased to 2,978 for March as compared with 1,433 in February.

The electrical peak demand for March of 78,200 KW is a substantial reduction from the February all time high of 88,200 KW.

The first application of immersion welding of tantalum in carbon tetrachloride was performed.

The program to reduce inactive stores inventories resulted in the excessing of $29,720 of materials.

C. N. GROSS, MANAGER
MANUFACTURING DIVISIONS

[redacted]

1220[illegible]

[redacted]

MANUFACTURING DIVISIONS

PATENT REPORT SUMMARY
FOR
MONTH OF MARCH, 1950

Richland, Washington
April 10, 1950

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

INVENTOR	TITLE
N O N E	

C. N. GROSS

MANAGER, MANUFACTURING DIVISIONS

[redacted]

[redacted]

[redacted]

1220200

[redacted]

[redacted]

SECRET

SECRET

[redacted]

April 10, 1950

P DIVISION

MARCH, 1950

I. GENERAL

The B, D, F, and H piles operated throughout the month except for outages listed under Area Activities. Power levels were as follows: B pile - 275 MW, D and F piles - 305 MW, H pile - 330 MW until March 31 when the level was increased to 345 MW. The piles operated with a "time operated" efficiency of 93.5%.

Initial work was started on an enriched uranium-alloy slug canning program during March. A total of 312 eight inch slugs was received and canned.

A total of thirteen operators was transferred to the 100 Areas during March and an additional fourteen are scheduled in April, for training to cover manpower requirements at the time DR-Pile is placed in operation.

The production of 24 tons of billets and 92 tons of acceptable slugs in the 300 Area established a new production record for one shift operation.

II. ORGANIZATION AND PERSONNEL

Number of Employees on Payroll - March

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

S. L. Nelson, Area Supervisor, assumed charge of test work at 105-DR on March 20.

[redacted]

E. T. O'Sullivan was transferred from the H. I. Divisions on March 1 and assigned to the 100 Areas for supervisory training.

W. T. Burns was hired on March 23 and assigned to the 300 Area as a supervisor-in-training.

E. T. O'Rorke, Assistant Chief Supervisor, was transferred to the 300 Area on March 6.

One Utility Operator and one Pile Operator were transferred to the S Division on March 6.

W. P. McCue, Chief Supervisor, visited Knolls Atomic Power Laboratory, Schenectady, New York during the week of March 13 to consult on reactor design problems.

W. A. Blanton, Assistant Chief Supervisor, visited Knolls Atomic Power Laboratory, Argonne National Laboratory, and Mallinckrodt Chemical Works during the week of March 13 to survey processes associated with the P Division program.

III. AREA ACTIVITIES

PILE SUMMARY	PILE B	PILE D	PILE F	PILE H
Time Operated (%)	92.8	92.0	92.6	96.6
Operating Efficiency (%)	92.2	90.8	91.5	96.3
*Power Level (MW)	275	305	305	345
*Inlet Water Temperature (°C)	5.8	5.8	5.8	5.8
*Outlet Water Temperature (Maximum °C., 10 tubes, 0.240" Zone)	51.9	51.8	52.8	52.0
Number of Scrams	0	0	2	4
Number of Purges	1	0	1	0
Helium Consumption (cu. ft.)	--	23,632**	17,614	--
CO_2 Consumption (cu. ft.)	48,144	88,536	26,871	11,534
Metal Discharged (tons)	13.81	22.99	17.17	0.12
Inhours Gained (this month)	23	-24.5	11	61
*Inhours Poisoned	581	657.8	390	324
*Inhours in Rods	109	28.5	89	135
*CO_2 Concentration	96%	80%	60%	92%

* Month end figures.
** Includes 15,500 cubic feet for DR pile.

PILE BUILDING

Outage Breakdown

P Division

Date of Outage	Scheduled Metal Discharged	Scheduled Maintenance	Unscheduled	Length of Outage (Hours)
3-1-50		H		24.2
(1) 3-2-50			F	0.2
(2) 3-5-50			H	0.2
(3) 3-6-50			H	0.8
* 3-7-50	F			34.0
3-8-50	D			23.2
* 3-15-50	B			26.3
(1) 3-17-50			F	0.2
(1) 3-18-50			H	0.2
* 3-20-50	D			36.1
3-22-50	F			20.8
(1) 3-26-50			H	0.2
* 3-29-50	B			26.2

* Includes time to discharge temporary poison.
(1) Due to failure of control room Beckman.
(2) Unit scrammed when panellit alarm could not be reset.
(3) Unit scrammed by accidental jarring of mercoid switch in process water pressure trip system.

Operating Experience

Production tests having operational significance are reported below:

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

1.475"	1.485"	1.490"
4674-F	4659-B	4688-B
	4477-D	4470-D

105-103-P (Corrosion Rates at Elevated Temperatures, Supplement A)
Thirty-two tubes in F pile operated throughout the month with reduced water flow in accordance with the provisions of this test. No unusual conditions were noted.

105-168-P (Replacement of Pile Atmosphere with CO_2)
Replacement of the remaining helium in the B pile atmosphere was completed. The concentration has levelled out at approximately 96% CO_2 and 1% CO.

The D pile CO_2 concentration was increased from 60% to 80% between March 1 and March 7. Following the start-up of March 8 a maximum graphite temperature of 382° C was reached on March 11 as measured by thermocouple 13-G. Under equivalent

[redacted]

1220133

non-equilibrium conditions the same thermocouple read 301° C. with 60% CO_2. Following the start-up of March 26, a maximum temperature of 339° C. was measured by 13-G.

The F pile atmosphere was maintained at 60% CO_2 throughout the month. No unexpected changes in operating conditions were observed.

105-180-P (Irradiation of Beta Slugs)
On March 7 a beta slug was discharged from tube 1077-F, and beta slugs were charged into tubes 1077-F and 1071-F.

105-278-P (Effect of Increased Enrichment Level)
Examination of metal from two tubes discharged at an exposure of 143% of the current goal value showed no significant change in the extent of blistering or warping.

105-302-P (Power Level Increase, H Pile)
The H pile operating level was increased from 330 MW to 345 MW on March 31 as the first step in the planned increase to 370 MW. No unexpected operating conditions were noted.

105-316-P (Exposure of P-10 Fuel Slugs)
Four tubes of the D pile on March 21 and two tubes of the F pile on March 22 were charged with two P-10 fuel slugs each.

A total of 51.20 tons of Group V (alpha rolled, triple dipped, completely transformed) material was discharged during the month. Of this amount, 41.16 tons had an average concentration of current goal value and 10.04 tons had an average concentration of 132% of current goal value in accordance with the program of investigation of higher discharge concentrations.

One and sixty-four one hundredths tons of Group I (gamma extruded eight inch) material were discharged from B pile and 1.13 tons of Group II (gamma extruded four inch) material were discharged from F pile during the month. All piles are now charged entirely with Group V metal.

Revision of the H pile panellit system continued during the month. Installation of "banana plug" terminals was completed and the program of replacement of leaking gauges with factory repaired gauges is about 45% complete. These changes have reduced operating difficulties considerably.

[redacted]

P Division

Mechanical Experience

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

a. Vertical rod #26-D failed to enter the pile on the March 21 shutdown. The rod appears to be binding in the guide and is tied out of service at month end. Corrective action will be taken in April.

b. Vertical rod #27-D, a knuckle rod, parted at the first knuckle joint due to a fractured connecting ring during the outage of March 20. The lower part of the rod was removed from the thimble and the rod is out of service at month end.

c. Vertical rod #19-F is out of service at month end due to an unsatisfactory thimble pressure test.

d. Vertical rod #27-F binds at the basket level when it is lowered under power.

e. Horizontal rod #2-F cannot be withdrawn more than 300 inches. Investigation of the cause of this condition will be continued during April.

The program of vertical rod thimble pressure testing and borescopic examination of the corrosion zone at the thermal shield was completed on the B, D, and F piles during the month. The results of the program were as follows:

Pile	Leaking Thimbles	Corrosion			Thimbles Replaced
		Good	Fair	Poor	
B	0	17	10	2	0
D	2	8	9	12	2
F	2	19	5	5	0

It is planned to replace two badly corroded thimbles in order to evaluate the extent of corrosion of the thimble wall at the thermal shield zone.

Several of the B pile vertical rods of the chrome plated type have been observed to be rusting badly in spots where the chrome plating has flaked off.

Repairs to the F pile downcomer interior baffle structure were completed satisfactorily during the month.

In preparation for the P-10 test program, extensive work has been done at 105-DR to prepare 225 process tubes for standard water flow

[redacted]

conditions and to activate control and safety circuits for use in the program.

Gas Processing Buildings

The percentages of CO_2 and CO in the H pile atmosphere appear to have levelled out at 92% and 6.5% respectively.

Pile Area Development

A new start-up procedure using a full level start up with a subsequent power level cut back was tried at D pile and was found to increase operating efficiency significantly over the usual method for low level start ups normally used on start ups without poison columns.

Some supplemental neutron absorbing shielding was installed on H pile using asphalt instead of paraffin. The asphalt provides a satisfactory shield and costs about half as much as paraffin.

The use of plywood boxes for off plant shipments of casks containing irradiated material has been eliminated. This will mean an annual saving of approximately $10,000 in maintenance, decontamination, and replacement of the boxes.

Special Hazards

No unusual conditions developed during the month.

Project Status

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

C-306 (Front Face Shielding Caps)
Five hundred forty front cap shielding plugs have arrived at month end.

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

C-347 (Nozzle Replacement)
Deliveries of nozzles, gaskets and caps will begin in April at the rate of 400/week.

C-355 (Pile Clearance, Near Side)
Work on B pile is scheduled for the extended shutdown in July. No plans have yet been made for D and F piles.

[redacted]

Slight increases in both billet and solid yields were achieved during the month. Improved techniques in charging crucibles, mold alignment, and billet cropping attributed to the higher billet yield. In addition, yields have been effected favorably by closer scheduling of the Chip Recovery and Melt Plant operations to minimize the oxidation of pickled TXB prior to charging.

Through continued efforts to improve furnace vacuum, pressures as low as 35 microns were attained on some furnace runs. Average furnace pressure for the month was approximately 100 microns.

A record billet production of twenty-four tons was established during March for a one shift operation. This was made possible by increasing the average weight of uranium scrap charged per crucible to 550 pounds.

Machining

Machining yields were as follows:

February	March	To Date 1950
77.3	77.3	76.8

The yield for March remained unchanged from the record yield attained last month for machining alpha rolled rods.

Chip Recovery

The chip recovery yield was as follows:

Yield		
February	March	To Date 1950
87.5	89.3	88.0

The entire chip recovery process was operated five shifts and the press was operated an additional eleven shifts. A total of 28,952 pounds of TXB was produced from pickled chips.

The $\frac{1}{4}$" grates in the pulverizer were replaced with $\frac{1}{2}$" grates to increase chip size on March 9, 1950. This has improved the quality of briquettes, with an apparent increase in density from approximately 10.0 to 11.0 grams/cc.

Production Test No. 313-111-M, "Substitution of Calcium Nitrate for Calcium Chloride in the Chip Recovery Process", was continued during the month. Results to date indicate that calcium nitrate is a satisfactory flocculating agent for the wash solutions. The test is scheduled for completion in April.

[redacted]

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

M-711 (Algae Filter)
No development work has been started because of cold weather.

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

M-715 (IBM Individual Tube Accounting)
Installation of the system in B, D, and F piles is being held up pending a re-evaluation of the project.

M-721 (Pile Shield Restraining Clamps)
D and F pile installations are complete. No plans for B pile have been made.

M-723 (Repairs to 107-B Basin)
Repairs have been postponed until the B pile extended shutdown in July.

M-725 (300 Area Burial Ground)
Completed and closed out.

A-1123 (F Pile Downcomer Vent Modification)
It is planned to modify the vent during April.

300 AREA - METAL FABRICATION

Production Statistics

Production for the month of March was as follows:

Billets Produced	24 Tons
Rods Machined	109 Tons
Bare Pieces Machined	84 Tons
Acceptable Pieces Canned	92 Tons

Melt Plant

The casting yields were as follows:

	February	March	To Date 1950
Billet (Ave. per furnace run)	67.8	68.2	67.5
Billet (Yield from total scrap processed)	78.2	81.3	80.3
Solid Yield	87.0	88.2	87.5

P Division

Oxide Burning

The material burned was as follows:

	Weight Out - Pounds		
	February	March	To Date 1950
	20,157	22,414	60,870

Oxide on Hand at Month End (Metal Content)

To be burned	00.0 lbs.
To be analyzed	13,392.0
To be shipped	35,243.0
Total	48,635.0

Canning Operation

The canning yield was as follows:

	% Yield		
	February	March	To Date 1950
	93.2	93.0	93.4

Canning rejects, by cause, were:

	Percent		
	February	March	To Date 1950
Non-Seats	0.8	1.1	0.9
Marred Surface	2.9	2.0	2.3
Al-Si on Outside of Can	0.6	1.2	0.9
Frost Test	1.1	0.6	0.9
Bad Welds	0.4	1.0	0.6
Miscellaneous	1.0	1.1	1.0
	6.8	7.0	6.6

Emphasis on the careful handling of canned pieces resulted in a lower percentage of marred surface rejects. An increase in the number of Al-Si and weld rejects was noted after the use of Victor aluminum cans was started on March 17. The exact cause of this condition has not been determined, although the cans appear to be softer and more conducive to Al-Si penetration. An investigation of this problem is being made.

P Division

The following special request pieces were canned:

Request No.	Content	No. of Pieces
P-10-A	Lithium Aluminum Alloy	1,467
--	Aluminum and U-235	312*

* This represents the first two shipments of 8" enriched uranium-alloy slugs ("J" slugs) received at Hanford. A total of 189 canned pieces had been inspected at month end with a canning yield of 97.3%.

The rejects, by cause, were as follows:

	Per Cent
Non-seating	0.5
Marred Surface	0.6
Al-Si on Outside of Can	1.1
Bad Welds	0.5
	2.7

Slug Recovery

	% Recovered		Average Wt. - Lbs.	
	March	To Date 1950	March	To Date 1950
Z Slugs	90.3	86.9	3.905	3.904
X Slugs	88.2	11.2	3.863	3.861
Rejects	1.5	1.9	--	--
	100.0	100.0		

Inspection and Testing

Autoclave rejects were as follows:

February	March	To Date 1950
.20/M	.11/M	.13/M

Five autoclave failures occurred during March; four were completely destroyed and one ruptured at the base of the cap.

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

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

P Division

	% Usable		
	February	March	To Date 1950
Aluminum Cans	92.0	92.3	92.9
Aluminum Caps	95.4	97.5	95.9
Steel Sleeves	*	76.2	83.1

* No new sleeves were inspected.

Material Handling

A total of 139 tons of rods was received from Simonds Saw and Steel Company.

305 Test Pile

This unit was operated on a one-shift five day week schedule. A total of 30 tests was run on canned slugs, 32 on billet eggs, 317 on P-10-A slugs, 36 on "J" pieces, and the following special work requests.

Request No.		No. of Tests
134	To test U-Al slugs and P-10-A slugs.	21
135	To test SR-52 and P-10-A slugs.	9
136	To test 12, SR-52 type slugs.	14
137	To calibrate 305 pile for testing 6" P-10-A slugs.	7
138	To set up a method to test 5, P-10-A slugs at one time in the 305 pile.	15
140	To measure the reactivity of a stringer loaded with 8" "J" pieces and P-10-A slugs.	9

Special Hazards

No unusual conditions developed during the month.

Development

Four side-pour crucibles were tested to determine if they would effectively reduce stopper rod breakage, which has been a major problem in using the present center pour cruicible. Results indicate that the side pour crucible can be adopted for use in the Melt Plant furnaces by relocating the induction coils and minor modifications of the coil leads. The test runs showed this type of crucible would be instrumental in reducing stopper

rod breakage and personnel exposure to radiation hazards during charging. In addition, solid yields (88.7%) were comparable with that for center pour crucibles. Since an appreciable improvement in billet yield will result from the reduction of stopper rod breakage, it is planned to obtain a sufficient quantity of standard dimension side pouring crucibles for complete evaluation.

A number of time saving revisions were completed on one welding machine during March. Major revisions were as follows:

1. The table was revised to permit the operator to work closer to the machine.

2. Push button for striking the arc was installed in the end of the handle for controlling torch posision.

3. Switch for energizing and shutting off the welder is actuated by closing and opening the welding shield.

4. Quench tank was reduced in size and relocated in a more convenient position.

Subsequent to the above, time studies have indicated a time savings of 18% for welding canned slugs. It is planned to revise the other welding machines in the near future.

Tests were completed on the machining lathes to determine if the facing of one end of the slugs could be eliminated after cut-off. A total of 1,963 slugs was cut to a nominal length of 4.063" and faced on one end for evaluation through inspection and canning. Results were satisfactory both from the standpoint of processing and finished slug quality. The revised procedure is being adopted as standard for slug machining. An estimated annual savings of approximately $29,000 will result from reductions in turning scrap.

[redacted]

April 4, 1950

S DIVISION

MARCH, 1950

OPERATING SECTION

I. GENERAL

Eighty-one batches were started in the Canyon Buildings, eighty-one batches were processed through the Concentration Buildings and eighty-eight batches were completed through the Isolation Building. The average purity for completed batches was 98.6 percent.

	B Plant	T Plant	Combined
Number of charges started	40	41	81
Number of charges completed thru 224	39	42	81
Number of charges completed thru 231	44	44	88

Canyon and Concentration Building Production Performance Data - (3-1-50 - 3-31-50, inclusive)

For Completed Charges:	B Plant	T Plant	Combined
Percentage of starting product in waste:			
This month	3.2(a)	3.1(a)	3.1
Last month	3.1(b)	3.1(b)	3.1
Cumulative to date	4.2(c)	3.9(c)	4.1
Percentage of starting product recovered:			
This month	97.9	95.1	96.5
Last month	94.7	97.2	96.0
Cumulative to date	97.0	95.6	96.3
Percentage of starting product accounted for:			
This month	101.1	98.2	99.6
Last month	97.8	100.3	99.1
Cumulative to date	101.2	99.5	100.4
Gamma decontamination factor (Log.)			
This month	7.39	7.48	7.43
Last month	7.42	7.56	7.49
Cumulative to date	7.36	7.35	7.36

1

1220170

[redacted]

(a), (b), (c): Include waste from processing recycle. The recycle wastes are estimated as: (a) 0.012%-T Plant; 0.008%-B Plant. (b) 0.012%-T Plant; 0.014%-B Plant. (c) 0.088%-T Plant; 0.009%-B Plant.

Isolation Building Performance Data (3-1-50 to 3-31-50, inclusive)

	Prepared for Shipment	Recycle	Waste	Retained Samples	Material Balance
Average for this month	95.7	3.66	0.02	0.029	99.4
Average for last month	96.5	4.51	-0.12	0.031	100.9
Average to date	95.9	4.61	0.07	0.022	100.6

II. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	382
End of month	392
Net increase	10

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

3 new hires (monthly roll)
5 new hires (weekly roll)
1 returned from leave of absence (weekly roll)
1 transfer from another division (monthly roll)
3 transfers from other divisions (weekly roll)
1 transfer to another division (monthly roll)
1 transfer to another division (weekly roll)
1 discharge (weekly roll)

Changes in the supervisory organization:

R. A. Hultgren was promoted to Senior Supervisor March 1, 1950.

O. T. Roth transferred from the Technical Divisions as a Supervisor-in-Training on March 1, 1950.

C. F. Falk was employed as a Supervisor-in-Training on March 15, 1950.

W. J. Luke was employed as a Supervisor-in-Training on March 17, 1950.

W. O. Clark was employed as a Supervisor-in-Training on March 27, 1950.

E. F. Fitzmaurice, Shift Supervisor, was transferred to the Union Relations Division on March 13, 1950.

S Division

III. AREA ACTIVITIES

PRODUCTION PERFORMANCE

B and T Plants and 231 Building

Extraction Waste Losses - B and T Plants

In both B and T Plants the waste losses after rework from the extraction step, as determined by radioassay methods, increased approximately 0.15 percent above the average losses experienced during the previous month. Although rather complicated equations for correcting these analyses for the effect of Americium^{241} and Curium^{240} content have been developed, it is felt that further analytical data are desirable in order more firmly to substantiate these equations. Subsequent to developing these data it is intended that the complex equations be reduced to nomographs in order to reduce calculation time from somewhat more than one hour to less than five minutes per sample.

Significant data for extraction wastes are tabulated below:

	B PLANT		T PLANT	
	March	February	March	February
Analysis before rework	1.58	1.48	1.69	1.65
Analysis after rework (throw-away)	1.22	1.08	1.23	1.06
Average MWD/Ton	412	391	368	397

Bismuth Phosphate Second Cycle By-Product Loss Reduction - B and T Plants

Potential means for reducing waste losses in the second cycle by-product step are being evaluated in both B and T Plants. The by-product cake solution acid is being added directly to the centrifuge, rather than through the precipitator in order to eliminate pick-up of small amounts of product from heels in the precipitator tank.

The phosphoric acid addition rate has also been markedly reduced, to two pounds per minute, to permit a slow strike. Compensation for this lengthening of the time cycle is being effected through preheating of the dilution water which is added to the precipitator prior to receipt of the product solution from the previous step.

Substantial reductions in waste loss, from 0.35 percent to 0.20 percent or lower, have been indicated. This investigation is being continued.

Acid Wash Runs - B Plant

Two acid wash runs were completed through the B Plant Canyon and Concentration process during the month. Both washes picked up approximately 14 percent of a standard run from the respective extraction sections through which they were processed. Since this

3

amount is almost double what is normally expected from these sections, a series of special tests will be made during the next month to determine the reason for the excessive hold-up. Data for these acid washes follow:

	PRODUCT PICK-UP			
	221 Building		224	Total thru
	Extraction	Total thru Bldg.	Building	Process
B-10-03-AW-1	14.1%	37.5%	3.9%	41.4%
B-10-03-AW-2	13.8%	41.1%	5.6%	46.7%

Reduced Metathesis Volumes (Production Test 224-T-13) B and T Plants

Production Test 224-T-13, which is for the purpose of developing improved procedures for the metathesis step operations in order to reduce F Cell time cycles, was carried forward in the B Plant Concentration Building during the month. A series of ten runs was processed under the production test conditions, followed by another series of ten runs processed under standard process conditions. No significant difference in waste losses was detected between these two process conditions. At the month end production test conditions were being re-established in the B Plant Concentration Building, and the same will be done in T Plant early in April.

WASTE DISPOSAL

Second Decontamination Cycle Waste Supernatant Cribbing - B Plant

Cribbing of second decontamination cycle waste supernatant from the X-106-B underground storage tank in the 200 East Area was started late in the month with 165,000 gallons being disposed of by month-end. When cribbing of this tank is completed, it is planned to crib the second cycle supernatant from X-110-B and X-111-B tanks in order to make these tanks available for first cycle waste storage.

First Decontamination Cycle Waste Storage (T Plant)

Underground waste storage tank X-110-TX in the 200 West Area filled to overflow late in the month and began cascading to the X-111-TX tank. The average volume of waste stored in this tank was 3,417 gallons per run, including acid wash and coating waste solutions; or 3,000 gallons per standard run.

Disposal of 300 Area Bismuth Phosphate Second Cycle Wastes - T Plant

A total of 27,300 gallons of second decontamination cycle waste having its origin from the bismuth phosphate process semi-works, which was formerly operated in the 300 Area, was placed in the X-112-T waste storage tank during the month. The supernatant from this waste will be sent to underground cribs after it has

settled and been combined with second cycle waste supernatant now cascading to this tank from the T Plant Canyon Building.

241-TX Waste System - T Plant

Early in March, the catch tank for drainage from the 155-TX diversion box was found to be full of water and the catch tank for the 153-TX diversion was found to be partially full. This water, which contained very little activity, was pumped from the tanks to the underground crib system in the 241-TX Area. Rather extensive investigation of the waste line system disclosed points where water had collected during thawing of the winter snows above the pipe encasement from where it channeled into the ground through the loose fill to the encasement which in turn carried it to the diversion boxes and thence to the catch tanks. The condition is being corrected by filling low spots so that surface water will drain away from the path of the underground system.

Waste Status

The status of the Waste Storage Areas as of March 31, 1950, is shown in the following table:

B Plant

Bldg. 241 Tanks	Waste	Percentage Full				Reserve Capacity in Batches to Process				
		B	C	BX	BY	B	C	BX	BY	Total
x101,2,3	Metal	100	100	100	13.0	0	0	0	561	561
x104,5,6	Metal	-	100	100	0.5	-	0	0	642	642
x201,2,3,4	Metal	-	100	-	-	-	0	-	-	-
x111,12	Metal	-	-	-	0	-	-	-	430	430
x104,5,6	1st Cycle	-	-	-	-	-	-	-	-	-
x107,8,9	1st Cycle	100	100	66.7	0	0	0	150	642	792
x109,10,11 12	1st Cycle	-	-	-	-	-	-	-	-	-
x110,111, 112	1st Cycle	-	100	51.2	-	-	0	219	-	219
x110	1st Cycle	-	-	-	0	-	-	-	214	214
x115,118	1st Cycle	-	-	-	-	-	-	-	-	-
x104,5,6	2nd Cycle	81.7	-	-	-	107	-	-	-	107
x110,11,12	2nd Cycle	67.4	-	-	-	191	-	-	-	191
x113,14,16, 17	2nd Cycle	-	-	-	-	-	-	-	-	-

S Division

T Plant

Bldg. 241 Tanks	Waste	Percentage Full T	U	TX	Reserve Capacity in Batches to Process T	U	TX	Total
x101,2,3	Metal	100	100	-	0	0	-	0
x101,2,3,4	Metal	-	-	35.2	-	-	575	575
x104,5,6	Metal	-	100	-	-	0	-	0
x105,6,7,8	Metal	-	-	0	-	-	882	882
x201,2,3,4	Metal	-	-	-	-	-	-	-
x107,8,9	Metal	-	100	-	-	0	-	0
x104,5,6	1st Cycle	100	-	-	0	-	-	0
x107,8,9	1st Cycle	100	-	-	0	-	-	0
x109,10,11,12	1st Cycle	-	-	51.4	-	-	436	436
x110,111,112	1st Cycle	-	100	-	-	0	-	0
x110	1st Cycle	-	-	-	-	-	-	-
x115,118	1st Cycle	-	-	0	-	-	444	444
x104,5,6	2nd Cycle	-	-	-	-	-	-	-
x110,11,12	2nd Cycle	89.9	-	-	63	-	-	63
x113,14,16,17	2nd Cycle	-	-	0	0	-	1210	1210

MECHANICAL PERFORMANCE

Canyon Equipment Failures - B and T Plants

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

a) In B Plant it was necessary to replace the cell connector for the Section 13 centrifuge skimmer hydraulic system due to a leak in the assembly.

b) In T Plant the tachometer on the Section 8 centrifuge became inoperable due to electrical failure of the tachometer, necessitating replacement of the centrifuge with a new one from the shop. The old centrifuge was stored, and the possibility of shielding the machine sufficiently to replace the tachometer will be considered at a later date.

c) In T Plant the jet assembly for the 3-5R dissolver to metal solution storage tank transfer developed a leak, due to a gasket failure, at the downstream wall connector and was replaced.

Concentration Building Equipment Repairs - B and T Plants

a) A small leak which developed on the Cell D centrifuge effluent line in B Plant led to inspection of the inside of the line. Pits approximately 3/8" in diameter and 1/4" deep were observed at the welded areas of the flange and the welded seam of the pipe. Temporary repairs were effected by peening the leaks. More permanent repairs are planned in the near future by

installation of a packing sleeve over the line similar to the one which is being used in the E Cell centrifuge effluent line in the same plant.

b) The HF addition dip tubes for the precipitators in B, D and E Cells in B Plant and B Cell in T Plant were inspected during the month. In all cases the inner, one inch diameter tube was found badly corroded and was replaced. Life of these tubes varied from sixty-seven to 170 runs exposure.

Still Pot Replacements - Isolation Building

The product concentrating still pots in Cell 2 and Cell 4 of the Isolation Building were replaced after five years service due to recurrent leaks in the walls of the vessels. In each case the stainless steel, cadmium-lead shot filled neutron absorbers were, also, replaced.

IV. SPECIAL HAZARDS

Sand Filter Operation - T Plant

During the month extensive investigations to determine the source of constant accumulation of water in the T Plant sand filter water seals and reasons for concurrent reduced operating efficiency of the filter were continued. From these investigations it has been demonstrated rather conclusively that the water was attributable to the discharge from a faulty steam trap that services a 220 lb. Leader in the vicinity, and also to a cell flushing program. This occurred coincidentally with the dissolving of special 16 day material.

Qualitative tests have led to the postulation that iodine released from the "green" metal solution may have been absorbed by this water and is now being released. This would account, in part at least, for the indicated lowered sand filter efficiency, as the iodine content of the sand filter discharge stream is greater than normal.

Since correction of the steam trap arrangement the sand filter bed is drying as evidenced by the absence of moisture at the inlet seal with simultaneous continuing accumulation of moisture at the filter outlet seal.

Improvement in the filter efficiency has not yet been noted since the drying operation has started; however, close scrutiny is continuing.

[redacted]

S Division

V. PROCESS CONTROL SECTION

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

Materials for construction of the dissolver off-gas filters are at present being received, and fabrication of one filter will be started early in April.

The project proposal for the Silver Nitrate Reactor (Iodine Removal facility) was submitted to the A and B Committee late in the month. Every effort will be made to expedite approval of this project so that the first unit can be installed in the dissolver cell along with the first dissolver off gas filter unit.

Cell Drainage Conductivity Meters

Experimental studies for extending the use of conductivity leak detecting devices to individual cells has led to development of an electrode which seems satisfactory for installation in the 24 inch sewer of the individual cells. One set of electrodes is currently being fabricated for testing under actual operating conditions.

Special Samples

The following special samples were obtained and delivered to the Chemical Research Group:

2 1/2 pounds of metal waste sludge for X-101-U tank
100 ml of metal solution from 3-5R dissolver, 221-T Plant
4 liters of 234-5 waste from the sump system

VI. EXPANSION SECTION

1. Rala

General

Scope design is estimated to be 85 percent complete and detailed design 25 percent complete. A total of ten scope prints and 27 detailed design prints were approved during the month.

All the equipment has been removed from the head end cells of T Plant canyon, and necessary decontamination work is in progress. The equipment from U Plant which will be used has been removed to the mock-up shop. Temporary construction facilities are being erected and cells in the 272-E mock-up shop are being readied.

A design, procurement and construction schedule is expected to be made firm by April 15, 1950. Some procurement difficulty

[redacted]

is expected which may delay the presently scheduled completion of some phases of the work. A cost estimate is also expected by April 15, 1950 which will be made firm on May 15, based on the completion of more design.

Electrolytic Cell

The General Engineering and Consulting Laboratory has promised design completion of the electrolytic cell by the middle of April. Platinum and gold plating tests have not proven satisfactory and it appears that the cell will have to be lined with platinum or gold. Design progress has been followed through weekly reports, several telephone conversations and a visit to Schenectady by a member of the Design Divisions.

Laboratory

The addition to the 222-T laboratory which will handle Rala analytical work is nearly ready for scope approval. Since a small stack higher than adjacent buildings (to discharge air out of the "turbulence area") does not appear practical, contaminated air will discharge through a double filtration system.

A review of shielding requirements has been made such that it should be possible during April to definitely establish sample size and determine the necessary shielding and design of the sample carrier.

Shipping Container

The loading of the shipping container will be done remotely. The mechanism Hanford wishes to use for this is presently in the design stage and requires a few slight modifications of the carrier. Since Los Alamos is designing the container, they have been requested to make these changes. Although the changes have been verbally agreed upon, final prints are expected during April.

2. Metal Waste Recovery Plant

General

G. E. scope design was 35.1 percent complete as of March 25, 1950.

Removal of Waste from Tank Farm

The Engineering Flow Sketch and Design Instruction for scoping of the proposed system in the 241-U Area have been submitted to

the Architect Engineer. It is expected that the review of the preliminary plan for the remaining tank farms will be completed early next month.

Metal Recovery - Conversion of 221 and 224-U Buildings

The following Design Instruction Letters have been issued for approval by the Separations Committee:

1. Exhaust Ventilation System 291-U
2. General instructions for 277-U Mock-up Facilities

Other Design Instructions are being reviewed as follows:

1. Architectural and Structural
2. Heating and Ventilation
3. Materials of Construction
4. Process Equipment
5. Rotating Equipment
6. Demineralized Water System

Sixteen (16) underground process waste pipe lines have been tested hydrostatically at 300 psi to determine that they may be used successfully in connection with the transfer and processing of metal waste solution. All lines withstood the test satisfactorily.

3. UNH Conversion to UO_3

General

Investigation continues, although no Design Instructions have been issued to date.

Sweetening

At present, it appears that "sweetening" will not be required. However, the proposed UO_3 facilities will be designed so that the future incorporation of this feature will be possible, if later found to be desirable.

Lay-Out

The location of the proposed facilities is not firm. The possibility of consolidating UO_3 within the existing 200-U Area site is being reviewed and estimated. This study should be completed about April 14, 1950. It is expected that a very substantial reduction in the original estimate of approximately $3,500,000 will be possible.

S Division

4. Redox

General

The Contact Engineer's group was active in reviewing the Kellex redrawings of scope material, detailed architectural, structural, and electrical prints, and Class I and II process vessel prints. Points of particular interest are listed below:

High and Low Speed Agitators

A decision has been reached during the past month on the number and location of high and low speed agitators in the canyon process equipment. Of the 22 canyon agitators, 15 will be of the low speed paddle type unit with the remaining six of the high speed propeller type unit; the use of high speed units is made necessary by extreme space limitations and cooling requirements of certain small canyon vessels. Additional lubrication lines have been added to the wall pattern as necessary to permit the use of lubricated bearings rather than the sealed type bearing in agitator equipment. Sufficient lines are now available for the grease, oil, and shaft seal water requirements of all agitators.

Dissolvers

After consideration of possible design and construction schedule delays due to changes in wall pattern and jumper design, the Design Division has indicated that the spare dissolver units made available by the U Plant conversion will not be used in the Redox Plant.

The design of new dissolver pots and columns for use in the Plant has been checked and returned to the Architect-Engineer for revisions prior to the issuance of purchase requisitions for this equipment.

Silo Lighting and Viewing Window Studies

Following the receipt of the Architect-Engineer's proposal for silo lighting and viewing window placement, studies were made of the lighting and visibility characteristics in the new 100 Area water window facilities, and an inspection trip was made to the Argonne Laboratory in Chicago for observation and measurement of the laminated glass viewing windows developed at that site. As a result of these studies, the Architect-Engineer is revising the silo lighting and viewing window design to incorporate a more specialized light distribution with a reduction in both complexity and number of lights required. Two additional viewing windows have been

added to the silo wall, bringing the total to seventeen. The necessity for the use of monochromatic lights (sodium vapor) with the viewing windows has been disproved and it is probable that the final lighting system will include both white and monochromatic units, the latter being considered primarily because of the low cooling requirements and long life expectancy of this type of equipment.

Connector Development

Following the approval of "principal" drawings in Chicago last month, fabrication of connector models is progressing at the Crane Company Plant in Chicago. Models of several sizes of male connector ends have been received at Hanford for testing. A model of the explosion proof electrical connector has been received from the Pile National Company for impact testing.

Super Filtrol Slurries

A change request has been approved for the addition of a Super Filtrol slurry hold-up tank to the waste cell of the 202-S Building. It is the function of this tank to accumulate several weeks production of Super Filtrol waste and permit the transfer of this material with its following water flush to the 241 area to be made at less frequent intervals. This tank addition results in considerable saving in storage costs for the flush water.

240-S Diversion Box and Lines

Preliminary sketches showing the layout of the waste lines to and from the 240-S diversion box have been studied and approved. Recent research work has indicated that it is not desirable to mix Super Filtrol wastes with alkaline waste resulting from coating removal operations. This and other conditions have led to the inclusion of three more lines in addition to the six originally provided from the 240-S box near the building to the 241-S box at the tank farm.

207-S Retention Basin

The original concept of batch operation of the 207-S retention basin led to the design of a basin of 1,500,000 gallons total capacity with a calculated water hold-up of approximately six hours in each half of the basin. Recent changes in philosophy of retention basin operation in connection with Project MJ-4 have indicated that a single basin operating continuously is acceptable providing the inlet water is monitored constantly and sufficient space is provided to retain water accumulated between the time that contamination appears in the cooling

water and the building can be shut down. Work is currently underway to obtain final approval of this method of operation and, if it is approved, the retention basin size will be reduced by 50 percent.

Review of Shielding Thicknesses

At the request of the Manufacturing Divisions, the Design Division is currently rechecking shielding calculation at several points in the 202-S Building silo, namely the cross silo passageways at the pipe gallery and operating gallery levels, the cover block thickness over the 1A-1S reactor series, and the silo crane cab shielding and viewing window thickness.

277-S Building - Preparation for Construction

Work orders have been issued for the relocation of electrical lines, relocation of a saw filing shop, and the removal of a section of contaminated process sewer from a point west of the 272-W Building. The area thus cleared will become the site for the 277-S Mock-Up Building, construction of which is scheduled to start in mid-April. Although it has not been definitely established, this area may also be the site of the 277-U Mock-Up Building to be constructed in conjunction with 221-U reconversion. Location of the mock-up buildings in this area is a part of an over-all plan for centralization of shop facilities in the 200 Areas.

200 West Area Electrical Distribution

Plans are being considered at the present time for the installation of electrical distribution facilities for the new projects and a general clean-up of the overhead wires in the vicinity of the power house. This plan also takes into consideration the re-shuffling of the various area feeders in order to make maximum use of existing facilities in the West Area.

Auxiliary Facilities

Study prints have been received from the G. E. Power and Mechanical Design Groups showing general features of the 211-S chemical storage area and of the 276-S organic and treatment storage area. Recent negotiations with the successful bidder on the ANN contract have resulted in an agreement that the ANN solution will be delivered via vendor's tank truck to the exclusion area. The agreement will cancel the previously planned tank car unloading facility for ANN solution.

The Design Basis Letter for the new 750 KW emergency generator in the West Area power house has been issued and prints of the

installation have been received for study from the G. E. Power and Mechanical Groups.

Print Review Procedures

In view of the extremely rigid design and construction schedule which has been set for the Redox Project, recent agreements have been reached between Manufacturing Divisions and the Design Divisions concerning the classification and disposition of comments on the Architect-Engineer drawings. Under the terms of this agreement, the Manufacturing Divisions are required to classify comments into three categories as follows:

Class I: Those comments having to do with the safety of the plant, process operability, or physical operability.

Class II: Comments on items which are acceptable except that they entail higher operating cost or lower efficiency.

Class III: Comments concerning those items pointing out undue complexity and inconvenient use of or poor utilization of facilities.

The final decision as to the disposition of all classes of comments is the responsibility of the Design Division, with the Class I comments receiving prime consideration. While it is recognized that this system may result in a plant which is somewhat less desirable from a Manufacturing Divisions standpoint, the extremely rigid design and construction schedules have made it mandatory that this system be followed in the remaining design of the plant.

5. First Cycle Waste Evaporation

A project proposal, together with supporting information, has been submitted to the A and B Committee.

[redacted]

POWER DIVISION
MARCH 1950

GENERAL

Regular coal shipments were resumed as a result of the termination of the coal strike on March 6. Current shipments will be held at a high level until depleted stocks are restored to normal.

PERSONNEL AND ORGANIZATION

No. of employees on payroll	March
Beginning of month	538
End of month	539
Net increase	1

The indicated net increase is the result of the rehiring of an employee who was removed from the payroll on account of illness. Two operators were transferred to the Village Utility Group, and two received in return from this Group.

100 AREAS

Water treatment continued on a satisfactory basis although the highest river water turbidity for March since the start of operations was encountered. Raw water turbidities of 150 to 220 ppm were treated successfully with 12 to 16 ppm of coagulant. The average coagulant feed rate for the month was 9.5 ppm, which is a new record low rate of feed for March.

Work continued on the installation of 14-inch deaerator by-passes in the 185 Deaerator Building in the 100-B and F Areas with satisfactory progress being made at each location.

At the request of the Technical Division the 108 Chemical Mixing Building in the 100-B Area was made available in its entirety for the P-10 Project. Work in connection with the removal of unneeded equipment and the transfer of dichromate equipment to the 185 Deaerator Building was started on March 1.

In the 100-H Area, 190 Process Pump House, the replacement of the 30-inch water flow control valve on the No. 3 storage tank with a 14-inch valve was completed on March 23. This leaves only one valve, No. 4, to be exchanged to complete this work.

Power Division

200 AREAS

On March 1, a two-inch service connection for the 2705-Z office building and minor construction hutments was made to the 10-inch steam main, serving the 231 Isolation Building and 234-5 Facility. This change permitted the old 6-inch main, also serving the 231 Isolation Building, to be taken out of service, which will result in substantial steam savings.

The replacement of the 5 hp. coal transfer conveyor motor drive with a 10 hp. unit in the 284 Power House in the West Area was completed on March 3. This completed the alterations to the coal transfer conveyor which were scheduled in connection with the 234-5 Facility construction.

All new hoods, except No. 4, in Room 146 of the 234-5 Facility have been satisfactorily balanced and added to the building ventilation system.

In the 200 East Area, 284 Power House, the emergency generator was out of standby service from March 27 until March 31, while the turbine rotor assembly was being replaced. The vibration condition which made this replacement necessary was entirely eliminated.

300 AREA

On March 2, a test was conducted at the 384 Boiler House to determine the maximum steam production without the use of the induced draft fan. A maximum steam flow of 58,000 lb./hr. was obtained before draft loss was excessive on the No. 3 boiler.

101 SHOPS AREA

The relocation of the starting switches for the air conditioning units from the electrical control rooms to the roof of the building was completed on March 22. This alteration was made in order to permit better operational control of the equipment.

WHITE BLUFFS ICE PLANT

The ice storage room coils were defrosted and the manufacture of ice resumed on March 27.

POWER ENGINEERING SECTION

The principle efforts of the section were directed towards the preparation and completion of the budget and improved performance in water treatment and steam generation. Project proposals preparations, reports, fuel oil studies, and similar items were also part of the month's activities.

[redacted]

POWER DIVISION STATISTICS

From March 1 ,19 50

Thru March 31 ,19 50

			AREAS			
			100-B	100-D	100-F	100-H
RIVER PUMP HOUSE (Bldg 181)						
River state Feet above sea level		(max)	390.3	381.8	368.3	374.0
		(min)	386.9	379.4	365.7	371.3
		(avg)	387.9	380.0	366.4	372.0
River Temperature	avg. °F.		38.3	39.3	39.0	39.0
Water to Reservoir	gpm avg. rate		38,507.	40,216.	37,852.	46,913.
RESERVOIR (Bldg 182)						
Water to Filter Plant	gpm avg.rate		33,946	35,973	33,310	43,110
Water to Condenser System	gpm avg.rate		3,213	2,801	*4,039	3,070
Water to Export System	gpm avg.rate		1,348	1,442	503	733
	gpm nor.rate		4,026	4,026	4,026	4,026
Chlorine added #1 inlet	pounds		11,869	13,358	10,000	5,000
*893-GPM to Process						
FILTER PLANT (Bldg 183)						
Filtered water Power House	gpm avg.rate		249.	282.	270.	262.
Filtered water to Process	gpm avg.rate		31,213.	31,749.	30,225.	39,915.
Filtered water to Construction	gpm avg.rate		--	--	--	--
Filtered water to DR Process	gpm avg.rate		--	--	--	--
Filtered water Fire & San.	gpm avg.rate		181.	191.	170.	154.
Chlorine for Water Treatment	pounds		4,431.	3,442.	6,000.	9,000.
	ppm avg.		1.18	1.15	1.18	.85
Lime for Water Treatment	pounds		32,300.	47,600.	62,000.	41,000.
	ppm avg.		2.6	3.5	5.0	2.6
Coagulant Water Treatment	pounds		116,600.	130,830.	124,260.	149,260.
	ppm avg.		9.2	9.7	10.0	9.3
Raw Water pH	pH avg.		7.89	7.92	8.7	8.0
Finished Water pH	pH avg.		7.68	7.75	7.72	7.74
Alkalinity, M.O. - Raw	ppm avg.		65.	65.	68.	66.
Finished	ppm avg.		64.	63.	64.	63.
Residual Chl. - Settled	ppm avg.		.23	.15	.21	.20
Finished	ppm avg.		.14	.10	.17	.10
Iron - Raw	ppm avg.		.40	1.09	.95	.85
North Clearwell	ppm avg.		.02	.01	.02	.01
South Clearwell	ppm avg.		.02	.01	.02	.01
Hardness - Finished	ppm avg.		86.	80.	68.	70.
Turbidity - Raw	ppm avg.		34.2	35.	37.	42.
Filtered	ppm avg.		0	0	0	0

[redacted]

POWER DIVISION

From March 1 ,19 50

Thru March 31 ,19 50

		100-B	100-D	100-F	100-H
POWER HOUSE (Bldg 184)					
Maximum steam generated	lbs./hr.	146,000	164,000	146,000	130,000
Steam Generated - Total	M pounds	95,233	105,684	99,425	84,126
Avg. rate	lbs./hr	128,001	142,048	133,630	113,072
225 psi Steam plant (est.)	M pounds	79,974	88,837	83,529	70,555
15 psi Steam Plant (est.)	M pounds	783	783	783	783
Coal consumed	Tons	7,333	8,143	7,869	6,558
Coal in storage (est.)	Tons	22,708	20,998	19,977	22,022
DEAERATOR PLANT (Bldg 185) AND 190-H TANK ROOM					
Water flow	gpm avg.rate	30,963	31,499	29,975	39,665
Chemicals consumed:					
Dichromate	pounds	25,000	23,100	23,700	28,000
Sodium Silicate	pounds	0	0	0	0
Chemical Analysis:					
pH	pH avg.	7.64	7.68	7.69	7.66
Dichromate	ppm avg.	1.8	1.9	1.8	1.8
Dissolved Iron	ppm avg.	.02	.02	.02	No.Anal.
Free Chlorine	ppm avg.	.09	.12	.12	" "
PROCESS PUMP ROOM (Bldg 190)					
Total water pumped	gpm avg.rate	30,788	31,324	29,800	39,490
	gpm Nor.rate	31,720	32,324	30,950	40,950
Water Temperature	avg. °F.	41.2	41.4	41.0	41.2
VALVE PIT (Bldg 105)					
Chemicals consumed:					
Solids	pounds	1,350	950	1,750	2,750
Chemical Analysis:					
A, B, C & D Headers					
Standard limits					
pH 7.5-7.8	pH (max)	7.70	7.70	7.70	7.70
	(min)	7.60	7.60	7.60	7.60
	(avg)	7.62	7.65	7.65	7.67
$Na_2Cr_2O_7$ 1.8-2.2	ppm (max)	2.0	2.1	2.0	2.2
	(min)	1.7	1.7	1.8	1.7
	(avg)	1.9	1.9	1.9	1.9
Iron	ppm (max)	.03	.02	.02	.02
	(min)	.01	.01	.01	.01
	(avg)	.02	.01	.02	.02
Clorides	ppm avg.	1.6	1.6	1.7	1.5

POWER DIVISION

From March 1 ,19 50

Thru March 31 ,19 50

		200 Areas	
		200-E	200-W
Reservoir (Building 282)			
Raw Water Pumped	gpm avg.rate	1,859	2,164
Filter Plant (Building 283)			
Filtered Water Pumped	gpm avg.rate	266	723
Chlorine Consumed	pounds	161	164
Alum Consumed	pounds	4,860	6,036
Chlorine Residual - Sanitary Water	ppm	.7	.3
Power House (Building 284)			
Maximum Steam Generated	lb./hr.	45,000	92,000
Steam Generated - Total	M lb	21,996	50,108
Steam Generated - Ave. Rate	lb./hr.	29,564	67,349
Coal Consumed (est.)	tons	1,692	3,591
Coal in Storage (est.)	tons	5,803	8,565

		300 Area
Power House (Building 384)		
Maximum Steam Generated	lb./hr.	24,700
Steam Generated - Total	pounds	16,263,269
Steam Generated - Avg. Rate	lb/hr.	21,859
Coal Consumed - Total (est.)	tons	1,355
Coal in storage (est.)	tons	1,245
Sanitary and Fire System (300)		
Sanitary Water from 3000 Area	gal	34,847,050
Well Water Pumped - Total	gal	737,150
Total Water Per Day	gal/day	1,147,877
Total Water	gpm avg. rate	797
Chlorine Residual	ppm	.30

		MISCELLANEOUS AREAS
White Bluffs		
Ice Manufactured	lbs	115,200
101 Shops		
Coal Consumed	tons	310

INSTRUMENT DIVISION
MONTHLY REPORT FOR MARCH, 1950

100 AREAS

General

Effective March 20, 1950, two Assistant Area Engineers were given staff assignments (Engineering and Administrative) to the Area Engineer and their duties outlined. Simultaneously the two remaining Assistant Area Engineers were assigned the responsibility of supervising two areas instead of one. In this latter instance duties have been confined to line activities without the diverting obligations that accompany expansion of existing facilities and new installations.

H-10 Test at 105-DR

This test requires that essentially all of the instrumentation in the 105 Building be placed in operation in addition to numerous test instruments. Job was begun on March 16, 1950 and has been proceeding on the basis of a six-day work week as available manpower is already heavily taxed.

100-D Area

The 185-D flow recorders were taken out of service. Control Room indicators will remain in service. These recorders were originally used to control chemical addition for pH factor. Chemicals are now added at a constant rate with no autmoatic control.

100-H Area

New type electrical connectors installed on the process tube water Pressure Monitor have eliminated, to date, all annunciator alarms directly caused by poor connections.

Shutdown Experience

The following shutdowns, directly traceable to instrument failure, occurred during the month:

100-F Area. At 11:23 A.M. on March 17, No. 3 Beckman amplifier exceeded trip point. Nothing unusual noted in the investigation other than a low VR-150 tube. Shop spare used as a replacement.

100-H Area. At 4:47 A.M. on March 5, controlled shutdown was due to a bad leak in a Pressure Monitor gauge. At 10:35 A.M. on March 6, the shutdown was unexplained ("P" Division operator in doubt about specific annunciator tab). At 10:48 P.M. on March 18, a scram was due to mechanical failure of No. 3 Beckman amplifier fuse. At 12:17 P.M. on March 26, a scram occurred due to failure of No. 80 rectifier tube in No. 2 Beckman amplifier.

200 AREAS

T & B Plants

Production Instruments

Air pressure in the canyon buildings has been dropping and differential pressure across the sand filters has been increasing in both T and B Plants. It has been suspected that excessively high humidity of the air being filtered has been causing the sand to collect moisture. In order to study the situation, a wet-bulb-dry-bulb recorder was temporarily installed on both inlet and outlet ducts to the sand filter of both T and B Plants. The daily record of relative humidity has been turned over to Technical Plant assistance group for analysis.

Project MJ-3

All required instruments have been removed from the "Head End" of 221-T in preparation for this project. They are being stored in the 221-T Building for servicing and modification as required.

Eighty-eight instruments were removed from Building 221-U. These will also be stored in 221-T for modification and use on MJ-3 project.

234-5 Building

Production Instruments

Hood 14 - Considerable difficulty has been experienced in maintaining continuity of operation of the vacuum system. Assistance has been given the Maintenance Division in leak detection and trouble-shooting the system. It appears that system design is a contributing factor to difficulty of maintenance.

Hood 25 - Trouble with this vacuum system seems to be much the same as that of Hood 14 plus the limited capacity of the diffusion pumps. All vacuum systems are functioning at this time.

Final Inspection

The Los Alamos type counters have required considerable maintenance. There appears to be no major source of difficulty but failure of minor components such as has been experienced in the past with new counting equipment.

Ventilation System

Routine service of ventilating instruments and controls has been initiated. The control system continues to function smoothly since installation of the Moore positioners. Air lock violations have caused some minor disturbances.

300 AREA

MANUFACTURING SECTION

A noticeable increase in the number of incoming work orders for all sections continued during the month of March. The work load of the Design and Optical Sections continues at an abnormally high level.

C-287 - Vacuum Furnace (Minor Construction)

This furnace was fabricated to drawings and specifications supplied, and has been delivered to the Minor Construction Division.

Miscellaneous

Work is proceeding on the modification of the crane periscopes for the 202-S Building. Some components were missing when the units were removed from storage and are being replaced.

MAINTENANCE SECTION

3717-A Maintenance Shop

Satisfactory operating performance has been obtained from the rebuilt photometer unit which is used for film badge checking in the 3705 Building. The second unit is now being rebuilt.

3706 Building

A Hanford designed Shonka chamber was installed in the 3706 counting room on March 20.

DEVELOPMENT SECTION

Slug Detector

Descriptive information on the proposed Badge House Metal Detector has been issued in the form of a report - HW-16007. Physical specifications were furnished to the Project Engineering Division in a letter of March 8.

[redacted]

DESIGN GROUP - 760 BUILDING

100-DR Area

Project C-342-P1 (190 Pump House)

Bailey Meter Company will supply the pump controls for Building 190. Details on panel arrangements and cutouts required by Bailey will be submitted by Chas. T. Main Co.

100-G Area (Project C-300)

Rapid Scanning of Process Tube Exit Temperatures (Reference HW-16092)

The report on the above was received from the Instrument Development Group during the early part of this month. A system covering a five-second scanning of exit temperatures is estimated to cost about $60,000. A field demonstratoon was recommended to permit field checking of the design, operation and application.

Redox-S (Project C-187-D)

Kellex New York Office

Instrument requisitions and scope prints were reviewed during the period of February 27 to March 3.

Corrections and revisions requested in instrument scope prints by the General Electric Company were resolved. These prints have now been approved by the Design Division and are awaiting approval by the Redox Committee.

Project C-187-E (Redox Laboratory)

Building Ventilation (222-S Building)

Specifications covering the instrumentation were reviewed with J. Gordon Turnbull, Inc.

Project C-343 (Radio Lanthanum)

Progress on Cell 5 Instrumentation

A. All drawings have been approved.

B. All instruments have been ordered except one manometer. Purchase of panels is waiting for choice of vendor on this manometer.

[redacted]

[redacted]

Project C-362 (Tri-Butyl Phosphate Process)

Instrument Flow Diagrams

A. The schedule calls for work on these drawings to start April 3 and be completed by May 13. This is a very tight schedule.

B. Preliminary studies of instrumentation are in progress with graphic panel boards as the final design.

Optics for 241 Tank Farm

A demonstration set-up on the subject tanks was made by the Optical Section to study periscope lighting and magnification requirements.

Results:

A. Proposed system will have adequate lighting.

B. Periscope with one lens and with a magnification of two is sufficient.

C. Instrument Optics Group is to build this assembly.

[redacted]

[redacted]

MAINTENANCE DIVISION
MARCH, 1950

GENERAL

The Maintenance Divisions' fourth annual Safety Derby was concluded this month with 200 East Area winning the trophy for having the highest point score. The results obtained by conducting the Derby have been most satisfactory. The house-keeping in all areas is considerably improved and employees are more alert to hazardous conditions.

The Maintenance backlog of work increased from 6156 mandays to 9551 mandays during the month which represents an increase of 55.1%. This increase in backlog is partially due to the activity of maintenance work in the 100 Areas and development work in the 300 Area.

100 AREAS:

During the starup of the "D" pile the third row of safety rods were in the process of being tested and when they were eight to ten feet out of the unit the power on the winches failed which caused the rods to be dropped under scram conditions. The rods were withdrawn from the unit and it was discovered that the jointed rod in #27 position had broken off at a coupling approximately nine feet from the top of the rod, leaving the remainder of the rod in the thimble. The rod section in the thimble was retrieved by using a wire snare. The thimble was then capped and pressure tested with air at 40 psi and found to be satisfactory. The rod will remain out of service until the next shut-down when repairs will be made.

The original six inch crossheader screens in the 105 DR pile were replaced with a reinforced type which will prevent a recurrence of screen (collapsing) that was experienced in 105-H.

On March 7 #2 horizontal safety rod was withdrawn from the 105-F pile because of binding in the thimble. The rod tip was left in the sandwich wall which separates the inner and outer rod rooms. The rod tip will be repaired at a later date when a new top plate is fabricated. The present plate has a full thickness section for thirty-six inches from the end of the rod and this plate will be replaced with one with a full thickness section for only eighteen inches from the end of the rod.

The baffles in the downcomer of the 105-F pile were reinforced by welding a stainless steel plate to the outside circumference of the downcomer pipe on the near side. Holes were then drilled and tapped through the reinforcing plate and wall of the downcomer. Three-quarter inch stainless steel studs were screwed into these openings to provide bracing for the baffles.

Since startup of the 105-H pile instrumentation indicated that sufficient flow of water was not being obtained from the #7½ rear face cross header. Inspections were made and a wooden plug, the type used by construction to seal off sections of pipe lines for tests, was found in this header. The obstruction was removed and a satisfactory flow of water is now recorded on the instruments.

[redacted]

The eight inch ash sluice line from the Power House to the Ash Pit plugged approximately ninety feet from the discharge end of the line. Approximately two hundred and fifty feet of plugged line was cleaned out. The cause of this plugging is due to two 90° elbows in this line.

The Proportioneer pumps in the 190-H Building were remodeled and a smaller size piston installed. The original pumps had a one and one-quarter inch diameter piston and these were replaced with seven-eights inch diameter pistons. This smaller size piston permits a greater accuracy in the volume of material being pumped.

A butterfly valve with standard straightening vanes and a new type cone was installed in the inlet line of #3 storage tank in the 190-H Building. The new cone was designed to break down the turbulence of water at the discharge end of the butterfly valve before the water enters the straightening vanes.

An electrically driven vertical safety rod thimble cut-off machine was developed in the maintenance shop. This machine consists of governor ball balanced cutting wheels that move toward the center as the machine rotates at high speeds. On shop tests, thimble sections were cut in four seconds. Previous hand cutting method with hacksaws took six or more minutes per cut.

Two - eighteen inch lathes, one large milling machine, one bandsaw and one jointer were installed in the machine shop of 101 Building and one - twenty-five inch lathe and one milling machine were relocated.

A boiler feed water treatment system, consisting of a tank six feet high, thirty inches in diameter, pipe connections and orifice flanges were installed at the Power House of 101 Building.

For means of a better method of defrosting the refrigeration coils at the White Bluffs ice storage house a one and one-half inch by-pass line from the exhaust side of the ammonia compressor was connected to the ammonia coils to permit the hot gases to pass through the coils for defrosting purposes.

200 AREAS:

An eight inch plastic bag port was installed on the top of Hood #5 in Building 234-5. This port will be used to provide access to the top of the filter head tank as this spot cannot be reached by existing port holes.

Considerable time was expended during the month in trying to locate leaks in the vacuum system of Hood #14, Building 234-5. The diffusion pump oil was changed without any appreciable improvement. Minor leaks were repaired in the bourdon gage line. The furnace thermocouple well flanges were finally found to be leaking badly due to poor flange construction. New stainless steel wells were installed and the flange assembly altered to provide a stronger flange detail and a new copper clad asbestos filled gasket. This permitted the unit to pump down to satisfactory vacuum levels.

A replacement press evacuation can assembly complete with heater nest was fabricated for Hood #19, Building 234-5. The can was carefully fabricated to assure parallel faces on all surfaces subjected to the press loading.

[redacted]

It was necessary to completely dismantle the #1 Pulsafeeder pump in Hood #29, Building 234-5, because the diaphram and gasket failed, thus allowing the caustic solution to enter the pumps oil supply. The gasket specification and the pump diaphram designs are being checked to determine if they are adequate.

The agitator shaft in the D-6 tank waste storage area Building 234-5, was removed from service. The defective shaft was replaced with one from the D-4 tank.

The hand cranked hood elevator mechanisms in Hoods #31 and #32, Building 234-5 were altered to provide a Teflon coupling block in the crank mechanism. Experience has shown that the acid fumes in the hoods quickly dissolved the original leather couplings.

The F-2 centrifuge in the 224-T Building developed considerable vibration rendering its performance unsatisfactory. Upon dismantling the unit it was found that the lower bearing outer race was badly scored. A new bearing was installed and the machine is now performing satisfactorily.

The SY-181 tank and the entire HF piping assembly on 211-T tank farm was inspected and tested. Upon visual inspection the condition of the tank was considered good. The tank was tested at 200 psi hydraulic pressure and new valves equipped with Teflon seats and plugs were installed and the entire system - tank and piping - was given a soap test under 40 psi air pressure. No leaks were detected.

On March 8 the Maintenance shop in the West Area completed its first work order calling for the fabrication of tantalum metal. The work performed required the making of two dip tubes as shown on Drawing H-2-10338, and one outlet tube as shown on Drawing H-2-11324. The units were to be used as replacements parts in 234-5 Building and required the welding of Vanstone and slip-on flanges to three-eights inch to one-half inch tantalum tubing. Welding was done by use of the carbon tetrachloride immersion process. Later in the month a tantalum decant line was successfully fabricated.

In order that 221-B Canyon air samples might be takn without using personnel to enter the Canyon and place air sampling machines for this purpose, the following work was performed: valves were removed from each end of water and steam lines running from operating gallery to Canyon deck at sections 4L and 19L inclusive. Saran tubing was then inserted through each of the pipes and the annulus space between the outside wall of the tubing and inside wall of the pipe at each and sealed off. The ends of the Saran tubing remaining in the operating gallery were then equipped with the necessary fittings for connecting to a "Motoair". This enabled the Canyon air to be pulled through the tubing of one pipe, through the "Motoair" and discharged back into the Canyon through the tubing of the other pipe. All sections of the building are now equipped in this manner. This installation will resuilt in considerable savings in reducing the time necessary for personnel to enter a SWP zone.

The 9-2 centrifuge in the 221-B Building would not function properly as a result of a defect in the hydraulic cylinder controlling the skimmer. The

cylinder is being completely overhauled using all new parts. Standard Holt type skimmers are being installed on this unit while it is available.

The E-2 centrifuge in 224-E Building developed excessive vibration which was caused by failure of the lower bearing. The unit was dismantled and new upper and lower bearings, drive arm, buffer pins and buffer rings were installed. The unit is now giving acceptable performance.

A new shaft complete with bearings and rotor was installed in the Terry turbine of the emergency generator in the 284-E Building. The old shaft was bent causing excessive vibration while running under full load. This shaft and rotor will be returned to the factory for installation of a new shaft and will be returned to the project for use as a spare. The performance of the emergency generator since installation of the new shaft is most satisfactory.

The brake on the 212 "R" Building crane could not be adjusted to hold the load. The unit was dismantled and new friction plates were installed. The friction plates removed will be repaired and held for future use.

300 AREA

Routine maintenance work in the 314 Building Melt Plant included overhaul of four diffusion pumps, replacement of seats in two-sixteen inch valves and the repair of one furnace coil.

The top section for the new sixteen inch column in Building 321 was fabricated by the maintenance shops and is presently being installed on the column.

A stoppage in the 8" ash sluice line from the Power House to the disposal basin was removed by the use of fire hoses and a pipe auger. It was necessary to excavate and expose several sections of the line in order to repair the damaged pipe joints.

[redacted]

ELECTRICAL DIVISION

MARCH, 1950

GENERAL

The Divisional backlog of scheduled work at the month end was 9,230 mandays, a net increase of 276 mandays during the month. This increase was principally in line crew and Telephone Section work.

The attached load chart for the peak day of the month, March 10, shows a peak of 78,200 KW with a coincidental demand of 27,000 KW for the 115 KV system plus the remaining portion of the 66 KV system. The reduction of 10,000 KW from the February peak is in line with seasonal trends.

A number of projects were reviewed with the Design Divisions:

(a) Project C-187-E was generally discussed with Design and Construction Divisions, resulting in recommendations for changes of Architect's drawings for Building 222-S in line with maintenance requirements and Hanford Works Standards.

(b) Agreement with Design and Construction Divisions that Project C-362 solvent tanks to be located in 221 and 224 Buildings would not be considered as hazardous locations provided that the general design with respect to ventilation, location of control, and solvent specifications would not be changed.

(c) A general scope for electrical expansion in the 200 West Area was developed with Design and Construction in order to co-ordinate the requirements of various projects pending, to establish the financial share of each project, and to establish emergency power requirements.

(d) Final plans for R. T. Main, Inc. for the 190-DR electrical work were reviewed and some changes recommended.

(e) The requirements of Project C-341 (Additions to Richland Distribution System) were reviewed with Project Engineering. The proposed Wilson Street feeder will be deferred at this time, but a new feeder will be added to relieve heavy loading of several feeders in the south central portion of the Village.

AREA ACTIVITIES

Process Pump Motor No. 6, Building 190-D (Process Water), failed on March 21 during starting. This is the ninth failure of the 800 HP Westinghouse motors since the beginning of operations. Failure was again between coil turns, and the motor is being rewound in our shops.

Safety Rod No. 22, Pile Building 105-H, could not be raised because of broken lead to the clutch collector ring which was repaired.

Signal lights and Patrol Building lighting was restored at the Yakima Barricade

[redacted]

due to increased use of this ent[redacted] by construction forces.

The annunciator installation on the main Power Division control board in Building 234-5 has been completed and tested.

Monthly work order specifications for the 200 Areas have been revised.

Jointly with the "P" Division, 300 Area, the controls, welder head, and table have been redesigned for No. 1 Argon welder, resulting in a smaller consumption of Argon and increased production. A savings of $3,500 per welder per year has been estimated. It is intended to rebuild four more welders on the same basis.

In Building 3706, the alarm system on laboratory hoods has been completed, and operation and location of control panels explained to the Technical Division.

TRANSMISSION AND DISTRIBUTION

In the 190-DR Water Plant Construction Area, various minor pole lines have been moved, a section of the 220 KV counterpoise run overhead, and telephone cable brought to the site for construction.

Project C-192, 108-F Biology Laboratory line work is 100 percent complete.

Photo-electric cell control has been installed on fence lighting circuits of 200-E and 200-W Areas.

Emergency repairs were made to two broken tie lines due to high winds on the 66 KV lines, Hanford to White Bluffs.

Installation of galvanized counterpoise in Richland, 115 KV lines on Wellsian Way, (deferred because of frozen ground) is now complete.

A series of eight scheduled outages have been arranged for tie-in of switchgear and new lines to 200-W Area at 251 Substation. The first three were completed in March; work is estimated at 20 percent complete at month end (Project C-295). A decision has now been made to purchase the steel for 251 Substation Yard, previously held up pending final consideration.

There were no unscheduled power interruptions during the month affecting process work.

TELEPHONE SYSTEM

Installation of customer services, telephone instruments and cable splicing in Richland continues at a high rate.

A manual PBX board is being installed for the Redox Project, connected to 200-W dial exchange.

The following is a summary of current telephone service rendered by the Richland Telephone Exchange:

	February 28	March 31
Lines in service	3077	3178
Stations in service	4531	4730
Vacant lines	923	822

[redacted]

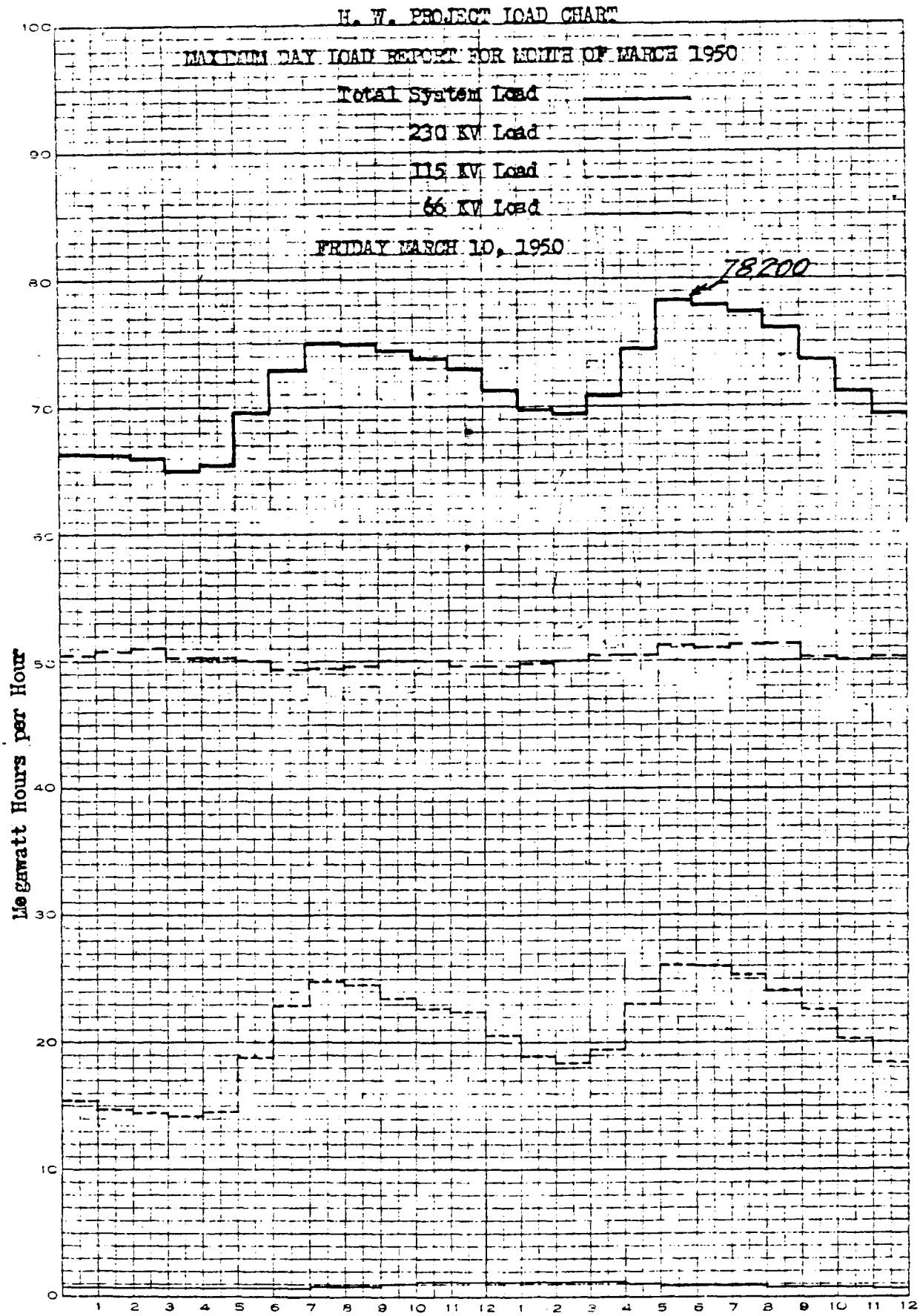
POWER STATISTICS - ELECTRICAL DIVISION
FOR MONTH ENDING MARCH 31, 1950

ITEM	ENERGY - KW HRS. Feb.	ENERGY - KW HRS. March	MAX. DEMAND - KW Feb.	MAX. DEMAND - KW March	LOAD FACTOR - % Feb.	LOAD FACTOR - % March
230 KV SYSTEM						
A-2 Out (100-B)	6,790	7,410	12,000	11,800	84.2	84.4
A-4 Out (100-D)	6,870	7,740	13,300	12,300	76.9	84.6
A-5 Out (100-H)	8,928	9,360	13,350	13,800	99.5	91.2
A-6 Out (100-F)	6,450	7,180	11,300	11,500	84.9	83.9
A-8 Out (200 Areas)	3,360	3,550	6,100	5,400	82.0	88.4
TOTAL OUT	32,398	35,240	56,050**	54,800**	86.0	86.4
MIDWAY IN	32,688	35,853	54,400*	52,000*	89.4	92.7
Transm. Loss	290	613				
Percent Loss	.9	1.7				
115 KV SYSTEM						
B1-S4 Out (N.Richland)	1,373	1,541	2,650	2,592	77.1	79.9
B3-S4 Out (300 Area)	378	396	804	744	69.9	71.5
B3-S5 Out "	498	452	1,720	1,120	43.1	54.3
BB1-S1 Out (Richland)	7,006	6,626	17,820**	13,500**	58.5	66.0
BB1-S2 Out "	6,566	6,442	16,740**	13,320**	58.4	65.0
TOTAL OUT	15,821	15,457	39,734**	31,276**	59.2	66.4
Benton In	240	160	37,000*	25,000*	.9	.9
S. Richland In	14,328	14,136	34,200*	26,000*	62.3	73.1
TOTAL IN	14,568	14,296	71,200**	51,000**	30.4	37.7
Transm. Loss	-1,253	-1,161				
Percent Loss	-8.6	-8.1				
66 KV SYSTEM						
B7-S10 Out (W.Bluffs)	264	300	788	877	49.9	46.0
Hanford Out	311	324	600	600	77.2	72.5
TOTAL OUT	575	624	1,388**	1,477**	61.7	56.8
HANFORD IN	578	627	1,300*	1,300*	66.2	64.8
Transm. Loss	3	3				
Percent Loss	.5	.5				
PROJECT TOTAL						
230 KV Out	32,398	35,240	56,050**	54,800**	86.0	86.4
115 KV Out	15,821	15,457	39,734**	31,276**	59.2	66.4
66 KV Out	575	624	1,388**	1,477**	61.7	56.8
TOTAL OUT	48,794	51,321	97,172**	87,553**	74.7	78.9
230 KV In	32,688	35,853	54,400*	52,000*	89.4	92.7
115 KV In	14,568	14,296	71,200**	51,000**	30.4	37.7
66 KV In	578	627	1,300*	1,300*	66.2	64.8
TOTAL IN	47,834	50,776	88,200*	78,200*	80.7	87.3
Transm. Loss	-960	-545				
Percent Loss	-2.0	-1.1				

* Denotes Coincidental Demand
** Denotes Non-Coincidental Demand

Average Power Factor - 230 KV System-- -95.9
Average Power Factor - 115 KV System-- -96.1
Average Power Factor - 66 KV System-- 93.9

[redacted]



TRANSPORTATION DIVISION
MONTHLY REPORT
MARCH 1950

GENERAL

Transportation Division personnel forces were increased by three non-exempt employees during the month from 595 to 598 by two transfers in and one new hire.

RAILROAD ACTIVITIES

Commercial cars handled during March increased approximately 135% over February with the termination of the prolonged coal strike and the restoration of Plant stockpiles in addition to normal requirements. Heavy coal receipts are expected to continue throughout the month of April. Process service continued at a normal level with all movements being completed as scheduled.

The following recapitulation indicates the number of commercial cars handled:

Carload Movements - General Electric Co.

Loads In	Empties In	Loads Out	Empties Out
1,197	92	105	1,213

Carload Movements - Subcontractors and Others

	Loads In	Empties In	Loads Out	Empties Out
Atkinson & Jones Company	8	0	0	10
E. F. Hauserman Company	1	0	0	1
Richland Transfer Company	0	0	0	1
United States Army	2	0	0	2

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

Conductor-Pilot service was furnished to the subcontractor in the construction of the Northern Pacific-Union Pacific Connection and the new Classification Yard.

The Riverland Roundhouse boiler, which had been in continuous operation since January 18 to provide heat for Diesel locomotives stored overnight, was shut down on March 24.

Completed inventory of all railroad equipment spare parts at the Riverland Roundhouse and disposed of all excess parts and scrap material.

The Health Instrument Divisions surveyed and set limits for contaminated flat car 10-A-3622 preparatory to major repairs.

Transportation Division

Completed annual inspection of all Project tank cars.

Railroad track maintenance continued on a normal basis throughout the five sections. Installed derails on the coal tracks in all 100 Areas, 200 East and 200 West Area. Replaced defective ties on the 100-B and 100-D Area coal tracks. Lined track on the "A" line 1500 feet east from Edna, "B" line near Mile Post 17 and at Mile Post 35, and 1100 Area lead near the coal spur. Spot surfacing was in progress on the "A" line west from Audrey, Asphalt Spur at Hanford, "B" line in the vicinity of Mile Posts 24 and 25, and the 212 "P" track. Transported salvage materials from Riverland to the Hanford Rail Yard. Sorted rail and angle bars at the Hanford Rail Yard from the line changes made under Project C-185.

AUTOMOTIVE ACTIVITIES

The Area Bus System transported approximately 13% more passengers in March than in February. The following tabulation indicates the passenger volume by shifts and the total revenue received during the month:

No. 1	No. 2	No. 3	Total	Revenue
24,817	57,296	54,480	136,593	$6,829.70

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

Passenger Buses - 100-B Area	9
Passenger Buses - 100-D Area	10
Passenger Buses - 100-F Area	11
Passenger Buses - 100-H Area	9
Passenger Buses - Hanford	5
Passenger Buses - 200 East	12
Passenger Buses - 200 West	16
Passenger Buses - 300 Area	9
Passenger Buses - Riverland	3
Passenger Buses - Pistol Range	1
Passenger Buses - White Bluffs	2
Passenger Buses - North Richland	3
Passenger Buses - Pasco	3
700-300 Shuttle Service	17
Inter-Area Passenger Service	3
Inter-Area Express Service	1
Inter-Area Mail Service	1

The Village Bus System transported approximately 11% less passengers in March than in February. The service rendered is indicated in the following statistics:

Total passengers including transfers	56,429
Total bus trips	5,454
Total bus miles operated	29,997
Revenue	$ 4,835.20

Transportation Division

Bus service to Columbia Camp was rendered from March 13 through March 23 while dismantling operations were in progress.

Effective March 6 a new entrance at the 300 Area Barricade was made available to the Area buses for the purpose of speeding service to all Plant Areas.

Effective February 27, the Van Giesen and Cedar village routes were revised to include service between the downtown section of Richland and the new central business district. These changes have made it possible to offer approximately 15 minute service between the two commercial areas, without additional drivers.

Off-Plant automobile trips (Company business and official visitors) totaled 210.

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

Applicants:	Male	63	Number retested	0
	Female	6	Number retested	0
	Total	69	Number Tests Given	69

Permits Issued:	Limited to driving with glasses	15
	Unlimited	54
Permits Re-issued		48

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

	Gasoline	Diesel Fuel	50 Cetane	Kerosene
Stock at start of month	42,029	20,979	6,622	3,146
Received during month	108,847	10,750	29,330	1,844
Total	150,876	31,729	35,952	4,990
Delivered to Area stations	118,203	16,546	27,951	2,271
Stock at end of month	32,673	15,183	8,001	2,719

The following tabulation indicates the Plantwide usage of automotive equipment:

Code	Type	No. of Units	Total Mileage
1A	Sedans	328	443,076
1B	Buses	155	205,616
1C	Pickups	415	204,954
1D	Station Wagons	82	49,637
1E	Armored Cars	12	434
1G	Weapon Carriers	55	8,585
68 Series	Trucks	333	84,229
		1,380	996,531

Transportation Division [redacted]

Painting of 13 of the 15 Village passenger buses has been completed by an outside contractor.

Received one new Elgin street sweeper. Safety guards are being installed preparatory to release for service.

LABOR ACTIVITIES

Crushed and stockpiled approximately 3,500 cubic yards of aggregate requiring 734 manhours. Expended 404 manhours in maintaining outside area roads and 184 manhours for Patrol roads. Spread 3,275 gallons of MC-1 road oil at 100-DR Area. Delivered 480 tons of coal to the 101 Building, Hanford.

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

	MC-1	MC-3	MC-4	MC-5
Stock at start of month	8,000	0	0	0
Received during month	0	0	0	0
Dispensed during month	3,275	0	0	0
Stock at end of month	4,725	0	0	0

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

	100 B	100 D	100 F	100 H	200 W	200 E	300	Total
Cars coal unloaded	122	151	164	146	62	14		659
Cars other material	1	4	0	1	11	1	5	23
Cars loaded out	0	2	0	0	0	0	6	8

Loaded 68 carloads of lumber, 7 carloads of equipment, 9 carloads of miscellaneous material, 93 truckloads of lumber, 58 truckloads of equipment and 48 truckloads of miscellaneous material for off-Project shipments.

Expended 1,154 manhours in handling Area deliveries, 427 manhours for Stores deliveries, 784 manhours for moving furniture, and 1,265 manhours for handling salvage materials for the Stores Division.

Furnished 511 manhours of miscellaneous labor to the Stores Division to assist in loading 37 truckloads of excess material at the Pasco Warehousing Area; unloaded and placed in Warehouse #6, Richland, approximately 60 truck loads of new material; and restacked 50,000 feet of dimension lumber at North Richland.

Routine area maintenance was performed in all operating Areas with labor and transportation equipment being furnished for Projects C-214, C-326, M-347 and M[redacted]

[redacted]

1220311

PROJECT ENGINEERING DIVISIONS
MID-MONTHLY STATUS REPORT

DATE MARCH 15, 19 50

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

100 AREA PROJECTS

ENG. REQ. NO.	DATE RECEIVED	BLDG. OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT COMPLETE	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
1034	5-29	185BDF	DISMANTLING OF EQUIPMENT IN THE DEMINERALIZING AND DE-AERATING PLANTS	POWER	C-172	486,000		7-11-47		7-11	8-19	9-8	10-23			REVISED PROJECT IN PREPARATION CERTAIN WORK TO BE SUBCONTRACTED
A532	1-7	108F	BIOLOGICAL LABORATORY	H-1	C-192	1,121,000		3-31-49	4-1	4-1	4-1	3-10	3-18	3-18		WORK PROGRESSING
A1046	6-14	105 D	NEUTRON SPECTROMETER	TECH.	C-290	17,400		9-5-48	9-9	9-14	9-14	10-4	10-11	10-11		WORK PROGRESSING
A1060	7-29	100B,D,F	INCREASED SHIELDING - FRONT NOZZLE CAPS	P	C-306	79,000		10-6-48	10-11	11-10	11-10	11-30	12-2	6-17		MATERIAL ON ORDER
A1057	4-20	105BF	EFFLUENT DIVERSIONARY OUTLET (105 - 107 B & F)	P	C-321	153,000		1-12-49	1-14	1-26	1-26					POSTPONED UNTIL FISCAL YEAR 1951
A1093	3-17	TRACT HOUSE	P-11 PROJECT	TECH.	C-340	328,000		5-23-49	5-20	6-1	6-1	6-28	7-1	7-12		NO. 1 UNIT ACCEPTED
A1097	4-27	101	P-12 PROJECT	TECH.	C-346	391,000		8-1-49	8-16	8-17	8-17	10-31	11-3	11-11		DESIGN OF HOT PILE WELL ADVANCED
A1100	5-27	105BDF	NOZZLE GALVANIZING AND REPLACEMENT	P	C-347	775,000		8-15-49	8-15	10-12	10-12	12-28	1-4	1-13		ALL MATERIAL ORDERED
A1110	7-21	105BDF	PILE CLEARANCE - INNER ROD ROOM WALLS 105BDF	P	C-355	40,600		9-26-49	9-26	12-13	12-14	1-18	1-19	2-8		WORK BEING SCHEDULED
A1068	10-29	105	DEVELOPMENT OF FLEXIBLE VERTICAL SAFETY RODS	P	M-713	18,500		5-18-49	5-18	5-27	5-27	7-19	7-22	9-26		DESIGNS READY FOR FABRICATION
A1101	6-1	105BDF	IBM INSTALLATION FOR INDIVIDUAL PILE TUBE ACCOUNTING	P	M-715	13,800		8-15-49	8-15	9-6	8-7	9-15	9-15	9-22		PART II IN PREPARATION
A1106	7-21	105BDF	RESTRAINING CLAMPS - PILE SHIELDING	P	M-721	15,000		8-25-49	8-25	9-8	9-8	10-7	10-14	10-17		TWO AREAS COMPLETED - THIRD DEFERRED
A1104	6-7	107B	REPAIRS TO 107 BASIN (IMMEDIATE PROGRAM ONLY)	P	M-723	18,100		9-15-49	9-15	10-12	10-12	10-25	10-27	12-2		WORK TO BE SCHEDULED DURING WARM WEATHER
A1125	11-23	105H	P-13 PROJECT	TECH.	M-754	(67,000)							1-23	1-31		WORK PROGRESSING ON SUSP. CODE
A1130	2-3	108B	P-10 ALLOY EXPANSION	TECH.	M-758	(200,000)							2-10	2-24		DESIGNS PROGRESSING UNDER HIGH PRIORITY ON SUSP. CODE
A1129	2-2	108-B	P-10 COLD DEVELOPMENT LABORATORY	TECH.	M-759	(95,000)							2-10	2-24		DESIGNS PROGRESSING UNDER HIGH PRIORITY ON SUSP. CODE
A555	11-6	100F	AQUATIC BIOLOGY LABORATORY ENGINEERING ENTIRE PROJECT	H-1		25,600 (350,000)		2-17-50	3-1							DESIGNS IN PREPARATION
A1059	6-29	100B	INSTALL STEEL PROCESS SEWER 105-B - 107-B	P		(550,000)										PRESENT LINE BEING CHECKED FOR LEAKS
A1086	2-4	100BDF	HIGH TANK CONTROL VALVES	POWER		40,000										HELD UP BY HIGHER PRIORITY WORK
A1116	9-30	111-B	HEALTH MONITORING AND STORAGE FACILITIES	TECH.		16,100			3-20-50							AWAITING APPROVAL
A1118	10-14	105F	DOWNCOMER REPLACEMENT	P		(100,000)										HELD UP FOR HIGHER PRIORITY WORK
A1119	10-17	100 200 300	COAL METERING FACILITIES	POWER		31,400										TEMPORARILY HELD IN ABEYANCE
A1122	11-9	100	DEVELOPMENT OF FLEXIBLE HORIZONTAL CONTROL RODS	P		(50,000)										HELD UP FOR HIGHER PRIORITY WORK
																COMBINED TOTAL OF AUTHORIZED AND PENDING 100 AREA WORK $4,955,500

PROJECT ENGINEERING DIVISIONS
MID-MONTHLY STATUS REPORT
200 AREA PROJECTS

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

DATE MARCH 15, 19 50

ENG. REQ. NO.	DATE RECEIVED	BLDG. OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT COMPLETE	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
E-436	2-14	251 & 200EW	ENLARGING 251 SUBSTATION AND ADDITIONAL 13.8 KV FEEDERS 200 E-W	ELECT.	C-295	1,500,000		8-25-48	10-5-48	10-12-48	10-6-48	10-15-48	10-13-48	11-19-48		DESIGNS AND ESTIMATE PROGRESSING
2469	12-30	200	UNDERGROUND GEOLOGICAL & HYDROLOGICAL INVESTIGATION PROGRAM INCLUDING TEST WELLS & OTHER FACILITIES	H.I.	C-326 REV.	95,000		1-20-50	1-20-50	2-1-50	2-1-50	2-16	2-21	3-1		REVISED PROJECT APPROVED WORK BEING SCHEDULED
2460	12-23	221 TB	EQUIPMENT FOR DISSOLVER OFF GAS FILTRATION ($337,000 ORIGINALLY AUTHORIZED)	S	C-337	158,000		4-13-49	4-13	5-6	5-6	REVD IR 1-30-50	REVD DR. 2-2-50	REVD IR 2-16-50		REVISED PROJECT APPROVED FOR REDUCED FUNDS A/C NEW DESIGNS
A-546	7-19	200 E	HOT SEMIWORKS - PRELIMINARY ENGINEERING (PART I)	TECH.	C-349	33,250		9-9-49	9-7	10-19	10-19	10-31	11-3	12-2		FUNDS APPROVED INCORPORATED INTO PART II
			COMPLETE PLANS AND SPECIFICATIONS FOR HOT SEMIWORKS (PART II)	TECH.	C-349	150,000		2-1-50	2-8	2-8	2-15	3-9				DESIGNS PROGRESSING
2513	8-30	234-5	AUXILIARY HOOD ENCLOSURE FOR PART I BLDG. 234	S	C-366	49,000		2-20-50	3-6							PROJECT ROUTED FOR APPROVAL
2491	5-13	200 EW	EVAPORATION FACILITIES FOR WASTE SOLUTIONS (200 EW)	S	C-369	864,000		2-28-50	2-28							DESIGNS PROGRESSING
2498	8-18	222-T	DESIGN AND INSTALL FISSION COUNTER	TECH.	M-753	14,750		9-1-49	9-1	9-8	9-8	10-7	10-7	1-18		FIELD WORK PROGRESSING
A-554	12-23	222-U	OFFICE AND STORAGE ANNEX TO BLDG. 222-U	H-1	M-755	9,700		10-26-49	10-26	11-22	11-25	12-7	12-7	2-21		WORK BEING SCHEDULED
2490	5-13	221 TB	IODINE REMOVAL FACILITIES FOR DISSOLVER OFF-GAS (200 EW)	S		149,000		3-9-50	3-9							PROJECT ROUTED FOR APPROVAL
2501	9-2	221-TB	COMPLETE PARALLEL OPERATION FOR 221 BLDGS.	S		(300,000)										POSTPONED BY S DIVISION
2503	7-22	234-5	DUCT LEVEL FLOOR COVERING AND SAFETY SHOWERS	S		(150,000)										DESIGNS POSTPONED BY S DIVISION
2504	7-22	271 TB	INSTALLATION OF LABORATORY EQT. IN BLDGS. 271 T-B (INFORMAL REQUEST)	TECH.		13,600										BEING RE-SUBMITTED
2520	1-16	234-5	RECYCLE CONTAINERS	S		(21,000)										DESIGNS PROGRESSING
																COMBINED TOTAL OF AUTHORIZED AND PENDING 200 AREA WORK $3,474,050

PROJECT ENGINEERING DIVISIONS
MID-MONTHLY STATUS REPORT

DATE MARCH 15, 19 50

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

300 AREA PROJECTS

ENG. REQ. NO.	DATE RECEIVED	BLDG. OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT COMPLETE	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & E COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
A3044	11-10	3706-3707-C	3706 CONVERSION AND 3707-C CONSTRUCTION	TECH.	C-227	557,000		3-1-48			3-3	3-15	5-1	3-18		WORK RESUMED
A3060	8-12	300	EXPERIMENTAL METALLURGY LABORATORY - BUILDING 3730	TECH.	C-287	140,000		11-5-48	11-5	11-7	11-9	12-2	12-6	3-7		WORK PROGRESSING
A3061	8-14	313-314	IMPROVED VENTILATION - BLDGS. 313-314	P	C-330	200,000		12-8-49	12-8	12-28	12-18	2-1	2-3	2-10		SCOPE OF PROJECT REDUCED TO INCLUDE ONLY ENGINEERING & DEVELOPMENT WORK AT PRESENT
A3075	12-10	305-A	NINE TUBE MOCK UP TO SIMULATE B, D, & F	TECH.	C-338	24,800		5-17-49	5-16	5-17	6-1	7-13	7-15	8-2		WORK COMPLETED 2-28-50
A3062	2-9	314	ROLLING MILL ($60,000 AUTHORIZED 12-13 FOR ENGINEERING) AUTHORIZED EST. TOTAL COST	P	C-339	60,000 (2,800,000)		5-23-49	5-23	5-27	6-1	12-13	12-23	12-23		PRELIMINARY DESIGNS & CONSULTANT SERVICES AUTHORIZED. REVISED PROJECT TO BE SUBMITTED
A550	9-15	300	ADDITION TO BLDG. 3745	H.I.	C-354	20,300		11-8-49	11-8	12-1	12-1	12-19	12-23	3-2		READY FOR SUBCONTRACT
A510	10-10	3701	300 AREA BADGE HOUSE ADDITION (INFORMAL REQUEST)	SERV.		14,500		12-14-48	12-10	12-14	12-31	1-3	1-6			WORK HELD UP PENDING FURTHER DECISIONS REGARDING ADDITIONAL FUNDS
A528	11-14	300	ADDITIONAL INSTRUMENT SHOP	INST.		(102,000)										DESIGN IN PREPARATION
A548	8-29	300	SOLVENT STORAGE FACILITIES - BLDG. 3706	TECH.		(60,000)										PROJECT IN PREPARATION
A549	8-29	300	CYLINDER STORAGE DOCK	TECH.		(25,000)										PROJECT IN PREPARATION
A3077	12-23	313	AUTOMATIC SCREW MACHINE INSTALLATION	P		(180,000)										DESIGNS HELD PENDING FURTHER DECISIONS ON WORK TO BE DONE
A3083	7-21	313	SEGREGATION OF FLUORIDE SLUDGE	P		(40,000)										DESIGNS HELD PENDING FURTHER DECISIONS ON WORK TO BE DONE

COMBINED TOTAL OF AUTHORIZED AND PENDING 300 AREA WORK $4,138,800

PROJECT ENGINEERING DIVISIONS
MID-MONTHLY STATUS REPORT

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

DATE MARCH 15, 19 50

GENERAL PLANT PROJECTS

ENG. REQ. NO.	DATE RECEIVED	BLDG. OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS PER CENT COMPLETE	PROJECT DATE	APPROPRIATION REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	WORK RELEASE	FIELD WORK PER CENT COMPLETE	REMARKS
828	11-22	702	ADDITION TO BLDG. 702 - AUTOMATIC DIAL TELEPHONE EXCHANGE	ELECT	C-138	470,500		3-7-47			3-10	5-12	5-21	5-13		WORK PROGRESSING
900	8-21	506	ADDITIONAL TELEPHONE CABLES - RICHLAND	ELECT	C-144	71,000		3-28-47			4-1	5-5	5-21	5-13		WORK PROGRESSING
962	7-10	ALL	115 KV POWER LINE TO RICHLAND PLUS SUBSTATION FACILITIES — TOTAL COST AUTHORIZED	ELECT	C-177	(1,500,000) 1,354,000		7-17-47			7-21	8-14	8-26	8-29		PART JV AWAITING AUTHORIZATION WORK HELD UP
A458	2-17	ALL	PLANT TELEPHONE PROJECT	ELECT	C-276	1,546,000		9-8-48	7-13	9-8	9-9	10-3	10-6	10-6		SUB-CONTRACT NEGOTIATIONS - PROGRESSING FOR REMAINING WORK AS AUTHORIZED
990	6-28	ALL	INSTALLATION OF NEW SECURITY FENCES - ALL AREAS	SERV.	C-291	443,800		8-31-48	9-9	9-9	9-15	10-13	11-8	11-8		WORK PROGRESSING
A511	10-13	ALL	BUTT TREATMENT OF POWER LINE POLES	ELECT	C-322	154,000		12-27-48	1-20	1-20	1-26	2-1	2-4	10-15		WORK NOW DEFERRED
2480	3-15	ALL	H. I. OPERATIONAL DIVISION SURVEY INSTRUMENTS	H.I.	C-333	85,000		3-30-49	4-1	4-1	4-1	4-20	4-26	4-29		WORK STARTED .
E406	5-16	1100	ADDITIONS TO RICHLAND ELECTRICAL DISTRIBUTION SYSTEM	ELECT	C-341	173,600		5-27-49	5-27	6-6	6-16	9-2	9-13	9-2		WORK BEING SCHEDULED
A536	3-17	1100	ADDITIONAL CAPACITY RICHLAND SEWAGE LIFT STATION	VILL.	C-357	47,500		11-22-49	11-22	12-28	12-28	2-16	2-23			WORK BEING SCHEDULED
A543	7-14	HANFORD	ARSENAL, SANITARY AND FIRE PROTECTION FACILITIES - PATROL PISTOL RANGE	SERV.	C-360	54,000		12-19-49	12-23	2-14	2-15					AWAITING AEC AUTHORIZATION
A534	2-25	1100	SURGICAL WING AIR CONDITIONING - KADLEC HOSPITAL (INFORMAL REQUEST)	MED.		16,000		5-2-49	5-2	5-5	5-5	5-18	5-23	5-27		WORK PROGRESSING
A542	7-8	200	ADDITION TO METEOROLOGY BLDG. 622	H.I.		23,100		3-2-50	2-25							WORK BEING SCHEDULED
A552	10-7	1100	SOFT WATER PIPE LINE 784-B TO KADLEC HOSPITAL (INFORMAL REQUEST)	MED.		9,800		5-18-49	5-18	5-20	5-27	8-4	8-18			READY FOR SUBCONTRACT
A557	11-11	ALL	PERMANENT FENCING 230 kV AND DISTRIBUTION SUBSTATIONS	ELECT		(170,000)										HELD UP FOR HIGHER PRIORITY WORK
A558	11-11	500	TRANSFORMER OIL STORAGE FACILITIES	ELECT		(10,800)										HELD UP FOR HIGHER PRIORITY WORK
A560	11-11	1100	RELOCATION OF RICHLAND LINE CREW HEADQUARTERS	ELECT		(30,000)										HELD UP FOR HIGHER PRIORITY WORK
A562	11-1	3000	CENTRAL STORES WAREHOUSE IN 3000 AREA	STORES		(1,417,000)										DESIGNS STARTED
A563	12-22	ALL	REMOTE METEOROLOGICAL STATIONS	H.I.		(35,000)										PROJECT IN PREPARATION
A565	1-16	706	ADDITIONS AND ALTERATIONS-706 LABORATORY	H.I.		(100,000)										DESIGN WORK PROGRESSING
A567	1-23	1100	DORM M-1 CONVERSION TO OFFICE BLDG.	PURCH STORES		38,600										PROJECT IN PREPARATION
A568	2-27	ALL	1950 AREA ROAD MAINTENANCE PROGRAM	TRAN		115,000										PROJECT IN PREPARATION
E426	11-11	ALL	SALVAGE AND RECOVERY OF TELEPHONE CABLE AND EXCHANGE EQUIPMENT	ELECT		(32,600)										DESIGNS STARTED
E432	1-11	300	ELECT POWER SERVICE TO TECH CENTER	ELECT		(10,000)										DESIGNS STARTED
E433	1-17	300	TELEPHONE SERVICE TO TECH CENTER	ELECT		(5,000)										DESIGNS STARTED
E434	1-13	300	EXPERIMENTAL INDUCTION HEATING FACILITIES BLDG 3732	TECH.		(35,000)										DESIGNS STARTED
E435	2-10	1100	ELECTRICAL METERING - VILLAGE OF RICHLAND	ELECT		(350,000)										DESIGNS STARTED
																COMBINED TOTAL OF AUTHORIZED AND PENDING GENERAL PLANT AREA WORK

PROJECT ENGINEERING DIVISIONS
ENGINEERING DESIGN
100 AREA

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE (0 20 30 40 50 60 70 80 90)	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
A1001	9-1	100	"AS-BUILT" DWGS SINCE 9-1-46			WORK PROGRESSING	--	
A1002	2-1	105	G.E.C. STUDY			EXTENDED STUDY BY STANDING COMMITTEE	TECH. & P	
A1074	11-2	115BDF	DESIGN MOISTURE EXTRACTION EQUIPMENT FOR GAS SYSTEM			NOT STARTED	P	
A1075	12-10	100B	STUDY AND RECOMMEND ON LONG RANGE WAREHOUSING - 100, 200, AND 300 AREAS			REPORT IN ROUGH DRAFT FORM	MFG.	4-15-50
A1085	2-4	100F	STUDY PILE OPERATION WITH 100% CO_2 ATMOSPHERE -			DATA IN HANDS OF "P" DIVISION	P	7-1-50
A1117	10-13	108B	CAN OPENER IMPROVEMENTS ----		3-1-50	REPORT ISSUED	TECH.	
A1127	1-20	108B	P 10 SHIPPING TUBE NUMBERING			REPORT IN ROUGH DRAFT FORM	TECH.	3-30-50
A1128	2-1-50	100H	DESIGN GRAPHITE MONITORING PUSH RODS			NOT STARTED	P	4-30-50
A1131	2-8-50	105BDF	PROPOSED ROD GUIDE SYSTEMS		3-25-50	COMPLETED	P	
A1132	2-8-50	105	ROTARY TUBE CUTTER			NOT STARTED	P	6-30-50
A1134	3-10-50	108B	IMPROVED P 10 CAN OPENER			NOT STARTED	TECH.	4-20-50

PROJECT ENGINEERING DIVISIONS
ENGINEERING DESIGN
200 AREA

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE	DWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
2266	10-28	200EW	"AS-BUILT" DWGS. SINCE SEPT. 1, 1946			ONLY MOST URGENT CORRECTIONS ARE BEING MADE TO DRAWINGS AT PRESENT	--	12-31-50
2279	12-1	221TB	STUDY AND MAKE RECOMMENDATIONS FOR REMOTE CONTROL REGASKETING FACILITIES			POSTPONED BY "S" DIV. 2-7-50		
2517	1-16	234	CHANGE PRINTS FOR RECOVERY HOOD EVAPORATORS			DRAWINGS BEING CHANGED	S	3-24-50
2524	2-17-50	234-5	PREPARE PIPING DESIGNS FOR HOODS 5,6,7			DESIGN IN PREPARATION	S	3-20-50
2525	2-23-50	221TB	DESIGN GASKET FOR DISSOLVER LID			DESIGN IN PREPARATION	S	3-24-50
2526	2-24-50	234-5	MODIFY EQUIPMENT ROOM 230			DESIGN IN PREPARATION	S	3-31-50
2528	2-24-50	222-B	DESIGN REPLACEMENT DRY WASTE CRIB			DESIGN IN PREPARATION	TECH.	3-24-50

PROJECT ENGINEERING DIVISIONS
ENGINEERING DESIGN
300 AREA

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE 10 20 30 40 50 60 70 80 90 100	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
A3002	9-1	300	"AS-BUILT" DRAWINGS SINCE 9-1-46			ONLY MOST URGENT CORRECTIONS ARE TO BE MADE TO DRAWINGS AT PRESENT		
A3070	10-28	3706	STUDY VENTILATION REQUIREMENTS TO PROVIDE 40% HUMIDITY AND 2 MINUTE AIR CHANGE			WORK POSTPONED UNTIL ALL HOODS HAVE BEEN INSTALLED	TECH.	5-1-50
A3082	7-8	3706	DESIGN AND PREPARE COST ESTIMATE FOR EXHAUST SYSTEM FOR GRAPHITE MACHINING IN ROOM 41A			DESIGNS PROGRESSING	TECH.	4-15-50
A3085	9-27	RIVER-LAND	STUDY HIGH WATER TANK - RIVERLAND			RECOMMENDATIONS BEING PREPARED	POWER	6-1-50
A3087	1-25-50	314	STUDY BACKFIRING STOKES VACUUM PUMP		3-15-50	STUDY REPORT ISSUED	P	
A3088	2-13-50	314	STUDY GATE TYPE CRUCIBLE, 314 BLDG. MELT PLANT			WORK PROGRESSING	P	4-15-50
A3089	3-7-50	314	STUDY 314 BLDG. ROD CUT-OFF FACILITIES		3-10-50	COST ESTIMATE SUBMITTED	P	

PROJECT ENGINEERING DIVISIONS
ENGINEERING DESIGN
PLANT GENERAL

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE (0 20 30 40 50 60 70 80 90)	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
2266-L	1-13	200EW	AS-BUILTS (LAYOUT WORK ONLY)			WORK PROGRESSING		6-1-50
4365D	12-2	-	PROCESS CHARTS - 300 AREA (FOR IND. ENGINEERING GROUP)			WORK PROGRESSING AS REQUIRED	P	
4377	3-3	100	PREPARE CHARTS FOR P-10-A STUDY			WORK PROGRESSING	P	4-1-50
4385	3-8	700	FLEXIBLE PARTITION STUDY (DESIGN)			WORK PROGRESSING	SERVICES	4-1-50
A537	4-8	ALL	SURVEY FOR MAINTENANCE OF ALL RAILROADS INSIDE RESTRICTED AREAS			WORK PROGRESSING AS REQUIRED	TRAN	4-1-50
A541R	6-14	200W	RAILROADS-REDOX PLANT CIVIL DESIGNS AND SPECIFICATIONS			COMPLETED	D&C	3-1-50
A553	9-7	ALL	ARCHITECTURAL STANDARDS			WORK PROGRESSING AS REQUIRED		
A569	3-2	300	ENGINEERING REPORT ON 300 AREA DEVELOPMENT STUDY			WORK PROGRESSING AS REQUIRED	TECH. & MFG.	5-1-50
A3062A	5-17	314	ROLLING MILL - ARCH. DESIGN ONLY FOR PROJECT C-339			NOT STARTED	P	
A4375D	1-20	1100	DRAFTING FOR TRANSPORTATION CONSOLIDATION STUDY			AS REQUIRED	TRAN	5-1-50
A1001L	5-26	100	AS-BUILTS - 100 AREAS - LAYOUT ONLY			WORK PROGRESSING AS REQUIRED	-	
A3002L	12-7	300	AS-BUILTS - 300 AREA - LAYOUT ONLY			WORK PROGRESSING AS REQUIRED	-	
A1034S	6-29	100BDF	DISMANTLING OF DEAERATING PLANTS ARCH. AND MECH. DESIGNS AND SPECIFICATIONS ONLY			WORK PROGRESSING	POWER	4-1-50
E436	3-7	251 SUB STA.	ASPHALT TILE FLOOR DESIGN 251 SUB STA.			WORK PROGRESSING	ELEC.	4-10-50
E405L	1-12	ALL	ELECTRICAL AS-BUILTS (LAYOUT WORK ONLY)			AS REQUIRED		
[illegible]	8-1	1100	ADDITIONS TO VILLAGE DIST. - LAYOUT			WORK PROGRESSING AS		

PROJECT ENGINEERING DIVISIONS
ELECTRICAL DESIGN
PLANT GENERAL

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
2491E	9-14	200EW	FIRST CYCLE EVAP. FAC. - 241 T-X, ELECTRICAL DESIGNS			HELD UP FOR ADDITIONAL INFORMATION	S	
4354E	1-26	313	FURNACE STUDY - ELECTRICAL SKETCHES			TEMPORARILY POSTPONED	P	
A505E	8-19	ALL	ELECTRICAL STANDARDS			WORK PROGRESSING	-	
A528E	1-16	300	300 AREA INSTRUMENT SHOP			WORK PROGRESSING	INST.	4-1-50
A532E	3-4	108F	BIOLOGICAL BUILDING - ELECTRICAL DESIGN ONLY			WORK PROGRESSING	HI	4-15-50
A562SE	2-27	ALL	WAREHOUSE MODIFICATIONS			WORK PROGRESSING	STORES	5-1-50
A567E	2-10	1400	DORM M-1 CONVERSION			WORK PROGRESSING	STORES	3-25-50
A1100E	7-29	100F	GALVANIZING TANK - ELECT. DESIGNS ONLY			HELD FOR ADDITIONAL INFORMATION	P	
A1129E	2-6	100B	P-108 COLD LAB.			NOT STARTED	TECH.	4-15-50
A1130E	2-16	100B	P-10A EXPANSION			WORK PROGRESSING	TECH.	4-15
A3060E	9-1	3730	TEMPORARY METAL FAB. AND MELT LAB. BLDG. - ELECT. DESIGNS		3-1-50	ELECT. DESIGNS COMPLETE	TECH.	
A3061E	12-10	314	INCREASED VENTILATION - ELECTRICAL DESIGNS ONLY			WORK PROGRESSING	TECH.	5-1-50
A3062E	8-1	314	ROLLING MILL FOR PROJECT C-339- ELECTRICAL DESIGNS			NOT STARTED	P	5-1-50
A3077E	1-7	313	AUTOMATIC MACHINING EQT. - ELECTRICAL DESIGNS ONLY			NOT STARTED	P	5-1-50
E405	2-15	ALL	ELECTRICAL AS-BUILT REVISIONS TO DWGS.			NOT STARTED	-	
E427	11-11	ALL	ADD'N. ELECTRICAL POLE REPLACEMENT - FISCAL YEAR 1950			PRELIMINARY WORK STARTED	ELECT.	4-15-50
E428	11-1	HANF.	DISMANTLE DISTRIBUTION LINES AND TELEPHONE CABLE - HANFORD			PRELIMINARY WORK STARTED	ELECT.	3-30-50
E431	11-11	1100	EMERGENCY POWER PLANT - RICHLAND EXCHANGE (PRELIMINARY ENGINEERING)			PRELIMINARY WORK STARTED	ELECT.	4-15-50

PROJECT ENGINEERING DIVISIONS
INDUSTRIAL ENGINEERING
ALL AREAS

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
4363	3-21	ALL	PROJECT ENGINEERING DIV. PERSONNEL ANALYSIS			WORK DEFERRED	P.E.D.	3-21-50
4365	4-15	300	METHODS STUDIES - "P" DIVISION		2-16-50	WORK COMPLETED	P	
			BASE SLUG INSPECTION			WORK CANCELLED 2-28-50	P	
			CHIP BRIQUETTING STUDY		2-28-50	WORK COMPLETED	P	
			WELDER EFFICIENCY ANALYSIS			WORK PROGRESSING	P	4-15-50
			MELT PLANT OPERATION ANALYSIS				P	4-15-50
			OPTIMUM BILLET DIMENSION DETERMINATION			WORK PROGRESSING	P	
			ROTARY SWAGER STUDY			WORK CANCELLED 2-28-50	P	
			CANNED SLUG REJECT STUDY MECHANICAL		2-28-50	WORK COMPLETED	P	4-1-50
			REDUCED CUT-OFF TOOL WIDTH			WORK PROGRESSING	P	
			40-SECOND CANNING CYCLE		2-16-50	WORK COMPLETED	P	5-1-50
			PICKLED CHIP MOVEMENT & ECONOMICS			WORK PROGRESSING	P	6-1-50
			CANNING LINE MECHANIZATION			WORK INITIATED		
4370	11-1	100	INDUSTRIAL ENGINEERING "P" DIVISION			WORK PROGRESSING	P	4-1-50
			CHARGE-DISCHARGE METHODS			WORK DEFERRED	P	12-1-50
			105 BLDG. MECHANIZATION			WORK PROGRESSING	P	6-1-50
			EVALUATION OF SUGGESTIONS FOR P.C. GROUP			WORK DEFERRED	P	10-1-50
			NOZZLE REPLACEMENT STUDY			WORK CANCELLED 2-14-50	MGMT.	
4371	11-15	ALL	PROJECT MANPOWER SURVEY		2-28-50	WORK COMPLETE	MGMT.	
4373	12-6	700	OFFICE SPACE REQUIREMENTS			AWAITING PERSONNEL ASSIGNMENTS	S	12-20-50
4374	12-20	200	INDUSTRIAL ENGINEERING - "S" DIVISION CREW REQUIREMENTS 221 AND 224 BLDGS.			WORK PROGRESSING	TRANS.	4-1-50
4375	12-22	1100	TRANSPORTATION DIVISION CONSOLIDATION			WORK PROGRESSING	ELECT.	3-17-50
4376	12-16	1100	ELECTRIC POWER METERING		3-15-50	WORK COMPLETED	TECH.	3-15-50
4377	2-1	108B	P-10-A STUDIES			AWAITING EQUIPMENT DATA	S	8-1-50
4378	2-5	202S	LUBRICATION SPECIFICATIONS MJ-1			" " "	S	8-1-50
4379	2-3	234-5	" " MJ-2			" " "	S	8-1-50
4380	2-3	221T	" " MJ-3			" " "	S	8-1-50
4381	2-3	221U	" " MJ-4			" " "	S	8-1-50
4382	3-2	200	" " MJ-5					

CONT

PROJECT ENGINEERING DIVISIONS
INDUSTRIAL ENGINEERING
ALL AREAS

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ENGINEERING COMPLETE 20 30 40 50 60 70 80	DRWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
4383	3-6	ALL	FUEL OIL STUDY			WORK INITIATED	POWER	6-16-50
4384	3-3	762	P.E.D. OFFICE SPACE ANALYSIS			WORK PROGRESSING	P.E.D.	3-17-50
4385	3-6	703	OFFICE PARTITION STUDY			WORK PROGRESSING	O.S.D.	4-7-50
A562S	12-8	700	STORES DIVISION CONSOLIDATION			WORK PROGRESSING	STORES	4-14-50
M714	5-4	ALL	ELECTRICAL POWER CONSERVATION			WORK PROGRESSING	ELECT.	3-24-50

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

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ESTIMATING COMPLETE (10 20 30 40 50 60 70 80 90)	SCHED. COMPL. DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
546	3-9	200W	REV. FOR NEW SITE		3-15	$170,000 - EST. TO H.F. PETERSON		3-10
546	3-1	200W	PUMPS		3-9	$50,000 - EST. TO E.M. JOHNSTON		3-9
562A	1-11	700 600 200	STORES WHSE. RENOVATION		3-14		MFG.	
567	2-16	700	M-1 DORMITORY CONVERSION		2-23	$38,600		2-23
1085	2-17	100	CO_2 SYSTEM			$7,400		2-24
1130	3-3	108B	P-10-A EXPANSION		3-20			
2490	2-17	200	IODINE REMOVAL		3-3	$149,000 - EST. TO E.M. JOHNSTON		3-3
2491	2-1	241TX	EVAPORATION FACILITIES		2-16	$866,000 - EST. TO E.M. JOHNSTON	S	2-25
2528	3-1,	222B	DRY WASTE CRIBS		3-1	VARIOUS		3-1
3086	12-22	300	CORROSION HEAT FURNACE		1-20	$16,000	T	1-18-50
A563	3-2		METEOROLOGICAL STATIONS		3-2	$30,800		3-9
C343	3-1	200W	CELL MOCK-UP FOUNDATIONS		3-2	$24,000		3-2
C343	3-3	272E	VALVE REMOVAL		3-3	$ 540		3-3
C343	3-3	200U	INSTRUMENT REMOVAL		3-3	$ 970		3-6
C343	3-3	272-E	MOCK-UP ERECTION H-2-17225		3-7	$ 2,360		3-7
C343	3-3	272-E	MOCK-UP FABR. H-2-17222		3-7	$ 4,350		3-7
C343	3-3	272-E	MOCK-UP FABR. H-2-17232		3-7	$ 4,400		3-7

CONT.

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

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

DATE MARCH 15, 1950

E.R. NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	PERCENT ESTIMATING COMPLETE (10 20 30 40 50 60 70 80 90)	SCHED. COMPL. DATE	REMARKS	DIV. RESPON.	ESTIM. COMPL. DATE
C343	2-20	200W	BARRICADE & PLATFORM		2-20	$19,200 - EST. TO D & C		2-25
C343	2-20	200W.	CONC. OPENING		2-20	$5,000 - EST. TO D & C		2-25
C343	2-20	200W	T.C. FACILITIES		2-27	$37,000 - EST. TO D & C		2-27
C343	2-20	200W	VENTILATION		2-27	$1,760 - EST. TO D & C		2-27
C343.	2-20	200W	OFF-GAS DILUTION		3-10			
EE1686	3-3	100H	WATER RECIRCULATION		3-15			
M754	3-3	100H	P-13		3-6	$67,000 - EST. TO F.A. BOWMAN		3-9
--	3-7	300	PATROL ROAD EXTENSION		3-7	$500 -		3-7
--	3-9	314	COCHRANE-BLY SAW & TABLE		3-9	$40,000		3-9
BUDGET	3-10	--	16 ESTIMATES SCHEDULED TO DATE		3-13	VARIOUS - (C.F. GABEL)		
BUDGET	3-8	--	2 ESTIMATES FOR H.I.		3-8	$70,000 - EST. TO H.I.		3-8
BUDGET	3-9	200	BY TELEPHONE EXCHANGE ADD.		3-12			

[redacted]

MARCH 15, 1950

RECAP - ALL AREAS

PROJECT COSTS

	100	200	300	GENERAL	TOTAL
AUTHORIZED	$3,303,000	$1,927,450	$ 991,800	$4,371,200	$10,593,450
AWAITING APPROVAL	194,700	1,062,000		77,100	1,333,800
WORK IN PREPARATION	1,457,800	484,600	3,147,000	2,349,000	7,438,400
TOTALS	$4,955,500	$3,474,050	$4,138,800	$6,797,300	$19,365,650
LAST MONTH'S TOTALS	$4,809,400	$2,987,050	$4,163,600	$6,801,600	$18,761,650

PROJECTS COMPLETED DURING MONTH:

C-338	NINE TUBE MOCK UP TO SIMULATE B, D & F	$24,800

[redacted]

[redacted]

TECHNICAL DIVISIONS

March 1950 4/10/50

SUMMARY

Pile Technology Division

The major effort of the Physics Section involved planning for the loading of the central 600 tubes of the H Pile for increased P-10 production. Experimental work in the DR Pile is being planned to determine the optimum loading arrangement.

A large development program for extraction phases of the P-10 program has been initiated.

Improvements have been effected in the method of canning P-10 fuel slugs.

An improved pile start-up procedure, which has significant advantages over the conventional "reduced power" start-up procedure was demonstrated.

Precise measurements of the curvature near the inner end of the gun barrel in top central tubes of the piles show that the worst condition prevails at the F Pile, with a radius of curvature of 660 inches.

Development of equipment for insuring complete transformation of production slugs is continuing.

Separations Technology Division

The first of ca. 450 MWD/ton metal is now being processed in the Separations Plants under close observation. The causes of higher-than-normal product hold-up obtained in recent B Plant Acid Wash Runs are being investigated. Metathesis time cycle shortening by production testing has been satisfactorily obtained and variations in the Isolation Building final product solution volume are being studied via production tests in an effort to improve product accountability and transfers between Bldgs. 231 and 234. Improvements in Bldg. 234 Dry Chemistry conversion yields are being attempted. Accumulated "scow sweepings" from Dry Chemistry operations have been separately reduced to plutonium metal buttons, which are being stored for future recovery operations.

In Redox and Metal Waste Recovery process development, sixty-one additional solvent extraction column runs were made during the past month, all on TBP process studies. Packed column performance with Shell Deodorized Spray Base as the TBP diluent was poorer than that with Stoddard Solvent previously reported. Additional pulse column runs under optimum conditions have produced waste losses of 0.1 - 0.2% for both the RA and RC Columns for effective "packed" heights of only 5.4 ft. Redox pump testing has advanced satisfactorily to the point where pump specifications for Production Plant design are now being established.

[redacted]

In the research laboratory, Redox studies have eliminated previous concern about possible plutonium precipitation in product streams, and additional scavenging and ozonization data have been obtained. TBP process studies have included dispersion studies in liquid-liquid extractors, acid butyl phosphates formation and properties fluoride complexing, and decontamination behavior of various TBP diluents. Process scouting for Bldg. 234-5 operations has involved studies of nitric acid recovery leaching of slag and crucible wastes, "electroless" plating of nickel on plutonium, and coupling of Redox solutions to Bldg. 234 operations. Various potential methods of separating aluminum and U^{235} are being investigated as a necessary requisite to the development of a more desirable process for the recovery of "25."

In the 234-5 process development laboratory, the study of substitution of peroxide for oxalate purification has been continued. A design basis for plutonium "skull" recovery has been issued. Considerable improvement has been made in producing plutonium cores that will pass through the "Go" gage in all directions. Improvements in radiographic methods and techniques have been obtained.

Investigation of sub-normal T Plant sand filter efficiencies has revealed the filter to be saturated with water from steam leaks into the ventilation duct and previous cell flushes. Unusually large quantities of iodine have been trapped in the filter and appear to be the cause of low "apparent" filter efficiency. The steam leaks have all been corrected and the filter bed is being dried out slowly. Pilot runs on the silver reactor for iodine removal and Fiberglas particle filters are being accelerated.

Technical Services Division

Rala laboratory design work continued in the Analytical Section on a 6-day week basis, and fabrication was initiated on several phases of the necessary mock-up in Bldg. 101. Sample sizes and analytical methods continued under study, and techniques were proposed for the adequate evaluation of total iodine and I^{131} in gases to be evolved during the dissolution of Rala slugs.

The spontaneous fission counter was received from KAPL and is being installed in the T Plant control laboratory for Analytical Section use with the alpha pulse analyzer in the determination of individual plutonium isotopes in Hanford process materials.

The Analytical Section has initiated a survey of all analytical procedures presently employed in the control of the separations process, with a view to introducing improved methods wherever possible. Particular attention is being given initially to the AT assay.

Shipment to the Du Pont Company of copies of essentially all classified records accumulated by the Operation's Central Files during Du Pont's tenure at Hanford was made on March 29. This material, comprising 263 packing cases, covers the period from the fall of 1943 through August 31, 1946. Only about 4 packing cases, consisting of records presenting special documentation problems, remain to be processed.

Initial steps were taken to centralize in the Information Group the control of code designations used at Hanford. Meetings were held with representatives from Manufacturing, H.I., Technical, and Design and Construction, and a draft of an Instructions Letter on the subject is being prepared.

AB Greninger:dg

April 10, 1950

PILE TECHNOLOGY DIVISION

MARCH, 1950

VISITORS AND BUSINESS TRIPS

C. E. Weber, Knolls Atomic Power Laboratory was here March 8 and 9 for technical consultation on KAPL requests.

P. E. Brown and D. N. Dunning, Argonne National Laboratory arrived March 20 for about one month in connection with Special Request ANL 141.

J. R. Low, Knolls Atomic Power Laboratory, was here March 23 and 24 to discuss the materials testing program.

J. H. McKinley and W. H. Byford, Argonne National Laboratory, were here March 28 and 29 in connection with ANL 140.

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

A. A. Johnson, J. C. Chatten and E. A. Eschbach visited Argonne National Laboratory March 2 and 3 for P-10 consultation.

P. H. Reinker visited the Atomic Energy Commission, Washington, D. C. on March 3, 1950 for technical discussions.

[redacted]

Pile Technology Division

P. M. Thompson attended an IBM demonstration in Seattle, Washington March 3 and 4.

R. G. Wheeler visited Argonne National Laboratory March 13 and 14 for metallurgical consultation. He visited Knolls Atomic Power Laboratory March 15, 16 17 to attend a metallurgical information meeting.

E. Ward visited Knolls Atomic Power Laboratory March 15, 16, and 17 to attend a metallurgical information meeting and visited Oak Ridge National Laboratory March 20 for metallurgical consultation. He also visited Battelle Memorial Institute, Columbus Ohio on March 21 for metallurgical consultation.

A. E. Matheson visited Knolls Atomic Power Laboratory and the General Engineering and Consulting Laboratory March 20 through 24 for P 10 consultation.

R. E. Nather visited the Atomic Energy Commission, Washington, D. C. March 23 and 24 for technical consultation on the P 10 program.

ORGANIZATION AND PERSONNEL

	February	March
Physics Section	40	40
Engineering Section	35	39
Metallurgy Section	32	31
P 10 Project	17	21
Administrative	3	3
	127	134

A chemist transferred into the Engineering Section from Separations Technology Division. Five employees transferred from Community Fire as laboratory assistants, one for the Engineering Section and four for the P-10 project. Two laboratory assistants transferred into the Engineering Section from Technical Services Division and a laboratory assistant transferred from Metallurgy Section to the Medical Division.

PILE PHYSICS

Increased P 10 Production

The major effort of the Physics Section during March has been in developing additional information related to the loading of the 500 central tubes of the H Pile for increased P 10 production. These tubes will contain 9 pieces of U^{235}-Al alloy, each 8 inches in length, alternating with pieces of Li-Al alloy. This arrangement will occupy the central half of each tube. The ends of the tubes will contain natural uranium slugs. The main question remaining to be settled is the optimum length of the Li Al alloy slugs. Objectives to be fulfilled in determining the length are maximum P-10 production, proper

[redacted]

reactivity for the pile as a whole, and avoidance of small regions of high power production (hot spots) near the edge of the special load either in the natural uranium or in the special load.

Experimental work to be carried out in the DR Pile is being planned to determine the optimum loading arrangement. At month end the necessary mechanical and instrumentation work had been completed and experiments were scheduled to begin as soon as fuel slugs became available.

Experiments in the Test Pile have demonstrated that the calculations of the reactivity of fuel slugs are approximately correct. An exact check is not possible with a few slugs of this type inserted in the Test Pile. Test Pile results have also indicated a neutron absorption in feed slugs, when alternated with fuel slugs, which is 20% higher than the calculated value.

Plutonium Critical Mass Experiments

Modifications and additions to the experimental equipment have been made in accord with the recommendations of the review committee reported last month. A report (HW-17291) has been issued which relates in detail the changes made in apparatus and procedures.

All construction work within the P-11 Area was completed on March 24. During preliminary tests of the completed assembly, several design and fabrication errors became apparent. Correction of these faults has delayed the start of the experimental program beyond the end of the month.

An evacuation and practice evacuation plan for the P-11 Area has been formulated and issued after consultations with members of Security, H. I., and Patrol.

Pile Physics Work

A new startup procedure was tested at D Pile. This procedure allowed a production saving equivalent to three hours operation at full power. It is an improvement on "reduced power" startups and consists of operation at full power immediately after startup, a subsequent reduction in power to avoid too large a reactivity transient, and finally a return to full operating power.

Power coefficient tests were performed this month at B Area at 275 MW with 97% carbon dioxide, at F Area at 305 MW with 50% carbon dioxide, and at H Area at 330 MW with 100% carbon dioxide. Preliminary analyses indicate general agreement with expected trends.

A re-determination of the neutron flux of the D pile under shutdown conditions was obtained by irradiating foils while the pile was at zero power, and slightly sub critical. Attempts to monitor flux variation during rod withdrawal were unsuccessful.

Pile Technology Division

Following expansion of the flattening poison pattern at the F Pile, and replacement of A rod a recalibration of this rod by means of reactivity periods was performed and a value of 57.3 inhours was obtained which is about 6 inhours greater than that observed for the previous flattening pattern.

The neutron distribution along a process tube has been determined by measuring the induced radioactivity of a column of aluminum slugs exposed in one tube of the H Pile for several months. Higher neutron flux was found near the ends of the column than had been found in previous measurements. The cause of this discrepancy is unknown.

Special Request Program

Forty under-exposed P-10-A pieces were discharged during the month, but were later recharged for further exposure in the first such operation performed with this material. Fifteen other special requests were discharged while 80 fresh P 10-A pieces and 3 other special requests were being charged. There are 16 additional special requests on hand waiting to be charged.

Reactivity

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

	B Pile	D Pile	F Pile	H Pile
In rods	106 ih -	28 ih -	89 ih -	174 ih -
In xenon poison	458	464	548	594
In Special Requests				
P 10	423	437	237	264
Materials Testing Program	15	5	15	0
Other	25	63	22	0
In lead-cadmium columns	0	0	0	55
In bismuth	118	104	116	0
In plant assistance	0	46	0	5
In dummy columns	0	4	27	0
In over-all coefficient	-240	-250	-260	-121
Total cold, clean reactivity	905	891	794	971

The B Pile gained 24 inhours, the F Pile 11 inhours, and the H Pile 61 inhours during the month, while the D Pile lost 24 inhours.

Reactivity variations at B and H during the month could be accounted for on the basis of variations in product concentration in the piles, as could the observations at F when corrected for revised rod calibration and P 10 column evaluation. At D Pile the increase in carbon dioxide content in the circulating gas as well as extensive loading changes made the reactivity status somewhat uncertain.

[redacted]

Pile Technology Division

PILE ENGINEERING

Slug Exposure and Inspection

Measurements obtained on two tubes of metal discharged at 575 MD/ton under Production Test No. 105-276-P have shown no changes of engineering significance.

Examination of Forged Uranium Slugs (P. T. No. 105-230-P) discharged after an exposure of 492 MD/ton has shown that the behavior of P-10 fuel slugs is in progress. A second test to cover the loading of 4 adjacent tubes with the proposed H-10 charge is being circulated for approvals.

Pile Control

In connection with the development of a ball 3X system that will operate without thimbles, a gas seal has been developed and tested. A seal made of segmented graphite rings lubricated with silicone grease installed on the DR Pile has shown no detectable wear on gas leakage after 50 scram tests. The addition of the seal increased the time of fall of the free falling rod from 2.0 to 2.2 seconds.

Tube Corrosion

Borescopic examination at the B Pile of a group of 6 tubes from which the front dummy charge has not been removed has shown that corrosion product deposition is less pronounced than for tubes which have been without dummies for a year or more.

Power Level

Plans have been completed for increasing the power level of H Pile to 370 MW during April.

Graphite Expansion

Compilation of Pile Motion Measurements indicated that there had been no change in general trends. There was continued annealing of the previous expansion at the center of the B, D and F Piles and probable continued expansion of the cooler graphite. At the H Pile there has been no vertical expansion of the graphite stack as measured by the two central push rods through the Top Shield during the past two months.

Measurements of the vertical bowing of the top central tube at the B, D, and F Piles were made with a mercury manometer in place of the regular water manometer. Although this new instrument is not entirely satisfactory the accuracy of the data appeared to be much better. This is important in order to determine the rate of expansion near the edges of the pile. Curvature measurements of the top central tubes were made on Production Test No. 105-292-P. These measurements indicated that there was a deflection of about 0.2 inches in the second

[redacted]

[redacted]

four foot graphite tube bearing block at the top center of the F Pile.

The carbon dioxide in the D Pile atmosphere was increased from 60% to 80%. This resulted in a maximum measured graphite temperature of 369° C at a local heat generation of 47 1/2° C temperature rise in adjacent .240 zone tubes. This represents increase of 35 to 40° C in graphite temperature due to the increased carbon dioxide concentration.

One vertical thimble with two chromel-alumel thermocouples attached has been fabricated and is to be installed as a replacement in the near future. It is important to have actual measurements of thimble temperatures because the conservatively calculated temperatures are now limiting pile power level or carbon dioxide concentration.

Graphite Monitoring

Additional measurements were made on the program currently in progress to evaluate the effectiveness of pile annealing (nuclear annealing) at a pile exposure temperature of about 340° C. The latest group of samples, during an exposure of 247 MD/CT (about 4 months), showed continued recovery of physical and X-ray expansion. A group which had a previous low temperature expansion corresponding to an irradiation of about 1 year were almost completely annealed during the 4 month exposure in the pile; a group with a physical expansion corresponding to about 2-1/2 years' exposure at <30° C recovered about 80%. Comparable annealing with slightly lower percentage recoveries of the C_o-spacing were measured. The rate of nuclear annealing is strongly dependent on the temperature of exposure; the rate decreases with increasing exposure at 340° C. Measurements on control samples, held at the irradiation temperature in a laboratory furnace, demonstrated conclusively that the recovery on pile irradiation was the result of nuclear rather than thermal annealing.

In line with previous results at 250° C, virgin graphite exposed for 4 months at 340° C showed no detectable physical or X-ray expansion. During a 141 MD/CT exposure (2-1/2 months) the electrical resistance increased by a factor of 1.9 and the thermal conductivity decreased by a factor of 1.7. The rate of change of these properties is somewhat smaller than that obtained at 250° C, in a region of lower flux, and very much smaller than that observed for exposures at about 25° C. The rate of change of these properties is decreasing with longer exposure at 340° C.

Experiments designed to clarify the current confusion in the literature regarding the effects of radiation on the rates of oxidation of graphite have given conclusive evidence that the rate of oxidation at 335° C is accelerated by previous pile exposure. The longer the pile exposure, the greater the accelerating effect; an irradiation of 1177 MD/CT increased the oxidation rate of KC graphite by about a factor of 35.

[redacted]

[redacted]

Pile Technology Division

Heat Transfer

"Heat Transfer Aspects of the R-10 Program", HW-17327, was issued. This report discusses the effect of increasing process tube water rates and raising the allowable slug surface temperature on the lengths of "25" charge required in a process tube for various heat loads. It was found that increasing the water rate by 25% and allowing a maximum slug surface temperature increase of 12° C over present restrictions would permit a 50% reduction of the "25" charge length for a process tube with a heat load of 210 KW.

It was calculated that the water flow required at the DR Pile subsequent to a shutdown from an operating level of 335 MW of P-10 production would not be appreciably greater than that required for a pile producing plutonium at 275 MW. This was based on the anticipated improved flattening of a P-10 pile.

Boiling disease tests made on a small electrically heated aluminum tube have resulted in pressure drop and flow fluctuations sufficient to cause burnout even when the water had not been completely vaporized. These fluctuations are of such magnitude that any effects of the type of metal heating surface are negligible so stainless steel tubing is being substituted for the aluminum in future tests. The most probable explanation for the fluctuations is temporary superheating of the water.

Materials Testing Program

Meetings with representatives from the various AEC Laboratories developed the information that the desired program for materials testing in the Hanford Piles was far greater than that which had been presented last fall. Hanford was unable to agree to more than a small fraction of this program in the face of current commitments. However, a continuing effort in this direction is extremely desirable in order to acquire technique and know-how for an expanded program at a later date.

The Navy Fuel Test Rig(SR-ANL-140; P-13) is the high-pressure, high-temperature re-circulating water channel to be installed in A hole at H Pile. The rig was designed and built mostly by the Naval Reactor Division at Argonne, and arrived at Hanford on February 16. This is the first experiment of this type, and much alteration and re-design has been necessary at Hanford. Re-design, construction, and mock-up operations will continue until the rig is shown to be satisfactory.

P-10-A Slug Manufacture

The preparation of 5420 6.2 inch slugs for the H-10 program is underway on a 2 shift, 6 day week basis. At month end 800 slugs had been produced and it is expected that all the slugs for H-10 will be available for pile loading by July 8. Because test work in the DR Pile may result in a change in the length specifications for these slugs consideration is being given to accumulating a back log of billets or extruded rods and then performing the final machining on a multi-shift basis after the DR Tests.

[redacted]

Pile Technology Division

The following items are being investigated with the objective of placing slug production on an efficient standard operating procedure basis:

1. Mold outgassing prior to every heat has been initiated to reduce the incidence of unsound billets.

2. An additional vacuum gauge has been installed to permit better monitoring of rapid pressure changes during some operations.

3. A magazine loading apparatus is being built to permit addition of the lithium after the aluminum has been melted and outgassed.

P-10 Extraction

Cold traps have been installed between the furnace and first pump to remove the small amount of water evolved during the outgas step in some runs.

Considerable difficulty has been encountered in making the precise (semi-micro) weighings associated with the density method for purity analysis. At present these weighings must be made under extremely adverse conditions because of the P-10 radiation hazards. Electrostatic effects appear to be responsible for the frequent erratic behavior of the balance.

P-10 Development and Construction Activities

With the recent increased emphasis on P-10 production a large development and construction program has been initiated. A brief summary of these items follows.

Extraction Development Studies

The experimental extraction work at Hanford is being expanded with the first objective of improving the operation of the present type extraction lines. It will be necessary to remodel these lines late in 1950 in anticipation of the increased load which will result from the P-10 program starting about March 1951.

KAPL Program

An experimental program is underway at KAPL with the first objective of investigating new recovery processes. Synthetic mixtures of hydrogen and helium are being used at present. It is expected this program will be expanded to include "hot" work within the next month.

P-10-A Expansion

This project provides for the installation of additional facilities for the manufacture of finished P-10-A slugs in Building 108-B, eliminating the 300 Area

Pile Technology Division

P Division aspects of the P-10-A operation except for can preparation and 305 tests. A number of other items such as the removal of water treating equipment, installation of a shower room and elevator, a security fence, etc. have been included in this project.

P-10-B Project

This project provides for the addition of space and equipment on the second floow of 108-B to operate 5 vacuum extraction systems for "cold" experimental development work and for gas analyses of unirradiated slugs. In addition the project provides for conversion of one existing extraction line on the third floor (which has been operated for the above purposes) to a 'hot" extraction line.

P-10-C Project

This work provides for the design and construction of a prototype metal extraction line by the General Engineering and Consulting Laboratory. Work is proceeding in Schenectady under Suspense Code M-760 for $25,000 anticipated expenditure prior to May 1, 1950. Firm cost estimates and time schedules will be available by May 1, 1950 for use in preparation of a Project.

P-10-D Project

This work provides for additional hot facilities on the third floor of Building 108-B for experimental installation and testing of the equipment to be delivered from Project P-10-C. The work will include new furnace design and construction, and provision of new facilities for handling irradiated slugs. In addition, facilities will be provided for the investigation of new processes.

METALLURGY

Uranium Billet Casting

A plan for expediting the movement of briquettes from Chip Recovery to the Melt Plant was tried on an experimental basis. A comparison of the pour yields of 28 heats cast before and 28 heats after the adoption of this plan, shows an increase in yield from 84.4% to 88.8%. The improved yield is attributed to the alleviation of oxide formation.

In a further attempt to reduce the oxide content of chips reaching the Melt Plant, alternate pickling solutions are being studied. A sulfuric acid-hydrogen peroxide solution, recommended by Iowa State College, has been experimentally tried with promising results. Further experimentation along this line is planned.

Due to the press of more urgent activities, the Metallurgy Section's responsibilities for experimental work with the air filter mock-up has been transferred to the Project Engineering Division. The work performed to date is summarized in Document No. HW-17229.

Pile Technology Division

In the February monthly report, it was erroneously stated that lead preheated billets had produced a 5% improvement in machining yield. This should be corrected to read 0.5%.

Uranium Rolling

A letter, Document No. GEH-16509, was received from Battelle giving final uranium rolling data. The pertinent information in this letter was obtained previously by phone and was reported to Project Engineering in Document No. HW-17145. This completes the Battelle experimental rolling work requested by Hanford.

The A.E.C. has arranged for a production scale test of 300° C rolling during the April fabrication at Lockport. An attempt will be made to roll 2" and 3" diameter rod, reduced from billets by various methods at higher temperatures, to standard size rod at 300° C.

Diameter and ellipticity measurements on the March 6 shipment of rolled rods were similar to those of the past several months.

Uranium Slug Canning

The design of the quad-dip lockout equipment has been completed and construction has begun on the agitating mechanism. It is planned to evaluate the latter before proceeding to the installation of the complete device.

In a trial run involving 174 slugs canned with the use of a lead quench bath instead of the standard tin bath, considerable trouble was experienced with the formation of a mass of alloy on the bronze dipping tongs caused by contact of the latter with the surface of the molten AlSi on the lead bath. A modification of the slug basket for this bath is being fabricated to prevent this condition.

Dilatometry

In a continuation of work on the slug dilatometer, a number of bare slugs having various degrees of transformation were tested, and the data indicate that the degree of transformation can be detected by the amount of expansion occurring on heating the slugs to 200° C. It is planned to repeat the test on canned slugs, and then check a number of slugs from the production line to prove the test as an inspection method.

Radio-Metallurgy

Three 8 mil thin sections of irradiated thimble that weigh about 0.28 grams each, read about 10 mr/hr at 2-1/2" and about 350 mrep/hr at surface as measured with a CP meter. After etching slightly with NaOH, a radio-autograph was made of the specimens with the etched Al surface in direct contact with the emulsion. A 3-1/2 hour exposure produced a good negative which showed an interesting linear structure characteristic of rolled or extruded aluminum.

[redacted]

Pile Technology Division

A Mallory rectifier was received for supplying the d.c. source for electrolytic polishing and grinding operations. In addition, a previously used thymotrol control unit has been installed to provide higher voltages, if necessary.

A double-walled plywood cubicle, having sections similar to the proposed intermediate level cell, has been installed in the 111-B Bldg. The mock-up cell has ports in a number of removable panels so that auxiliary equipment can be attached to and operated in the cell. One panel is made of steel and has three ports machined like those in the projected intermediate steel cell. Evaluation of manipulators and visual systems will be done in the rigid support thus provided. A wooden plug periscope equipped with a scanning prism has been received and adapted for use in this cell. This periscope is a modification of an earlier, non-scanning design, a model of which is also on hand. Two wooden plugs for mounting 150 watt, projector flood lamps have been fabricated. Appraisal of the lighting arrangement will be made as soon as suitable connectors for the lamps (on order) are received. A mock-up of the proposed service panel has been started for the purpose of studying appearance and convenience features of the design.

Preliminary investigation into the cause of the failure of the uppermost coupling in a loose jointed vertical safety rod at the D Pile has indicated that the type 416 stainless steel used is inadequate for this type of service. Type 303 stainless steel has been recommended.

Preliminary experiments for darkening glasses by exposure to gamma radiation have been made at dosage rates in the order of 0.2×10^6 R/hr. Eleven different pieces of glass, ranging from optical to window quality and with densities from approximately 3.0 to 6.5 g/cc. have been exposed to 1.1×10^6 R, annealed and re-exposed to 0.4×10^6 R. Spectro-photometric measurements, in the range of visible light, that were made before and after each phase of the experimentation show that the high density leaded glass, such as is proposed for use in the intermediate level cells, is the least affected by the radiation. Results are being reported separately.

P-10 Alloys

A satisfactory electrolytic polish has been developed for P-10-A alloy specimens, and work is proceeding on the series of alloys containing various amounts of the added element. There is no visible second phase in the 1.3% alloy, only a small amount in the 2.3% alloy, and increasing amounts in the higher percentage alloys.

X-ray diffraction is being used to assist in making determinations of the relative amounts of second phase in P-10-A alloys. The structure of the second phase consists of two interpenetrating diamond cubic lattices, one of base metal atoms, the other of added element atoms. This arrangement is equivalent to a body centered cubic structure if the identity of the atoms is disregarded.

Seven slugs of normal composition were given a solution heat treatment for a test to determine the effectiveness of this treatment in reducing P-10 product impurity content.

[redacted]

Pile Technology Division

Twelve 8" aluminum enriched uranium slugs ("J" slugs) were canned using steel wool pads as the abrasive medium for promoting wetting. Further experiments in canning 7% natural uranium alloy dummies indicated that a circular TaW wire brush did an excellent job in promoting wetting but was too flimsy to stand up well in constant service. An alternate device, consisting of a split stainless steel ring of the same radius of curvature as a slug, held together by spring tension, was successfully used in canning another 300 "J" slugs.

Control of "J" metal in the canning bath is being attacked by three methods: use of 305 pile, chemical analysis, and radiation counting. Standards are being prepared to permit the establishment of curves whereby the concentration of the bath may rapidly be determined.

Several eight inch aluminum-7.5% natural uranium slugs were cast for experimental canning runs. These slugs as well as some four-inch 7.5% natural uranium slugs from Oak Ridge were examined metallographically to compare the structure with that of the initial four inch 4% slug received from Oak Ridge. The structure was the same except that there was more eutectic, containing the uranium rich phase, present. In the Hanford 7.5% slugs, there was an area in the center in which a greater than average amount of eutectic was observed. However, from chemical analyses, it was found that, on a macro scale, inverse segregation occurred in both the Hanford and Oak Ridge 7.5% slugs, i.e., the uranium content was approximately 0.5% higher on the surface than at the center. Segregation along the axis of the slugs was small being of the order of 0.2% in a Hanford 8" slug. Photomicrographs showing the distribution of the uranium bearing phase in both the 4 and 7.5 per cent uranium slugs were prepared, and a set of these was given to the Pile Physics Section for their analysis.

Chill casting and extrusion are also being studied as possible methods of fabricating the aluminum-uranium alloy. A request has been placed for 10 extruded slugs made from enriched uranium for pile testing.

In X-ray orientation studies, no preferred orientation was found in a cast 7.5% uranium specimen. No extruded material was available for orientation work, but as a substitute extruded P-10-A alloy was examined. The orientation of this alloy was duplex with the 111 and 100 directions parallel to the extrusion axis.

Five aluminum-silicon slugs containing small quantities of U-235 were cast. These were for 305 tests required to establish standards for controlling the "J" slug canning bath composition.

Corrosion

The test program, in which the resistance of mild steels and protective coatings to ANN Recovery, LAW and 200-A Waste solutions were tested, has been completed. A formal report will be issued as soon as the data are analyzed.

[redacted]

Pile Technology Division

Stellited 309-SCb sample specimens have been received and are being tested in IAX, IAF, IAS, IIAF, and 60% HNO_3 environments. So far as possible, these tests will duplicate those to which the stellited T-347 sample specimens were exposed.

Stainless steels T-304 ELC, T-309 SCb, T-347 and Carpenter 20 are being tested in RAW and RAW (Conc.) solutions. Indications to date show these stainless steels to be resistant under boiling, complete immersion conditions.

Tests with austenitic stainless steels and 202-S waste storage streams have been initiated. The exposure time has not been sufficiently long, however, to draw any conclusions.

A graph of weight loss versus tin content in Al-Si was plotted following the first three months' exposure period in pile coolant water at approximately 65° C, and a downward trend of the weight loss curve was noted in the tin concentration range above 0.5%. The data, which are in conflict with earlier data, will be submitted to the Statistics Group in an effort to determine whether or not the trend is significant.

Dynamic applied potential corrosion tests on aluminum at room temperature have been completed. Bakelite varnish #17656 failed on 309 hours exposure to distilled water under dynamic conditions. Cracks started at the edges and water penetrated under the coating; the flat surfaces, however, were unaffected. Corrosion rates at the anodes ranged from 3.6 mils per year to 6.0 mils per year while rates at the cathode ranged from 5.8 to 14.5 mils per year. In each case, surprisingly, the rate was higher at the cathode than at the anode. All anodes were pitted whereas none of the cathodes showed pitting. Applied potential in each case was 40 volts.

The first three months exposure period for thimbles in humid atmospheres has been completed and weight losses indicated no significant difference between the performance of welded and unwelded thimbles. Two thimbles, one welded and one unwelded, were connected electrically during the test and showed much higher weight losses than the pair which were not connected. The V.S.R. guide continues to be positive relative to the thimble, and voltages ranging from .15 to .25 volts were detected.

Miscellaneous

Battelle reported that the creep rate of the 2S-0 aluminum specimen under a 60 psi load at 450° C was nil after 3900 hours. Because of the controller failure, this specimen was overheated approximately 100° C for seven hours. During this period 0.05% deformation occurred, but when the correct temperature was restored, the rate again became nil. The design curves on 2S-0 aluminum are sufficiently complete to indicate clearly that 2S sheet stressed to 60 psi at 400° C and 450° C is safe for time periods up to at least 10,000 hours.

[redacted]

[redacted]

Pile Technology Division

Two sections of corroded process tubing from the 100-B Area were examined to determine the depth of pitting. This tubing did not have an inner layer of 72S aluminum. Penetration of the pitting in three areas amounted to 24 to 63 per cent of the wall thickness.

Twenty-nine Special Request pieces were processed, tested, and identified.

A request was made to extend the completion date for Building 3730 to June 30, 1950. Other higher priority sheet metal work has held up the completion of this building. Work on the building has been accelerated during the past month, and if activity continues at the present rate, construction should be completed within the next 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. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

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

WK Woods:bb

[redacted]

April 10, 1950

SEPARATIONS TECHNOLOGY DIVISION

MARCH, 1950
MONTHLY REPORT

VISITORS AND BUSINESS TRIPS

D. G. Reid, F. L. Steahly, F. Bruce, and H. E. Goeller of the Oak Ridge National Laboratory visited this site on March 8 and 9 for consultations on the P-10 Project.

B. Rubin of the Radiation Laboratory, University of California, visited here on March 13 and 14 for consultations on the development of the pulse column.

L. W. Niedrach, Knolls Atomic Power Laboratory, visited this site from March 27 through 31 for discussion of separations processes problems.

R. B. Richards visited the Brookhaven National Laboratory from March 27 through 28 for a Waste Disposal Meeting and the Knolls Atomic Power Laboratory on March 29 and 30 for discussion of SPRU.

G. Sege, R. L. Moore, and W. H. Reas attended the A.C.S. Regional Meeting at Houston, Texas, from March 27 to 30.

W. M. Harty visited the Argonne National Laboratory on March 30 and 31 for a consultation on MJ-3 shipping container design.

ORGANIZATION AND PERSONNEL

Personnel totals in the Separations Technology Division are as follows:

	February	March
Administration	2	2
Special Assignment	2	2
Process Section	26	25
Development Section	91	92
Research Section	32	33
	153	154

Separations Technology Division

Process Section: Two Technical Graduates were transferred to the monthly roll as Chemical Engineers, and one Chemical Engineer was transferred to the "S" Division. A Chemist (P. E. Collins) was appointed Group Head of the 234-5 Plant Assistance Group.

Development Section: One Technical Graduate and one Chemist were added to the Section as new hires. One Chemical Trainee returned from a leave of absence due to illness. One Asst. Group Head was transferred to the Research Section as a Chemist, and one Chemist (M. K. Harmon) was appointed Asst. Group Head of the Process Chemistry Group. One Draftsman I was terminated.

Research Section: One Chemist was transferred from the Development Section and a General Clerk B was transferred from the Community Fire Division. One Chemist was transferred to the Pile Technology Division.

200 AREAS PLANT ASSISTANCE

Canyon Buildings

The first of the 600 MWD/ton Program material is being processed at B Plant. This material ranges from 444 to 449 MWD/ton. The metal heel was cleaned from dissolver 4-5L, prior to processing the more highly irradiated metal. The heel was removed without incident. Acid Wash Runs and equipment flushes are being made through the decontamination and isolation equipment to insure the identity of the test material.

The Acid Wash Runs at B Plant indicated a total product hold-up in the Canyon Building of approximately 80% of an average run. Tests to determine the nature of the product hold-up in the Extraction sections are in progress.

The preliminary data at T Plant indicate that the removal of the first cycle by-product cake from the centrifuge can be facilitated through the use of water spraying prior to the use of acid.

Analysis of the first cycle product precipitation waste of one run for americium and curium by the Chemical Research Section has indicated only 35% of the total reported alpha loss to be plutonium.

Concentration Buildings

Twenty runs processed at B Plant under Production Test 224-T-13, designed to shorten the Metathesis time cycle, resulted in an average loss of 0.06%. Standard runs processed preceding and following the test runs averaged 0.07% and 0.05%, respectively.

The lanthanum fluoride product precipitation centrifuge (E Cell) at B Plant has recently failed twice. In both cases the machine was repaired with a portion of a run in the bowl. Some difficulty was experienced in removing the cake from the centrifuge after the first failure. This was rectified in the second case by the addition of sufficient dilute nitric acid to the centrifuge to maintain the cake in a wet condition during the maintenance operation. It was necessary to rework the waste of the second run to reduce the product loss to an average level.

[redacted]

Separations Technology Division

Isolation Building

The still in Cell 2, processing T Plant runs, was replaced. Flushing, prior to replacement, recovered 7.3% of an average run from the old still.

An excessive amount of acid flush solution was inadvertently recycled into the second cycle of Run T-10-03-D-14. Adjustment of reagent concentrations resulted in essentially average performance for this run.

Sample cans meeting the drying requirements of Production Test 231-10 have been shipped to the Purification Building.

Purification and Fabrication Building

Etching and glass ampoules being used experimentally in Hood 8 Dry Chemistry furnaces during normal oxidation cycles indicated an HF gas leak into the furnaces. This would be conducive to oxyfluoride formation and low conversions. Poor conversions had been obtained on 33% of recent batches through Hood 8. Furnaces 4, 5, 6, and 7 were used exclusively for oxidations during the latter part of March and the valves to the HF header lines from these furnaces were closed. Poor conversions were obtained on 12% of the batches after this practice was started.

The equivalent weight of approximately two batches of fluoride had accumulated in Hood 8 as "scow sweepings." This fluoride contained large amounts of impurities and had accumulated since building start-up. The material was approaching a weight which would soon limit the amount of process material allowed in the hood. A ten-gram sample of the material was screened and reduced in experimental equipment in the 231 Building with a satisfactory button yield. A similar procedure was used in the plant for the remainder of the material in Hood 8. Buttons were obtained on both reductions. The buttons have relatively large amounts of copper, zinc, nickel (over 5%), and iron as impurities. They will be stored for recovery at some future date.

The calcium grinding equipment has been equipped with a screen of approximately 10 mesh through which the ground calcium leaves the mill. After grinding, the calcium is placed on a 40-mesh screen. All calcium that remains on the 40-mesh screen will be used.

REDOX AND METAL WASTE RECOVERY DEVELOPMENT

Solvent Extraction Studies: General

A total of 61 solvent extraction studies was completed in March, testing behavior of the RA (27 runs) and RC (24 runs) Columns for the TBP Waste Metal Recovery process. This included 8-in. RA and RC Column studies with both 1-in. and 1-1/2-in. stainless steel Raschig rings; 3-in. RA and RC Column studies with both 1/2-in. and 1-in. stainless steel Raschig rings; and 3-in. RA and RC pulse-column studies using plates pierced with both 0.079-in. and 0.125-in. holes. Most of these runs were made using nominal 12.5 vol. % TBP in new Shell Deodorized Spray Base as diluent. New information from these studies is summarized below:

[redacted]

[redacted]

Separations Technology Division

Packed Column Studies

1. Studies made in an 8.42-in. Diameter column packed with 18.4 ft. of 1-in. Raschig rings, and using 12.5 vol. % TBP in new Shell Oil Company Deodorized Spray Base, resulted in decidedly poorer extraction than for previous runs using Stoddard-type petroleum solvent as diluent. Operating at 1500 gal./(hr.)(sq.ft.), sum of both phases (1.1 short tons of uranium processed per day), H.T.U. values for the RA extraction section were approximately 5 ft. compared with previous values of approximately 2.5 ft. using Stoddard Solvent; and waste losses were approximately 3% instead of the previous 0.1%. Flooding capacity of the RA extraction section using the new spray base as diluent was approximately 3000 gal./(hr.)(sq.ft.), sum of both phases, instead of approximately 3500 determined previously with Stoddard Solvent as diluent.

2. Using 18.4 ft. of 1-1/2-in. stainless steel Raschig rings in an 8.42-in. diameter column for the same system discussed above resulted in essentially the same performance as for 1-in. Raschig rings (H.T.U. values of approximately 5 ft., uranium waste losses of approximately 3%, and a flooding capacity of 3200 ± 200 gal./(hr.)(sq.ft.)). All of the above studies with both 1-in. and 1-1/2-in. Raschig rings were made in the absence of ferrous sulfamate. However when 0.017 M ferrous sulfamate was added to the RAFS stream for one run using 1-1/2-in. rings the waste loss was initially 2.5% but decreased progressively to approximately 0.7% during the 4-hour running period.

3. Using the 8.42-in. diameter column packed with 18.4 ft. of 1-in. Raschig rings as an RC Column, and employing the new Deodorized Spray Base as diluent, extraction performance was nearly as good as during previous runs with Stoddard Solvent diluent, partly, it is believed, because the per cent TBP had been reduced to 12.5 vol. % from the previous 15 vol. % used in the Stoddard Solvent. At 1000 gal./(hr.)(sq.ft.), sum of both phases (0.6 short ton uranium processed per day), H.T.U. values were approximately 4.5 ft. compared with 4 ft. using Stoddard Solvent, and uranium waste losses were approximately 2% compared with previous values of 1% using Stoddard Solvent.

4. The performance of 1-1/2-in. stainless steel Raschig rings in the 8.42-in. diameter RC Column was slightly better than the performance of the 1-in. rings mentioned above, and just about the same as for previous runs using 1-in. rings with Stoddard Solvent diluent. The flooding capacity of the 1-1/2-in. Raschig rings under RC conditions was 2500 ± 200 gal./(hr.)(sq.ft.), vs. 1400 for 1/2-in. Raschig rings, and greater-than-2200 for 1-in. Raschig rings.

5. Operating a 3-in. diameter column packed with 21-ft. of 1-in. by 1-in. stainless steel Raschig rings resulted in the following new information:

a. Using TBP-H.W.No. 3 Flow Sheet conditions except for the absence of ferrous sulfamate, and with 12.5 vol. % TBP in a mixed diluent of approximately one-fourth "Deo-base" and three-fourths Shell Deodorized Base, uranium waste losses for both RA extraction and RC were equal to or higher than for 1-in. Raschig rings in an 8-in. diameter column (6% loss in RA, and 1.3% loss in RC)

b. Pulsing the above column (packed with 1-in. Raschig rings) at a frequency of 50 cycles per minute and an amplitude of 0.5-in. was slightly beneficial for RA extraction (waste loss dropped from 6% to 4%), but was decidedly beneficial for RC operation (waste loss dropped from 1.3% to 0.3%).

[redacted]

6. As was reported last month for the low-acid flow sheet (3.6 M NO_3^-), pulsing a 3-in. RA extraction section packed with 21 ft. of 1/2-in. by 1/2-in. stainless steel Raschig rings and operating at 6 M NO_3^- concentration (TBP-H.W. No. 3 Flow Sheet conditions except for the absence of ferrous sulfamate) decreased the RAW waste loss approximately 10-fold (0.03% waste loss when pulsed at 50 cycles per minute and 0.5-in. amplitude).

Pulse-Column Studies; 3-Inch Pierced Plate Column

Pulse-column studies were conducted using a 3-in. diameter glass column containing 32 pierced plates arranged in two cartridges of 16 plates each. Spacing between plates in each cartridge was 2.0-in., with a wide space of approximately 6 in. in the middle of the column between the two cartridges. Using this contactor arrangement, both RA simple extraction section and RC Colum studies were conducted to test pierced plates with approximately 23% free area and with 2 hole sizes (0.079-in. and 0.125-in. holes). In all cases the organic feed stream was pulsed, covering a pulse frequency range from 50 to 150 cycles per minute, and a pulse amplitude from 0.25-in. to 1-in. movement in the column. Although all combinations of the important variables have not yet been defined, some preliminary conclusions are as follows:

1. For both RA extraction section and RC Column operation using either the 0.079-in. or the 0.125-in. holes, the pulse column flooded completely when one of the following mechanisms became controlling:

a. When the sum of the influent streams in gal./(hr.)(sq.ft. of column cross section) significantly exceeded the "pulsed volume" (expressed as gal./(hr.)(sq.ft.) pulsed up and down in the column), the entering organic stream was not all carried upward in the column. The portion of organic feed which could not follow its normal upward path filled the space below the bottom plate and flowed out the bottom of the column with the aqueous effluent stream.

b. As the product of pulse amplitude times pulse frequency was increased, the flooding capacity of the column increased to a maximum value and then fell off again (in some cases quite rapidly) when emulsification in the column became so severe that phase disengagement below the bottom plate was incomplete When this occurred, both phases passed out the aqueous effluent line as emulsion.

c. The conditions at which maximum flooding capacities were attained are listed in the following table:

Conditions for Maximum Flooding Capacity; 3-inch Pulse Column

Column	Hole Size, In.	Amplitude, In.	Frequency, Cycles/Min.	Flooding Capacity Gal./(Hr.)(Sq.Ft.), Sum of Both Phases
RA Extraction	0.079	1.0	50	3200 ± 300
RA Extraction	0.125	1.0	65	Greater than 3460
RC Column	0.079	0.5	50	1060 ± 100
RC Column	0.125	1.0	50	2000 ± 200

Because severe emulsification did not occur with the larger holes until a higher product of frequency times amplitude, the flooding capacities of both the RA extraction section and the RC Column were greater with 0.125-in. holes than with 0.079-in. holes (nearly twice as high for the RC Column).

2. For both RA extraction section and RC Column operation with 0.079-in. and 0.125-in. holes, the best uranium extraction was obtained by operating at flow rates in the range 30 to 80% of flooding, while pulsing of conditions in the above table which resulted in the maximum flooding capacity.

3. Under optimum conditions, uranium waste losses of approximately 0.1 to 0.2% were realized for both RA extraction and RC Column operation in an effective "packed" height of 5.4 ft. (H.T.U. values of approximately 0.8 ft. for both columns; "over-all water-film" basis for RA extraction, and "over-all organic-film" basis for RC). Extraction using 0.125-in. holes was equal or superior to extraction with 0.079-in. holes (both RA and RC), with the added advantage that throughput capacity of the larger holes was 50 to 100% greater at these optimum operating conditions for each type plate. Although volume velocity (gal./(hr.)(sq.ft.), sum of both phases) is the most important variabl. affecting extraction performance in a packed column, it appears that the agitation power-input per unit volume of liquid may be of equal or greater importance in a pulse column. As a first approximation, it was observed that extraction performance was poor (i.e., waste losses on-the-order-of 10 to 20%) when the product of amplitude in inches times frequency in cycles per minute was 38 for the RA extraction section, and 25 for the RC Column. The lowest waste losses of approximately 0.2% or less were obtained when the above product was 75 for the RA extraction section and 50 to 65 for the RC Column.

In addition to the above solvent extraction studies, de-entrainment study 16"-1-DE was conducted by feeding aqueous solution containing approximately 50 g.UNH/l. into the top of a 16-in. diameter column packed with 1-in. by 1-in. ceramic Raschig rings, and analyzing for uranium entrained overhead by steam flowing up through the packing. Maintaining a weight ratio of liquid-feed to steam of approximately 1.0, the liquid-feed and steam rates were varied from 20 to 80 per cent of the calculated flooding capacity of the packing. De-entrainment was accomplished at the top of the 16-in. column by an 8-in. deep bed of 1-in. Raschig rings and a 2.4-ft. high unpacked section. Over a range from approximately 20 to 60% of the calculated flooding capacity of the packing, the measured entrainment was approximately 3×10^{-5} lb. of liquid entrained per lb. of vapor, corresponding to a decontamination factor of approximately 3×10^{4}. Entrainment was severe at 80% of the calculated flooding capacity of the packing, amounting to approximately 1/2 lb. of liquid entrained per lb. of vapor.

Process Chemistry has reported results of simple multiple batch extractions on IIAF feed samples from the simulated IIA Column runs 5"-1-2AU and 5"-3-2AU. Although there was considerable scatter of uranium concentrations remaining in the aqueous phase after these laboratory extractions, "mode" values were on the order of 0.0003 to 0.0006 g.UNH/l. Since waste losses from runs 5"-1-2, and 3-2AU were 0.002, 0.0024, and 0.006 g.UNH/l. (i.e., approximately 10-fold higher than for the laboratory extractions), it is concluded that waste losses in the 5"-2A Column runs were not limited by "inextractable" uranium, and that unexpectedly high H.T.U. values for the runs (summarized in HW-15628, R. B. Richard's monthly report for December, 1949) were real values.

Separations Technology Division

Bldg. 321 Construction and Maintenance

Some work was done during the period on the Inert Gas Generator, towards completion of Project C-331 exceptions. Engineering on temperature correction measures is complete and equipment is on order. While the 90-day deadline stipulated in the project close-out for completion of this work will not be met, this Section has been assured that all work listed will be completed.

Work was started on installation of the 16-in. diameter column. It is planned to make the installation with a minimum of piping revisions. Initial installation will permit operation at 1500 gal./(hr.)(sq.ft.). Considerable piping changes will be required if it is desired to exceed this volume velocity.

The impeller on the Demonstration Unit Roth pump failed early in the month due to corrosion. Investigation led to the belief that the cause might be cathodic corrosion. Proper grounding was installed to prevent this, and a new impeller inserted. This impeller was inspected after nearly a month's service and showed no evidence of corrosion. Considerable trouble was experienced with the 3-in. column pulse generator at high frequency due to inadequacy of the plunger return springs. Variations of pulse amplitude of 20 to 50% from specifications noted. Corrective measures are under consideration. Performance of recording-controlling rotameters and supporting equipment was satisfactory. Difficulty has been experienced with interface and RAFS control on automatic when making RC runs because the low specific gravity differential on these runs cuts instrument sensitivity to nil. It will be necessary to obtain a 10-in. aneroid to correct the condition for automatic operation, although manual control has been satisfactory.

A work order has been issued to cover revisions to the dissolver stack for off-gas studies. An orifice plate is being fabricated.

The 8-in. pulse column was readied for operation with 0.079-in. hole plates at 2-in. spacing. Work on revisions to the pressure tap transmitters and recorders is 20% complete. The 8-in. packed column was removed to make room for the 16-in. packed column. The necessary revisions were made to permit use of the hexone stripping column for the uranium de-entrainment studies mentioned previously. Installation of an additional steam supply line to the tank farm distilled water condenser now permits production of distilled water even when AQ-8 is not being used. Distilled water capacity is about 450 gallons/hr.

It was necessary to replace the Oilite bearing on AQ-2 tank agitator during the month due to excessive "play" in the bearing. Considerable difficulty was experienced with the Foxboro recorder-controller on the solvent feed stream. Several tubes failed, and it was discovered finally that the fluid in the damping chamber was missing. Runs were made with manual control during periods of instrument outage.

Among items of a general nature was the installation of a self-resetting alarm bell on the canyon to operating gallery differential pressure alarm system.

Separations Technology Division

Bldg. 321 Operations

Several dissolver cuts were made during the month to provide metal solution for the feed make-up in both the Demonstration and Scale-Up Units. Considerable difficulty has been experienced with concentration of RAW-RCU in B-1 during the month. The concentrator de-entrainment stack and condenser, meant initially to be used only for boiling-off hexone before RCU disposal, are inadequate for the boil-up rate required to make the RAW-RCU ready for re-use. Studies are under way to determine optimum de-entrainment stack size and to see whether or not increased condensing capacity is necessary. In conjunction with this boil-down, an oily red organic liquid settles out on top of the aqueous solution after concentration. This same material has been noted in similar operation in Scale-Up runs. Pending completion of investigations as to its nature, it is being barrelled out and stored in the buried waste tank storage area.

The transfer of the contents of W-14 underground waste tank to the 112-T Tank in the 200 West Area was completed during the month. The W-14 Tank was flushed with water and this water was also disposed of in the 112-T Tank. Final measurements on W-14 indicated a 3-in. water heel remaining with a residual α activity of 50 d/min./ml., no β or γ being present.

Demonstration Unit solvent extraction equipment performance was uneventful during the month except for the number of runs completed. Instrument control and pump performance were satisfactory and uneventful except as noted previously in case of the pulsing mechanism and RCX flow control. A few cases of interface dip tube plugging were noted and corrected without any serious inconvenience.

Scale-Up operation during the early part of the month consisted in completion of the transition from Stoddard Solvent to Shell Deodorized Spray Base as TBP diluent. Hexone was removed to a fenced storage area near the desert dry chemical storage hut. The Stoddard Solvent is being stored in the 321 solvent storage area.

Approximately 45 cu.ft. of 1-1/2-in. stainless Raschig rings were degreased during the month preparatory to use in the 16-in. column. The 8-in. column packing was changed twice during the month permitting evaluation of both 1-in. and 1-1/2-in. packing. Difficulty was encountered twice during the month due to boiling-over of AQ-8 Tank during RAW-RCU concentration, resulting in the loss of ca. 90 lbs. of uranium to the sewer. Laboratory checks on the solutions boiled and simulation of the process failed to uncover any chemical reasons for the foaming. It is felt that the boiling was caused by a combination of bumping, due to super-heating of the solution immediately in contact with the pancake steam coil, and greater-than-normal vacuum on the tank at times during the operation.

Scale-Up extraction operations were generally uneventful during the month. Instrument control was good except for the RAX-RCF controller-recorder, previously mentioned. Several tanks were cleaned out after service runs and the sludge removed and disposed of. A complete batch of RAW was sewered after the service run in keeping with the policy of disposing of aqueous solutions after 5 runs to prevent the build-up of undesirable impurities in the system.

Separations Technology Division

[redacted]

Equipment Development

Submerged Pump No. 2 (G.E. & C.L. turbine pump driven through two-foot vertical shaft supported on carbon-filled fluorothene bearings) has completed 97 days of operation in 1.8 M (nominal) $Al(NO_3)_3$ solution at 3450 rev./min., discharge pressure 40 lbs./sq.in., and flow rate of 1.35 gal./min. The shut-off pressure has remained essentially unchanged over the last 30-day period at 54-55 lb./sq.in.ga. Operation has been steady and uneventful.

Submerged Pump No. 3 (Roth No. 147 turbine pump suspended from a 10-foot torque tube containing two process fluid-lubricated graphitar bearings) has been in continuous operation for 117 days in 1.47 M $Al(NO_3)_3$ at 1750 rev./min., discharge pressure of 86 lb./sq.in.ga., and flow rate of 3.5 gal./min. The shut-off head has varied between 95 and 97 lb./sq.in.ga. over the last 30-day period.

Submerged Pump No. 4 (Roth No. 147 turbine pump suspended from a 10-foot torque tube containing two water-lubricated graphitar bearings protected from process solution by a rotary bellows seal) has been fabricated and is ready for initial break-in operation.

Roth D-62, prototype turbine pump (10-foot vertical drive shaft supported on process fluid-lubricated graphite-filled fluorothene bearings with a water-flooded double Duraseal vapor seal) for the Redox Production Plant operated for 28 days (with 2 H.P. motor) in 1.8 M $Al(NO_3)_3$ solution at 1750 rev./min., discharge pressure of 60 lb./sq.in.ga., and flow rate of 15 gal./min., and for 27 days (with 5 H.P. motor) at a discharge pressure of 132 lb./sq.in.ga. and a flow of 2.5 gal./min. The shut-off head has remained unchanged at 142 lb./sq.in.ga. since replacing the motor. The seal consumed an average of 9 ml. of water per hour or 0.057 gal./day over the past 30 days.

Peerless Double Volute prototype turbine pump (10-foot vertical drive shaft supported on process-lubricated graphitar bearings with a water-flooded double Peerless vapor seal) for the Redox Production Plant has operated continuously for 16 days in 1.8 M $Al(NO_3)_3$ solution at 1750 rev./min., discharge pressure of 102 lb./sq.in.ga., and flow rate of 3.3 gal./min., after an initial break-in period on water. The head vs. capacity characteristics of the pump were determined using water. The pump delivered 0.22 gal./min. at a head of 222.5 ft and 20.6 gal./min. at 60.7 ft. Seal leakage has decreased from an initial value of 12 ml. of water per hour to 6 ml./hour (0.038 gal./day).

Peerless 4"-1A, a four-stage centrifugal pump, has been out-of-service over the past 30 days while awaiting the arrival of a new boron carbide shaft seal.

Moyno 1B2 pump with Kel-F stator and stainless steel rotor driven through a 10-foot vertical shaft (no bearing pin-type universal joints) completed 41 days of operation in 1.8 M $Al(NO_3)_3$ solution at 900 rev./min., discharge pressure of 8 lb./sq.in.ga., flow rate of 1.4 gal./min. Vibration in the assembly has slowly increased over the 30-day period. The shut-off pressure has dropped from 40 to 21 lb./sq.in.ga. The capacity at a discharge pressure of 8 lb./sq.in.ga. has dropped from an initial value of 1.8 gal./min. to the present 1.4 gal./min.

[redacted]

G.E. & C.L. Motor Pump Unit, (1/3 H.P. submerged electric motor and G.E. & C.L. turbine pump) showed no significant wear of critical parts (graphitar motor bearings and thrust rings, pump parts) after operation for 559 on-off cycles in 1.3 M $Al(NO_3)_3$ at 1750 rev./min. Life-test operation has been resumed in an RAF, uranium containing, solution.

Flow Measurement and Control, as represented by Fischer and Porter rotameter recording-controlling equipment, has been demonstrated for pulse column (3-in. diam.) operation. The organic feed stream (pulsed stream) has shown an average maximum flow deviation from average flow of 2.73% for 15 runs in which the pulse amplitude was 0.5 to 1.0 inches and the pulse frequency was 50-100 cycles/min.

A 1-1/2-gal. simulated waste concentrator has been fabricated for investigating the extent of scale formation which may be expected to occur on the concentrator coils when concentrating RAW solutions. Initial calibration runs using water have indicated a 14% heat loss based on heat balances around the concentrator when operating at a boil-up rate of 75 gal./(hr.)(sq.ft.).

The apparent viscosity of simulated underground metal wastes as represented by a synthetic incubated metal waste stored for 3 months has been investigated for solutions having various sludge/supernate ratios by passing the solution through a 1-in. diam. pipe at various flow rates and determining the pressure drop. The apparent viscosity of the supernate (supernate/sludge ratio of infinity) varied from 1 to 3 centipoises for velocities from 1 to 6 ft./sec. (Reynolds numbers of 7000-24000). No significant difference in viscosity could be observed for solutions with a supernate/sludge ratio of 2.3 to 4.2. The viscosity was less than 4 centipoises over a velocity range of 1 to 4.5 ft./sec. (Reynolds numbers of 8350 to 23000). A minimum viscosity occurred at a velocity of 3 ft./sec. and was 2 centipoises.

Stainless steel pipe welded with Heliarc has been pickled in 60% HNO_3 at 30, 50, and 80°C. to determine the extent of removal of oxide film formed during welding. No noticeable removal of film was accomplished at any temperature.

An experimental flame-spraying gun suitable for applying polyethylene to metal and concrete surfaces has been obtained. The gun will be used to continue the development of methods and techniques for applying a homogeneous polyethylene coating on concrete.

Amercoat No. 23 has been immersed in RAX (12.5% TBP in hydrocarbon solvent). The seal coat failed within 3 days, the body coat became chalky but was otherwise unaffected in 3 days while the prime was unaffected after 15 days.

Process Chemistry

Multiple batch equilibrium data for the RC Column system have been completed and are being reported in Document HW-17179. Similar studies for the RA Column system have been completed and will be reported in Document HW-17339. An extension of the investigation on RA Column systems has shown an increase of 50 per cent in K (from 1.0 to 1.5) as the uranium concentration increases from 10 to 150 g./l.

Solubility relationships for the aqueous system U, Na, H, PO_4, SO_4, NO_3 in the region of interest in the TBP process have been studied, correlated and are to be reported in Document HW-17226.

The effect of recycling RCW as RAX following various washing procedures has been determined by measuring the distribution coefficient, E_a^o, under conditions simulating the dilute region of the RC system. Above-normal values have been observed and, as yet, no satisfactory method for elimination of this problem has been found.

Investigation of the formation of a solid phase upon the concentration of TBP aqueous waste streams is in progress. Very tentatively it appears to be partially uranium butyl phosphate. The material is acid soluble and insoluble in water.

Preliminary studies show that the addition of metal waste slurry to acid is preferable to the reversed procedure of adding acid to the slurry, since the dissolving proceeds more rapidly and uniformly with less foaming and with elimination of the high viscosity region noted at intermediate pH values (5.0 to 9.0).

Facilities for "hot" laboratory work are 90% complete in 321 Building laboratory and complete in Room 4B of 3706 Building with the exception of the glove box, which is promised for delivery April 1 or 2.

SEPARATIONS PROCESS RESEARCH

Plutonium Precipitates in Redox IBP, IIBP, and IIIBP Solutions

The conditions under which plutonium will precipitate in IBP, IIBP, and IIIBP solution have been investigated with the following results and conclusions. At room temperature, plutonium(IV) precipitate has not been observed after six weeks in aqueous solutions saturated with hexone or containing added methylisopropyl diketone, a hexone decomposition product believed to be involved in precipitate formation. Hexone-saturated IBP solution was found to be entirely stable on heating at 80°C for four hours, a result to be expected from the stability of the (III) state. At 80°C, IIBP and IIIBP solutions (HW #3 Flow Sheet) saturated with hexone yielded a plutonium precipitate after heating eight to ten hours in a closed vessel. However, concentrations of either hexone or diketone of 3 gms./liter (15% of saturation) gave no precipitate when heated at 75-80°C for 48 hours. In conclusion, plutonium precipitation is not expected in normal IBP, IIBP, and IIIBP streams at room temperature; any step which requires heating these solutions should be safe if preceded by a simple stripping operation to remove 90 to 95% of the hexone.

Recovery of Plutonium from Slag and Crucible Wastes

Nitric acid leaching of the slag or crucible and slag has continued to appear promising as a method for recovery of the plutonium. With 4-5 ml. of hot 4 M HNO_3 per gram of slag, plutonium recovery has averaged about 95% after leaching for about one hour. When both crucible material and slag are leached, it seems desirable to increase the nitric acid concentration because

of the basicity of the magnesium oxide. Greater than half of the slag and approximately one-third of the crucible dissolves under these conditions. This work was done on 234-5 Development Laboratory materials. Longer time cycles are expected to be necessary in leaching production line crucible and slag fragments.

The crucible material appears to be more easily attacked if the free iodine is first leached from the pieces. This may be accomplished by washing first with 0.05 M sulfite solution followed by a water wash. About two per cent of the plutonium was found in the wash fractions.

"Electroless" Plating of Nickel on Plutonium

Difficulties encountered in 234 Building coating operations has prompted an investigation of the "electroless" plating of nickel. The preliminary investigations have been carried out on ten-gram pieces of uranium. The plating solution consists of a nickel salt, sodium dihydrogen hypophosphite, as the active reducing agent and a complexing agent (acetate or citrate) for the nickel. The metal is placed in an alkaline bath at pH 8 to 9.5 to initiate the plating process and is then transferred to an acid bath at pH 5 to 6 to complete the plating at a faster rate. The alkaline bath seems to be necessary to start the plating, since the acid bath attacks the metal surface.

Rates of deposition of the nickel plate have been erratic, but have ranged from 0.2 to 0.9 mils per hour. It is hoped that plating rates of one-mil thickness per hour can be attained. Some difficulties have also been encountered in current studies with blistering. The cause of the blistering is unknown, but the method of cleaning the metal surface and the plating conditions are being investigated in an attempt to eliminate this difficulty.

Coupling of Redox to 234 Operations

Completed spectrographic analyses of plutonium(III) oxalate precipitated from concentrated ANL IIBP solution have indicated that only lead, silicon, and boron are present in higher amounts than observed in oxalates obtained in plant runs. Although the boron content of one precipitate was above tolerance, it is anticipated that oxalates precipitated from plant solutions will be low in boron since it is believed that the boron was leached from glass distillation equipment used in the concentration of the solution. The high silicon content found supports this hypothesis. The source of lead is unknown, but should not be troublesome.

As the first step to determine the optimum conditions for plutonium(IV) arsenate precipitation, the solubility of plutonium(IV) arsenate has been determined at room temperature at 2.06 M HNO_3 as a function of the arsenic acid concentration. A minimum solubility of ca. 50 mg. Pu/l. was found at 2.4 M H_3AsO_4. Measurements of the solubility of plutonium(IV) arsenate at lower acidities are contemplated, since random measurements have indicated solubilities as low as 12 mg. Pu/l.

Head-end Redox Scavenging with Filtrol

The possibility of simplifying head-end scavenging by employing only a single contact with 10 g/l or 20 g/l of Filtrol is being investigated. It appears very unlikely that one 10-g/l contact will be adequate; the feasibility of one 20-g/l contact is at present undecided and will be reported at a later date

Ruthenium Tetroxide Distillation

The stability of ozone has been investigated employing a finely dispersed air-ozone stream passed through a column of simulated dissolver solution. In the absence of catalyst, ozone decomposition was negligible at all temperatures (20-95°C) and flow rates (200-1040 ml gas/minute per liter of solution) when passed through a four-foot column of solution. With 0.03 M Co^{++} catalyst present, 30-60% of the ozone decomposed at room temperature, 70-85% at 50°C and 95°C, the decomposition increasing as the flow rate decreased. These results are in agreement with the reported catalytic effect of cobalt(II) solutions on the decomposition of ozone. The significance of these data in respect to the efficiency of ruthenium distillation in plant equipment cannot be evaluated until supplemented by actual distillation data obtained using a tall, column-type still. Such experiments are planned for the immediate future.

Americium-Curium Content of Separations Process Streams

Analyses of 7-3-WS-2 (supernatant from rework of extraction step) and 14-3-WS (first cycle product supernatant) samples from the same run made with 420 MWD metal showed that the americium-curium content of the 14-3-WS was 23% of that in the 7-3-WS-2. This indicates a higher amount of americium-curium carried in the extraction step than had been expected and points up the need for determination of the distribution of americium-curium in several of the earlier steps of the Bismuth Phosphate Process.

Plutonium Decontamination of 231 Crib Wastes

Scavenging of a sample of 231 process waste (Run #979) with 10^{-3} M ferric ion reduced its plutonium concentration from 1.4×10^{-4} to 5×10^{-6} μg/cc over the pH range 5 to 11. Reducing the ferric ion concentration to 10^{-4} M gives negligible decontamination, increasing the residual plutonium concentration obtained at pH 10 to 1.0×10^{-4} μg/cc.

Preliminary results on scavenging of 231 laboratory waste (Run #4807) indicated ferric ion was relatively ineffective but 10^{-4} M tannic acid at pH 10 reduced the plutonium concentration from 1.3×10^{-2} to 6×10^{-5} μg/cc. Following 231 operating procedure, pH adjustment was with sodium carbonate in both laboratory and process waste studies.

I^{131} Removal from Dissolver Solution

Simulated dissolver solution spiked with tracer I^{131} as iodide and in contact with uranium metal was sparged successively with nitrogen and oxygen. About 93% of the iodine was removed after two hours sparging with nitrogen; >98%, after an additional 20 minutes sparging with oxygen. More sensitive determination of residual iodine will be made in future experiments designed to

investigate the effects of oxidation state of iodine, sparging gas composition, rate of sparging, temperature, etc.

Continuous Dissolving of U - Al Slugs

The rate of dissolution of U - Al alloy was investigated for possible application to the development of a continuous dissolver for "25" Process feed preparation. The dissolution rate passes through a maximum with increasing nitric acid concentration, at ca. 6 M HNO_3 for 0 M ANN, at ca. 1 M HNO_3 for 1.5 M ANN; decreases with increasing ANN concentration; and, as expected, increases rapidly with increasing temperature and on addition of mercury catalyst. The rates observed on a "batch" basis were sufficiently high to warrant further investigation, now in progress, in a dynamic system; i.e., a column packed with U - Al alloy wafers down which is passed the dissolving solution.

Uranium - Aluminum Separation by Precipitation of Uranium Peroxide

Precipitation of uranium peroxide is under consideration as a means of achieving head-end separation of uranium and aluminum for the "25" Process. In preliminary experiments, precipitation from 1.5 M ANN, 0.01 M UNH solution at pH 2 gave uranium losses to supernate of ca. 0.05% with 0.5 M H_2O_2, 0.01% with 2 M H_2O_2. The presence of stainless steel or Hg(II) which would presumably be introduced as a catalyst for acid dissolution had no measurable effect on these losses. However, from a solution identical in ANN and UNH concentration but prepared from actual Al-Si and U-Al alloys, a ca. 8% uranium loss resulted and the initial 0.5 M H_2O_2 was reduced to 0.1 M. The extent to which this loss can be reduced by use of additional H_2O_2 is under investigation and also the source of the peroxide decomposition catalyst is being sought to provide a basis for elimination of this interference.

Uranium - Aluminum Separation in Alkaline Medium

Precipitation of a uranate has been investigated as another possible method of obtaining head-end separation of uranium and aluminum. Neutralization of a 1.5 M ANN, 0.01 M UNH solution with 8 moles NaOH per mole ANN precipitates sodium uranate leaving a ca. 1% uranium loss in the supernate. Addition of potassium or calcium nitrate produced negligible effect, but strontium nitrate reduced the loss to 0.2% and barium nitrate reduces the loss to 0.02%. This loss (or solubility) of uranium passes through a minimum as a function of hydroxide concentration, the exact value and location of this minimum not having been determined as yet.

Dissolution of U - Al in caustic-nitrate proceeds rapidly and can be carried out to give an Al(III) concentration >6 M. The uranium remains undissolved as a black powder of unidentified chemical composition. On filtration of a slurry resulting from caustic dissolution of a U - Al wafer, the uranium loss to supernate was found to be 0.13%. This loss was reduced to 0.05% by addition of 3×10^{-3} M $Ba(NO_3)_2$. This procedure appears attractive because it combines both slug dissolution and uranium - aluminum separation in a single rapid operation giving a low uranium loss.

Separations Technology Division [redacted]

Uranium Waste Sludge

A sample of sludge from the 101-U metal waste tank was found to dissolve readily in excess nitric acid with no visible residue. The sludge composition was found by analysis to be 28.8% U, 5.3% PO_4, 0.11% SO_4, 18.0% CO_2, 0.953 ppm total Pu (60% Pu(VI)).

Dispersion Studies in Liquid-Liquid Extractors

The physical properties of the Metal Recovery System are being investigated in order to establish the optimum operating conditions of packed or pulsed counter-current extraction columns. Density, viscosity and interfacial tensions have been measured stagewise for RA and RC Columns employing Deo Base diluent. Some Preliminary measurements of wetting of stainless steel have also been made. Interfacial tension values of 14 to 20 dynes/cm at 25°C. were found with 15% TBP in Deo Base in the RA and RC Columns at several acidities. These values are high compared to Redox systems. The effect of different properties on droplet formation was followed by single jet studies. The shape, size, and velocity of an organic drop moving in an aqueous continuum were measured by the use of a stroboscope and by high speed photographs. Jets 0.040 and 0.080 inches in diameter produced droplets of 15% TBP - Deo Base in RAFS showing maxima in drop volume as the flow rate was increased and approaching constant values at high rates corresponding to a radium ratio of drop/jet of 1.5. The drops are uniformly oblate speriods with eccentricities varying between 0.2 to 0.8. No correlation between the eccentricities and drop volume or distance of free rise has been found.

Extraction of UNH from RAFS by RAX was found to take place largely as the droplet is formed. Extraction during the succeeding drop rise of one to eight inches was very slight. Further work is being done along these lines.

Acid Butyl Phosphate Studies

The properties of acid butyl phosphates are of interest since these compounds are formed as hydrolysis products of TBP. Work is in progress on the separation of acid butyl phosphates into pure fractions of monobutyl phosphate (MBP) and dibutyl phosphate (DBP) and the determination of the physical and chemical properties of these compounds and their solvent extraction behavior. MBP is a clear viscous, hygroscopic liquid, $d_4^{25} = 1.17$, soluble in water, titratable as a dibasic acid, and reacting mole per mole with neutral UNH solutions to give a precipitate with a solubility in water at 25°C. of ca. 0.1 g.U/liter. DBP is a viscous liquid with a low solubility in water, $d_4^{25} = 1.04$, is a mono-basic acid, complexes uranium (VI) strongly in the organic phase in the TBP process, but does not precipitate with UNH in dilute neutral solutions. Mixtures of MBP and DBP also complex uranium (VI) strongly in the organic phase.

The distribution coefficients for Pu(IV) in systems consisting of 3 M HNO_3 solution - 0.1% butyl acid phosphate in benzene were measured and found to be ≥ 24 and 2.1 for the di- and monobutyl acid phosphates, respectively. The monobutyl compound not only gives a lower E_a^b but also causes precipitation of plutonium at the interface.

[redacted]

A similar study of other alkyl acid phosphates indicated an increase of Pu(IV) distribution coefficient with increasing chain length, ranging from ca. 10^{-3} to 10^{2} for methyl and octyl acid phosphate, respectively.

The Distribution of Pu(IV) in TBP - Carbon Tetrachloride Solutions

The distribution coefficient of Pu(IV) from 3 M HNO_3 solution into 15% TBP - CCl_4 was found to be 4.2 as compared to the value 4.5 previously obtained with 15% TBP - Deo Base. This result is in apparent variance with ORNL observations that the distribution of Pu(IV) into TBP - CCl_4 is but ca. 1/2 that into TBP - hydrocarbon diluent.

Application of Fluoride Complexing to the Purex Process

The addition of 10^{-2} M NaF to a 3 M HNO_3 solution of Pu(IV) complexes the plutonium and reduces its distribution coefficient from 4.2 to 0.11. Making the resulting aqueous solution 0.1 M in ANN complexes the fluoride in turn and increases the Pu(IV) coefficient back to 3.2. The reduction in plutonium distribution by fluoride complexing may have application in the IB Column of a Purex Process, the restoration of the distribution coefficient with ANN being used in the following IIA Column. Such a uranium-plutonium separations process would rely on complexing mechanisms and involve no oxidation-reduction reactions other than for feed preparation.

Decontamination of Current Metal Waste Using TBP with Various Diluents

Batch extraction decontamination studies were conducted using fresh CMW (8-3-WS). The scrub and feed were made 5 M in nitric acid, the extractant was 15% TBP - Diluent, and the S/F/X was set at 2/3/10. Following one extraction stage, the gross gamma E_a^{o}'s were 9.3, 5, 2.2, and 0.5 x 10^{-5} for Deo Base, Deo Base plus 0.04 M ammonium fluosilicate, AMSCO and CCl_4, respectively. Following a single extraction and a single scrub stage the residual beta activities of the uranium were remarkably low, being but 25, 32, and 10% that of natural uranium for Deo Base plus 0.04 M ammonium fluosilicate, AMSCO, and CCl_4, respectively.

234-5 PROCESS DEVELOPMENT

Three laboratory runs were made to recover plutonium from the slag and crucible residues from seven 10-gram scale laboratory reductions. The slag fraction was dissolved separately to the extent of 95% by boiling for eight hours with 70% nitric acid. Approximately 90% of the crucible residue was dissolved in four hours by similar treatment. The combined residue from this acid treatment gave only a 0.2% (based on the original starting weight) undissolved fraction after an additional four-hour boiling with 70% nitric acid. Incomplete hydroxide precipitation of the slag solution was unaccountably encountered and will require the reworking of the supernatant solution from the precipitation.

A memorandum which described the existing hydriodic acid process for skull recovery has been issued. Further experimental work on a possible alternate method using a nitric acid-dilute hydrofluoric acid mixture, or other acids, awaits an allocation of skull material from the 235 Building.

The conversion of the hood in Room 42 in the 231 Building to a totally enclosed hood with glove ports was completed. This gives the group three such hoods in the 231 Building.

An hydrochloric acid solution of plutonium, which was obtained by the dissolution of 57.2 grams of buttons produced in the laboratory, was converted to plutonium nitrate by precipitating the plutonium as the peroxide and then redissolving with nitric acid. A second peroxide precipitation was made (at a final peroxide concentration of 15% and 1.8 M nitric acid) of a 9.15-gram portion of the nitrate solution. A rather fine, slow-forming precipitate was obtained. The precipitate was washed and transferred to a sintered platinum filter. Some of the precipitate decomposed during filtration and redissolved, probably due to the catalytic character of the previously unused sintered platinum filter. The filter with cake was then transferred to the dry chemistry hood and assembled into the hydrofluorination equipment. The introduction of the proper mixture of HF and O_2 resulted in a spontaneous temperature rise of the filter cake to 85°C. in ten minutes. After hydrofluorination for two hours at 110°C., the temperature was raised and hydrofluorination completed according to the regular schedule. The fluoride was reduced to metal with a yield of 94.3%.

Considerable improvement has been made in producing cores in the 234-5 Building that will pass through the "Go" gage in all directions. This has been accomplished principally by dressing the uncoated pieces in the region near the cleavage plane; the amount of work on the coated piece is thereby also very much reduced.

In preparation for the radiographic examination of steel casting on which shop work is being done, a steel step wedge was made which progressed in thickness from 3-1/4" by 1/16" steps to a final thickness of 4-1/4". Holes of 0.020", 0.040", and 0.080" in diameter, and with depth equal to diameter, were drilled on each step. An exposure technique was developed that gave a radiograph which showed all the steps clearly and on which all the 80-mil holes were clearly recognizable. The 40-mil holes could be seen only on the steps to a thickness of about 3-3/4". The exposure technique developed will be used in the examination of castings in the shop.

STACK GAS DISPOSAL

The collection of large quantities of water in the sand filter water seals at T Plant, with consequent loss of adequate ventilation air flow, was investigated It was determined that the deposition of water in the seals and sand filter was caused by an excessively high humidity of the ventilation air, and the cooling of this air stream below its dew point in the stainless steel ductwork. The high humidity was due to steam leaks into the ventilation tunnel and a large number of cell flushes (necessitated by cell contamination). Removal of these sources of water vapor has stopped the deposition of water and a drying of the sand filter is now in progress. The time of wetting the sand filter coincides with the indicated lowering of filtration efficiency and the relation between these occurrences is being studied.

A two-inch i.d. silver reactor was packed with a one-inch depth of silver nitrate-coated Berl saddles and operated on the dissolver off-gas stream at a superficial velocity of approximately 140 ft./min. The one-inch depth of packing removed 92% of the I^{131} at 220°C. and 88% at 150°C. These results emphasize the rapidity of the reaction. Calculations based upon free-energy changes and application of van't Hoff's equation reveal that the vapor pressure of iodine above silver iodide at the operating temperature (220°C.) of the silver reactor is 3.9×10^{-14} atm. This value illustrates the completeness of the reaction.

A survey was made of the trend of efficiency of "AA" Fiberglas at high linear air flow velocities. The unit employed in this study was packed with one pad of "AA" Fiber compressed to 1/32 of an inch (packing density 9.6 lbs./ft^3). In the velocity range of 5 to 75 ft./min., the data are well correlated by the expression $Eff = 1 - e^{-\frac{K'}{V^b}}$. However, at velocities of 100 to 500 ft./min. a marked increase in efficiency was obtained. The pressure drop values reveal that this higher filtration efficiency is to some degree a function of increased bed compression at high gas velocities. Efficiency and pressure drop studies of the Owens-Corning No. 450, 600, and 800 Fiberglas are in progress.

INVENTION AND DISCOVERY STATEMENT

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

Name	Title
V. R. Cooper C. Groot	Liquid-Liquid Extraction Improved Pulse Column.
H. G. Hicks	Reduction of Radiation Hazards to Personnel by the Use of Plywood to Absorb Secondary Radiation from Heavy Metal Surfaces.

The invention reported in Document HW-17056, February, 1950, Monthly Report, "Removal of Iodine from Gas Streams by a Silver-Reacting Bed" by A.G. Blasewitz, was reported in error as it was noted in the Synopsis Report, HW-11971.

R. H. Beaton

R. H. Beaton
Separations Technology Division

Date: April 1, 1950

TECHNICAL SERVICES DIVISION

MARCH 1950

VISITORS & BUSINESS TRIPS 4-7-50

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

Business trips of Technical Services personnel were as follows:

M. C. Lambert spent March 1 attending the Spectrophotometer Service Course conducted by G. E. in Schenectady, and March 2 and 3 at KAPL and the Research Laboratory discussing the X-ray photometer and related problems of chemical analysis.

R. J. Hale and F. B. Quinlan spent March 6, 7, and 8 at Los Alamos inspecting laboratory mock-ups of new equipment and ventilating systems. They spent March 9 and 10 at the Radiation Laboratory of the University of California at Berkeley inspecting radiochemical laboratory facilities at that site.

H. L. Sterling and J. F. Gifford also spent March 9 and 10 at Berkeley inspecting laboratory and shop facilities for the fabrication and use of equipment for the remote handling of radioactive materials.

H. R. Schmidt spent March 16 and 17 at the Oak Ridge National Laboratory discussing and observing methods of analyses used there in the Rala program, and discussing operation of the pulse analyzer. On March 20, 21 and 22 he visited KAPL to discuss Redox and TBP analytical methods, and to compare analytical data obtained in recent studies. He spent March 23 and 24 at the Argonne National Laboratory discussing operation of the mass spectrograph.

D. W. Pearce and A. H. Bushey spent March 17 at the University of Washington, in Seattle, meeting with the Chemistry Department staff to discuss courses being offered at the Hanford School of Nuclear Engineering.

F. B. Quinlan spent March 24 at the plant of the Western Gear Company, in Seattle, discussing problems related to the fabrication of the manipulator and tongs for "hot" metallurgy laboratory in Bldg. 111-B. While in Seattle he also visited the Chemical-Proof Construction Co., Inc., to discuss the possible application of their product, Lucoflex, in chemical hood construction.

B. F. Butler spent March 13, 14, and 15 at Schenectady discussing the application of statistics to experimentation with personnel from several of the technical groups at the Schenectady Works, the Research Laboratory, and KAPL. March 16 was spent at the Pittsfield Works and March 17 at the Erie Works for the same purpose. This trip was made under the auspices of the

Technical Services Division

Company's Engineering Policy Division.

ORGANIZATION AND PERSONNEL

The personnel totals in the several subdivisions are summarized below:

	February 28	March 31
Analytical Section	319	327
Engineering Section	56	57
Information Group	60	61
Statistics Group	13	13
Administrative	3	3
Division Totals	451	461

The Analytical Section employed six laboratory assistants, and three returned from leave of absence. In addition, two laboratory assistants and one draftsman transferred into the Section. One shift supervisor resigned, and one laboratory assistant went on leave of absence. Two male laboratory assistants were transferred to the Pile Technology Division.

The Information Group employed five general clerks and lost four by termination. One exempt electronics engineer was added to the Design Unit of the Engineering Section (by transfer from the Health Instrument Divisions).

ANALYTICAL CONTROL

Work Volume Statistics

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

	February		March	
	Samples	Determinations	Samples	Determinations
Routine Control - 200	3,734	8,798	3,471	9,173
Routine Control - 300	507	1,072	553	1,107
Water Control - 100, 700	1,102	3,063	1,204	3,495
Redox & TBP Programs	2,273	4,520	2,444	5,180
Process Reagents	1,362	1,680	1,339	1,622
Essential Materials	87	355	145	796
Special Samples	3,430	10,270	3,916	12,050
Stack Gas Filters	53	76	34	97
Totals	12,548	29,834	13,106	33,520

100 Areas Water Control

Investigations have commenced to determine the applicability of colorimetric methods for the determination of impurities (Fe, Ni, Cr, Zr) in the water coolant of the P-13 Project. It is expected that these impurities will be present in the range of one to ten parts per billion.

Technical Services Division

[redacted]

200 Areas Control

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

	Precision ± %		
Sample	Expected	February Average	March Average
6-3-MR	1.58	1.32	1.36
P-1	2.39	3.21	2.94
AT	1.98	1.87	1.86
P-4	2.51	2.52	2.32

A test was made to evaluate the variable factors, sampling and analytical, influencing the analyses of the Concentration Building final solution (F-10-P) and the Isolation Building starting solution (P-1). Duplicate F-10-P samples were taken on ten runs in each plant (B and T) and the plutonium content determined by two chemists in the 222-B and T Laboratories employing the regular radio-assay procedures. Duplicate P-1 samples were also taken from these same runs in the Isolation Bldg. and assayed for plutonium by chemical and radio-assay methods. The data were submitted to the Statistics Group.

For the purpose of determining optimum acidity of product shipments for the 234-5 operation, Production Test 231-10 was initiated during the month; as a part of this test, determination of acid concentration of the P-4 sample is being made in the 234-5 Control Laboratory.

300 Area Control

Methods have been investigated and written for the specification analysis of cobalt nitrate.

The laboratory is assisting the Metallurgy Section in its studies of the Al-U and Al-Li alloys for the P-10 program. The analytical procedures employed have proven satisfactory.

The effect of the bronze composition on the tin content of the aluminum-silicon canning pot is being studied through laboratory analysis of the bronze for Cu, Sn, U, Si, Al, Fe, Ni and Cr.

At the request of the Atomic Energy Commission, representative samples of uranium oxide resulting from 300 Area operations (313 and 314 Bldgs.) are being prepared and analyzed before shipment to the Mallinckrodt Chemical Works.

Chemical Research Service Laboratory

The chloride contamination found in the 321 Bldg. solutions was traced to the sodium nitrate being used in the make-up solutions. This source material was found to contain approximately 0.5% chloride.

[redacted]

A sample of a 200 Area waste tank supernate was analyzed for Pu(total), Pu VI, Am & Cm, Total beta & gamma, Zr, U, Na, PO_4, Cl, SO_4, NO_3 and Fe(total). No difficulty was encountered with these determinations.

Several radioactive samples were received from the 200 Area Process Section for determination of Pu, rare earths, Sr, I_2, Ce, Ru and Total beta & gamma. These samples were received on resin-coated glass slides, and some difficulty was experienced in getting the material into solution.

Chemical Development Service Laboratory

During March the force in this service laboratory was cut from 44 to 40, in anticipation of reduced analytical work load from the Redox and TBP development programs. Actually, this load increased 14.5% during the month.

Methods Adaptation

Satisfactory conditions were found for the quantitative determination of chemical 40-8 by titration with standard ferrocyanide. On a series of standards containing from 0.09 to 0.9 mg. 40-8, recoveries ranging from 99.5 to 102.7% were obtained. The precision of the analytical method, based on four determinations, is ± 5.3%. The efficiency of plutonium removal was tested using 90 mg. of plutonium and a decontamination factor of greater than 10^5 was obtained for a single extraction with hexone.

The volumetric method utilizing reduction of $SO_4^=$ to $S^=$ and subsequent oxidation of $S^=$ with I_2 was adapted to the determination of $SO_4^=$ in TBP process solutions. The nitrate in the sample was removed with formic acid in the presence of HCl, sweeping with N_2 to remove all nitrogen oxides. Using a synthetic RAF solution containing 15 g/L $SO_4^=$, 300 g/L NO_3^- and flow sheet concentrations of the remaining constituents, recoveries ranging from 98.2 to 99.6% were obtained. The detailed analytical procedure was issued as method RSV-3, and the method placed in service in the Chemical Research Service Laboratory.

The detailed analytical procedure for titration of UNH with chromous sulfate after removal of nitrate with formic acid was issued as analytical method RUV-2a.

Suitable apparatus, consisting of a one ml. Gilmont microburet modified to maintain an inert atmosphere (N_2) over the chromous sulfate and a special titration vessel was designed and constructed. This method is being used by the Chemical Research Service Laboratory for analysis of radioactive TBP process solutions.

Counting Standards

The new high pressure ionization chamber for the Shonka gamma counter was delivered and installed by the Instrument Division. This new chamber meets all safety requirements. The instrument has been recalibrated and placed in operation. Calibration showed the new chamber to be slightly less sensitive than the old, probably due to the heavier walls of the new unit.

[redacted]

Technical Services Division

Rala Laboratory Design

Good progress continued with laboratory and equipment design, as noted in the semi-monthly "Rala Analytical Laboratory Design Progress" reports HW-17309 and HW-17397. In the former report, it is noted that the Analytical Section decided to remove the liquid waste eductor from the cubicle tunnel and place it inside the cubicle proper; however, the ventilation filter box and the utility sleeves were left as scoped and detailed.

The Analytical Section review committee continued their regular weekly meetings to discuss the operational aspects of Rala Laboratory design. As a result of one such meeting, it was decided that the arcing chamber for the spectograph would have to be redesigned completely to provide better hazard control facilities and operating characteristics.

Arrangements were completed for the planned April visit of D. W. Pearce and J. K. Figenshau to the factory of the Lionel Corporation, at Irvington, Pa., to discuss the applicability of certain power units to the RCT system being designed into this new laboratory.

Two new draftsmen, one of whom had been on loan to D & C while awaiting formal security clearance, were assigned to this Design Unit. One of two design engineers on loan from the Fluor Corporation, also was assigned to this work; the other is awaiting Q clearance. At month end, one design engineer returned to the D & C Divisions from which he had been on loan.

Special Hazards Control

A work request was issued to the Technical Shops for fabrication of two stationary air stirrers, equipped with shields. These stirrers will replace the semi-portable type presently used in the T and B Plant laboratories for stirring dilutions, and which have been the cause of several Special Hazards incidents.

On the recommendation of H. I., the wearing of finger rings by Bldg. 234-5 analytical personnel using the metal dissolving box and the carrier concentration gloved box was discontinued. Spot checks will be made at frequent intervals.

During the month a complete reversal of the type of air-borne contamination in the B Plant Laboratory was evidenced. Heretofore particulate matter composed chiefly of fission products had been found; the major portion of the activity now consists of plutonium, in amounts which range around 2 - 3 x 10^{-11} ug Pu/cc. This necessitated the wearing of assault masks for several days until analysis of the air by H. I. indicated below mask level contamination conditions. The Health Instrument Divisions have commenced a study of the air flow characteristics in this laboratory for the purpose of recommending improvements in the ventilation of the decontamination sinks, around which the highest contamination levels appeared. Plans are to study also the air flow in the T Plant laboratory, and compare findings inasmuch as that building has not experienced this high air-borne plutonium contamination.

[redacted]

Technical Services Division

[redacted]

Analytical Manuals

Three Redox methods, three solution descriptions, one water method, eight Job Hazard Breakdowns, and two apparatus descriptions were received for incorporation in manuals. Eight new drawings for the Apparatus Section were prepared for blueprinting. Seventy-four Master Blueprints and Photostats were corrected, recoded and assembled for printing by the Reproduction Unit. All prints and photostats for the Apparatus Section were corrected, recoded and assembled. Three laboratory assistants have been assigned to prepare the prints on a mass production basis in an effort to expedite issuance of the manuals.

ANALYTICAL RESEARCH

$BiPO_4$ Process

Several preliminary determinations of Pu-238 in two AT retain samples have been completed with the alpha pulse analyzer. It was found that about 1% of the total alpha count of these samples, which were produced at the 300 and 345 g/T levels, is due to Pu-238. A precision of about ± 0.15% absolute is indicated. The fission counter has been received from KAPL and is being installed in the T Plant Laboratory in preparation for the determination of Pu-240. Documents HW-17265, "The Preparation of Thin Films of Plutonium by Electrodeposition," and HW-17266, "The Oxidation of Plutonium to the Plutonyl State," were issued describing techniques for the preparation of discs for use in these and other counting instruments.

A survey of all methods of analysis currently employed in the present processes has been commenced to determine if new procedures may be introduced to advantage at any point. In consideration of the discrepancy between the Hanford and Los Alamos assays of plutonium solution, the AT procedure is receiving special attention. Comparative analyses employing the Hanford and the Los Alamos procedures are being conducted, and a supply of purified plutonium has been prepared for the preparation of standard samples.

234-5 Process

Improved sensitivity of the carrier-concentration spectrographic procedure for the determination of impurities in uranium standards has been obtained. This has resulted in part from the use of both silver chloride and gallium oxide as carriers, and in part from the use of the Jarrell-Ash grating spectrograph.

Redox Process

A more rapid method for the determination of active cesium has been investigated. It involves addition of cesium carrier, scavenging with ferric hydroxide, precipitating with chloroplatinate, and counting the beta emission. Chemical yields of 70% and acceptable precision have been obtained.

Document HW-17097, "The Gasometric Determination of Nitrite and Sulfamate," issued during the month, described a method for these determinations in Redox samples, while HW-17136, "Infrared Absorption Measurement Indicating

[redacted]

[redacted]

Technical Services Division

Intermolecular Association of Water and Hexone," recorded investigations of value to chemical research studies.

Metal Recovery Process

Investigation has shown that UNH concentrations of the order 1 to 10 grams per liter in RAW samples may be determined polarographically. The presence of TBP and phosphate in these samples did not permit application of the procedure previously developed for uranium in Redox streams; it was found, however, that substitution of nitrate for chloride electrolyte permits well-defined polarographic waves. Ferric iron introduces an interference yet to be overcome.

Difficulties encountered with the infrared spectrometer were overcome by obtaining and installing a new thermocouple unit; the instrument has been recalibrated for the determination of TBP, and control chemists have started training in the application of the method as described in HW-17175, "The Determination of Tributyl-Phosphate in Deodorized Shell Base with the Infrared Spectrometer."

Investigation has been undertaken in an attempt to apply coulometric titration procedures to the determination of plutonium, using iron as a stand-in. The procedure under test involves reduction of iron with chromous ion and titration with coulometrically-generated bromine. The chromous-chromic and ferrous-ferric breaks in the potential curve were observed, but are not yet sufficiently sharp for analytical purposes.

Rala Process

The Baird spectrograph for the Rala laboratory has been received and temporarily installed in the 234-5 Laboratory. Limited optical tests have indicated that the instrument is in good condition.

Consideration has been given during the month to the determination of active iodine in stack gas. It was pointed out in a document entitled "Iodine Determination For the Rala Project," HW-17098, that several different iodine isotopes will be present in gas evolved during the dissolution of Rala slugs, and that a simple counting procedure will not give a true picture of the iodine concentration. It is planned to overcome this difficulty by determining the total gamma count from iodine both directly and with the introduction of an abosrber, and to apply an estimated factor that permits the immediate calculation of I-131 content. Subsequent determination of decay curves will provide a means of experimentally verifying and more sharply defining the factor which will become firmly established after the measurement of several such samples.

The method for acidity determination has been described in HW-17046,"The Coulometric Determination of Acid."

Pile Technology

In connection with the P-13 project, an investigation has been undertaken to determine the suitability of spectrographic methods for the determination of certain trace impurities in water. It was found that zirconium, iron,

[redacted]

chromium, and nickel in concentrations of one part per billion can be detected and determined on a 20 ml. sample.

ENGINEERING SERVICES

Technical Shops

General

Preliminary scoping work was completed on the lay-out and equipment requirements for the Mechanical Development Shops in the new Laboratory Area.

Work progressed on the reason sheets and work orders to be issued to Project Engineering for initiating the necessary work for (1) moving most of the Bldg. 3706 machine shop facilities to the 101 Bldg.; (2) relocation of the Glass Shop into the large room liberated by step (1); and (3) relocation of some of the Bldg. 3706 machine tools into the present storage room, to meet the continuing need of that building for a small shop of this type.

Bldg. 101 Shops

During the month, a few additional metal and woodworking machine tools were procured from Excess for the Bldg. 101 Shops, and installation of the heaviest of these was completed.

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

	Jobs	Man-Hours
Work Completed	71	1,349
Work Incomplete (Incl. P-12)	28	1,336 (estim.)
Work Backlog (Incl. P-12 for April)	47	2,384 (estim.)

Fabrication work was completed on the retrieving tool for the removal of a graphite sample to be cut from the "D" Pile. A mock-up of graphite simulating field conditions was made and the tool tested. Representatives of the Pile Engineering Section observed the operation of the tool under these conditions, and approved it for use.

Machine shop work was completed on the automatic one-ml. experimental sampler for use in connection with the Rala Laboratory. Minor revisions were made which resulted in improvement of the sampler as originally designed.

Development and machine work were completed on the experimental vertical lift for use in conjunction with the Rala laboratory RCT system. Fabrication work was begun on the tractor and trailers for this same system.

Work was completed on the fabrication of a $\frac{1}{4}$" scale lucite scale model for the Rala Laboratory cubicle.

Fabrication and assembly work were completed on a VSR gas seal mock-up for Pile Engineering.

The following jobs were completed for the Metallurgy Section: Motor mount; lead shield for 4" diameter shield plug; machining and grinding cast-iron plate; and the fabrication of stainless steel spacers for "rotobin dolly."

Work progressed on the following items for the Metallurgy Section: Stainless steel slicer and dicer vises; aluminum cylinder with caps; and the machining, hardening and grinding of a Rockwell test block.

Machine work was completed on the automatic sampler for the Equipment Design Unit. In addition, work progressed on the fabrication of tongs and magnetic stirrers for this unit.

Test work was completed on the warp gage for measuring the warpage of slugs, regardless of under-size or over-size diameters. Necessary revisions also were completed. This gage was turned over to Pile Engineering for use in the field.

Machining work progressed on graphite details for the No. 1 exponential pile of the P-12 Project. Design and fabrication work were completed on the multiple purpose bases for the first half of Phase I on the P-12 Project. A number of specialty items also were completed for work in connection with this project.

Graphite machining on the final stages of the Ball 3-X test was continued.

Bldg. 3706 Machine Shop

Work was completed on three gloved boxes fabricated for the Analytical Research groups. Two of these boxes had recessed centrifuges and an air lock. The third was a standard box with no additional equipment. The basic boxes were assembled by the Maintenance Division, but the installation of standard parts and special equipment was handled by the Bldg. 3706 Shop.

A gear pump of very small volume and constant feed was developed for the Chemical Research Section. It consisted of a fractional horsepower, gear reduction Bodine motor geared to a small gear pump. The pump output under these conditions approaches 2 cc per minute.

Work was completed on a micro sampler for the exact sampling of high activity samples by remote control. The design was very similar to a commercial glass stopcock. The barrel has four holes at 90° to each other around the periphery. The plug, as in a commercial stopcock, has one hole through at 90° to its axis of rotation. The sampler is loaded by running the solution through one of the holes until the plug hole is filled. Then the plug is rotated 90° and the measured sample drained out.

The following jobs were under fabrication but not completed during the month:

A double gloved box for the Methods Adaptation group was nearing completion. Work on this box was slowed down considerably due to a

number of changes in lay-out after the job was started.

A 25 cc per minute, plunger pump was being fabricated for the Chemical Research Section. It consists of 50 cc glass syringe for the pump section, with a screw feed for driving the plunger.

Fabrication work progressed on a 1 cc pulser for the Chemical Research Section, with a 1 cc glass syringe for the pulse section and a Bodine gear reduced motor and eccentric for the drive.

A larger pulse pump was also being fabricated for the Chemical Research Section. It is a revision of the design for a previously constructed pulse pump, consisting of 2 stainless steel bellows for pulsing.

During the month there were a total of 36 jobs received in this shop of which 29 were completed. The present backlog consists of 24 jobs estimated to total 259 manhours.

Glass Shop - Bldg. 3706

The Glass Shop completed 101 jobs, which could be broken down as follows: New Jobs - 74, Repairs - 11, and Revisions - 16.

Two days were spent at the 234-5 Bldg. in setting up glass equipment which had been fabricated in the Glass Shop.

Field work was completed in the 100-H Area in connection with assembly of glass parts and erection of apparatus for use on the P-13 project.

Laboratory Equipment Design

Graphic catalog sheets were made for three models of gloved boxes showing panel varieties, listing related print numbers, and giving descriptive information. These sheets are included in a special equipment catalog which is being developed as a guide to designs and materials for use by both chemists and designers.

Study of the quality and properties of the high-density lead glass developed by the Ponderthy Instrument Company indicated that viewing windows of this material should be provided instead of the mirror system proposed for the Redox Laboratory (222-S) multicurie cells. Liaison with J. Gordon Turnbull for the design of these windows was begun.

Room 17 of Bldg. 3706 was made ready for occupancy. Work continued on the outfitting of the Junior Cave inner boxes with chemical equipment in this room and Room 55 for use by the Chemical Research Section.

An automatic sampler for use with resin columns was outfitted and delivered to the Chemical Research Section.

The following designs were completed: Automatic interval timer; chromium assay panel (revised); and slug righter for the "slice and dice" box.

The following designs were in process: Radiation metering device for Junior Cave; twelve-place magnetic stirrer; cell operation of the Rockwell Tests; Ball 3-X; and rubber manipulator gauntlets for Junior Caves.

300 Area Services

Bldg. 3706 stockroom and work order activity is reflected by the following work volume statistics:

	February	March
Purchase requisitions processed	59	67
Purchase requisitions requiring emergency handling	1	3
Purchase requisitions requiring special expediting	15	15
Store stock requests processed	2	2
Store orders processed	865	1,098
Emergency deliveries	10	9
Work Orders processed	84	60

The steam coils of the older fresh-air heating and circulating units in Bldg. 3706 were inspected to determine whether or not replacement is advisable during the summer to eliminate hereafter the many failures experienced this last winter. As a result, the Maintenance Division has recommended that the steel coils which have been in use for approximately six years be replaced by copper coils, to reduce maintenance costs and also give greater efficiency during future winter operation.

The volume of contaminated liquid waste requiring disposition increased during the month, and a survey of groups operating "hot" laboratories in Bldg. 3706 indicated a further increase as work progresses, and as active instead of synthetic samples are used increasingly in this experimental work. The lack of sufficient containers resulted in an accumulation of waste in Bldg. 3706, and emergency measures requiring extra disposal trips and the use of glass bottles were necessary to allow work in these laboratories to continue. The decision was made to revert to a stainless steel can with a lock cover, which will use a standard 1 qt. ice cream carton for a liner and a rubber stoppered 16 oz. glass bottle as the primary container. The liner and bottle can be discarded, which will eliminate the time spent in container decontamination.

The processing of photographic prints necessary for completion of the Analytical Section Laboratory Manuals was expedited by the assignment of one laboratory assistant from the Analytical Section to process prints during the night shifts. Personnel assigned to this work are being trained by the Engineering Section photographer.

New Laboratory Planning

Project C-187-E - Redox Laboratory (Bldg. 222-S)

Preliminary plans for the Bldg. 222-S waste disposal system were reviewed and the drawings revised. The revised drawings, H-2-5197 - Engineers

Flow Diagram, and H-2-5194 - Outside Lines, were approved on March 20. These two drawings are to be used as basic design criteria. Detailed scoping of this project was underway.

Excavation work for this building was started during the week of March 6, and the first concrete was poured in the foundations on March 20. According to preliminary estimates, construction work was approximately 2% complete as of March 31.

Study GET-14 - Radiochemistry Bldg.

The revised project proposal, authorized by this Study, was completed and received tentative approval on March 30. Copies were submitted to the Technical Divisions for transmittal to the Appropriations and Budget Committee. The "Design Criteria" for this building was completed in draft form. The information presented therein was considered to be sufficiently detailed to allow the preparation of preliminary plans.

Pile Technology Bldg.

Based on personnel estimated for 1951, a preliminary design for the Pile Technology Bldg. to be included in the new Laboratory Area was drawn and made ready for discussion with the Pile Technology Division.

Miscellaneous

The Western Gear Company, in Seattle, was the successful bidder on the manipulator and tongs for the Metallurgy "hot" laboratory in Bldg. 111-B. Revisions, additions and economies in the fabrication of this equipment have been agreed upon, and Western Gear expects to complete the work by May 1st.

The Chemical-Proof Construction Co., in Seattle, was visited to discuss the application of Lucoflex to chemical hood structures. It was concluded that this material may satisfactorily replace stainless steel in many hood parts with considerable economy.

It was proposed that General Electric assist in the high-density lead glass manufacture of the Penberthy Instrument Company by loaning them a large (440 cubic inch) platinum crucible. Since Hanford orders do not total much more than the value of such a crucible, this appeared to be the only way of assuring procurement of the required pieces of this special shielding glass. Arrangements were initiated through the Purchasing Division to handle this matter. Latest absorption data showed this special glass to be slightly better than steel on a thickness basis for gamma radiation shielding.

STATISTICAL STUDIES

300 Area Operations

Data from PT 314-59-M revealed that varying pressures had little effect on uranium melt plant billet and pour yields (Doc. HW-17286). A test was

designed for the P Division to determine the heat and pour time procedure giving optimum Melt Plant operation.

A statistical study of C-6 oxide analytical results, obtained by a wet chemical and by a dry chemical method, revealed that there is no difference between the analytical precision of the two methods.

The comparative analytical results for fourteen additional samples of the uranium sample exchange program between Hanford and Mallinckrodt were analyzed (Doc. HW-17328). On the average, Mallinckrodt analyses were significantly lower than Hanford analyses for all impurities, but Hanford density analyzes were significantly lower.

Daily, weekly, and monthly statistical controls were reported on results at Machining, Pickling, Canning, Test Pile, Actoclave, and the Melt Plant (Monthly report, HW-17301).

A routine control of uranium oxides, and the precision of their analytical results, is in effect and will be reported monthly.

A monthly report (Doc. HW-17411) was issued covering the quality of Mallinckrodt and Electro-Met virgin uranium, and Hanford recast uranium.

Other statistical work performed on 300 Area problems during the month included (1) the determination of coefficients of thermal expansion for the Metallurgy Laboratory, (2) the design of a Melt Plant test to determine the quality difference between the top and the bottom of recast uranium billets, and (3) the study of non-destructive transformation test data submitted by the Metallurgy Laboratory.

200 Area Operations

Analyses of stresses due to thermal expansion in proposed piping layouts in Redox design are being performed at the request of the Design and Construction Divisions.

Substantial progress was made in a study of the distributions of the range of analytical results from 200 Area process samples. The objective is to provide statistically sound range limits for laboratory use in checking all plutonium assays.

In connection with the H.I. air sampling program in 200 Areas, simple methods for determining the minimum time interval between the initial and final counting of air samples were presented to that Division. In addition, an experiment was designed to study possible effects of sampling time, filter thickness, and sample air flow rate on air sample results.

Data from the special test to study F-10P and P-1 comparisons were received and are undergoing analysis. No new data from the alpha coincidence testing program were received during the month.

From the available data, it was not possible either to establish or deny the existence of possible connection between shifts in the AT-Specific Gravity

Relationship and the periodic changing of nitrogen supply cylinders.

Weekly and monthly statistical controls were reported on analytical precision and accuracy of metal solutions, product solutions and wastes as analyzed in the 222-B, 222-T, 231, and 234 Bldg. Control laboratories. The monthly report (Doc. HW-17412) also includes AT and P-4 Specific Gravity Relationships; 231-234 product differences; and Hanford - Los Alamos product differences.

100 Area Operations

The 100 Area Statistical Quality Report for February was issued on March 15 (Doc. HW-17284). This report includes the average dimensional measurements per tube of exposed slugs inspected during the month, and a table showing individual slug blistering.

Average and standard deviation "% Black" were calculated for all lots of P-10 slugs tested during the month. These averages and the range of each lot are plotted on a control chart.

Studies were continued on the amount of tube corrosion in the 100-B pile. A study was started on the use of control charts as an aid in checking the accuracy of counters. Computational work was performed on several problems for the Pile Physics Group.

Miscellaneous

A study of Analytical Section absenteeism records showed that occasions of high absenteeism were in general caused by extended or repeated absence of a relatively few individuals, rather than generally frequent absence of many persons. This study is continuing.

LIBRARY AND FILES

Plant Library

The Plant Library filled-in runs of three important engineering publications, supplementing later volumes accumulated from recent subscriptions. These included Electrical Engineering, 1931 to 1942; Journal of Applied Mechanics, 1935 to 1946; and Mechanical Engineering, 1931 to 1943.

Application of the Library's technical reference resources to the problems of the Plant continued on a routine basis. Following is a representative sampling from the many literature searches made:

Operation of relay oscillators.
Wind loads on buildings.
Electron accelerators.
Photoelastic studies of shearing of keys in keyways.
Specific gravity balance for gases.
Heat transfer from lead baths.
Briquetting metal turnings.

Composition of Versone.
S.A.E. shot sizes for blast cleaning.
Guy wires for steel stacks.
Standard lengths of tank cars.

A noticeable trend in recent months has been the increased demand for books, periodicals, and other reference information on problems of modern business management. Information has been requested in such fields as plant organization and management, problems of the executive, office procedures and work flow planning, drafting and analysis of business forms, supervisory problems in personnel management, business statistics, etc.

Library statistics were as follows:

	February	March
Number of books on order received	200	165
Number of books fully cataloged	271	220
Number of bound periodicals processed but not fully cataloged	209	50
Pamphlets added to the pamphlet file	2	43
Miscellaneous material received, processed, and routed (Including maps, photostats, patents, etc.)	28	12
Books and periodicals circulated	1,592	1,827
Unclassified reports processed	98	285
Unclassified reports circulated	162	159
Reference services rendered	680	854

	Main Library	W-10 Branch	Total
Number of books	5,697	2,260	7,957
Number of bound periodicals	4,056	100	4,156

Classified Files

Work was begun on the development of a complete listing of all "series reports" issued at Hanford. The completed list will contain all series reports currently being written, arranged by Divisions, and cross-referenced to the antecedent or earlier reports in each series. The final list, which it is planned to have reviewed by the various Divisions involved, will be used as a basis for the reorganization of the series reports in the 300 and 700 Area Classified Files, and the development on the same plan of a series file in the report index.

A shipment of small classified notebooks was received. These $4\frac{1}{2}$" x $7\frac{1}{4}$" notebooks have been made to the same specifications as the large ones traditionally used on-site, and have been provided in response to demand for a pocket-sized bound notebook meeting security specifications.

Shipment to the DuPont Company of copies of all classified records accumulated by the Operation's Central Files during Du Pont's tenure at Hanford was made

on March 29. This material, comprising 263 packing cases, covers the period from the fall of 1943 through August 31, 1946. Only about four packing cases of material, consisting of records presenting special documentation problems, remain to be processed. The completed document issuance records and subject index will be included with the final shipment.

The field work of the Audit & Inventory Unit is having a noticeable effect in reducing personal holdings of classified documents. This is evident in the month's statistics, which show the number of documents handled through the route box to be up more than 20%. In addition, a committee has been appointed to undertake further efforts to handle this problem.

The field work of the Audit & Inventory Unit has also indicated that there is a large volume of classified rough drafts and other unprocessed classified material in personal files throughout the plant. Further discussions were held with G.E. Security on this problem, with agreement that the small fraction of this material which is to be kept for permanent reference should be properly processed through the Classified Files, and the balance destroyed in accordance with security regulations. A draft of an Instructions Letter dealing with this matter is in preparation.

The Central Report Publication Unit is gaining greater acceptance as processing procedures become standardized. This Unit has suffered from a lack of competent clerical help to handle the typing assignments. Despite this, however, the number of Research and Development Reports prepared and issued doubled over the previous month, and twenty-seven reports were in process at month-end.

Initial steps were taken to centralize in the Information Group the control of code designations used at Hanford. Meetings were held with representatives from Manufacturing, H.I., Technical, and Design & Construction, and a draft of an Instructions Letter on the subject is being prepared.

Work statistics for the Classified Files were as follows:

	February	March
Documents routed	16,772	20,365
Documents issued	5,969	8,197
Reference services rendered	3,650	3,865
Reports abstracted	260	368
Registered packages prepared for off-site	317	562
Inter-area mail sent via transmittal	17,150	22,049
Holders of classified documents whose files were inventoried:		
a. Because of normal perpetual inventory procedure	31	35
b. Because of transfer of work assignment	4	4
c. Because of termination	-	-
Volume of unclassified mail handled by 300 Area Mail Room	19,487	24,857

Technical Services Division

Central Report Publications Unit Statistics were as follows:

Ditto masters run	973	1,149
Mimeograph stencils run	1,328	1,056
Ditto master copies prepared	33,264	33,813
Mimeograph copies prepared	59,888	71,835
Formal Research and Development Reports issued	8	15

INVENTIONS

All Technical Services Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during March 1950. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

Signed _____
T. W. Hauff
Division Head

TWH:mcs

MARCH 1950

Summary

The Medical Divisions' roll changed little from 361 to 362.

By mutual agreement with the clinic physicians and dentists, May 1, 1950 has been designated as the date for change to private practice.

Industrial

Employee physical examinations increased by 14% to 2726 due to increased sub-contractor employment. First aid treatments were up by 18% to 6333. One major and 15 sub-major injuries were treated. There were no major injuries and only two sub-major injuries to G. E. employees.

"Medical Misinformation" was the monthly health topic.

Sickness absenteeism changed little from 1.96% to 1.93%, while total absenteeism was up slightly from 2.44% to 2.57%. The March, 1949 rate for total absenteeism was 2.84% while sickness absenteeism was 2.06%.

Communities - Hospital and Clinics

The average daily hospital census changed very little from 85.7 to 86.4. Clinic visits were up 25% from 5506 to 6914. Dental clinic visits increased from 2404 to 3217.

Public Health

An increase in relatively mild illness was reflected in a 100% increase in nursing home visits.

A mental health program was sponsored by the Richland Health Council with the formation of study groups and a re-showing of the mental health film series.

Costs (February)

The net cost of operating the Medical Divisions (before assessments to other divisions and workmen's compensation costs) was $85,529., an increase of $2,249., due largely to decrease in revenue. The net cost was $26,645. below the budget figure.

Kadlec Hospital showed a net profit of $810. as compared to a net cost of $3,374. for January and a budget figure of $14,750. The improvement was due to increases in laboratory and x-ray services to Industrial Medicine and to decreased salary costs because of the short month.

The clinic cost was $5,277., an increase of $2147. over January but $2770. under the budget figure. The increase was largely due to decreased revenue.

MEDICAL DIVISIONS

MARCH 1950

Plant Medical Division

Summary

The number of examinations increased from 2394 in February to 2726 in March, due chiefly to an increase in sub-contractor examinations. The number of first aid treatments increased from 5367 to 6333. General Electric Co. employees sustained no major injuries and only two sub-major injuries. Sub-contractor employees sustained one major injury and 13 sub-major injuries.

Word was received during the month from the American College of Surgeons, Division of Industrial Medicine, of their intended survey in April of the Hanford Works Industrial Medical Service. Dr. Charles F. Branch, Assistant Director of the College, will make the survey to determine if our program meets the requirements of the College for their official approval.

One Department of Labor hearing was scheduled during the month and required the appearance of Dr. S. T. Cantril for testimony as to the problem of a single trauma as a cancer-producing agent.

The subject of the industrial physicians' scientific meeting dealt with arthritis as related to compensation benefits. The new preparation "ATCH" used in the treatment of some types of arthritis was also discussed in detail.

The Health Activities Committee met on March 16th, and the subject "Medical Misinformation" was presented. Material on this subject was prepared for general plant distribution. Ways and means to control and reduce absenteeism were discussed.

The sickness absenteeism was 1.93% in March as compared to 1.96% in February.

One industrial physician terminated his employment during the month. He will go with General Motors for further training in the field of industrial medicine. One industrial physician was retired during the month also on attaining age 65. One replacement has been accepted and he will begin work on May 15th.

There were no findings attributable to radiation to any employee during the month.

Physical Examinations	Feb. 1950	Mar. 1950	Year to date
Operations			
Pre-employment	83	103	251
Rehire	52	85	177
Annual	474	425	1349
Interval	520	487	1551
A. E. C	9	21	42
Recheck	166	156	454
Termination	36	56	140
Sub-total	1340	1333	3964

MEDICAL DIVISIONS

MARCH 1950

Physical Examinations	Feb. 1950	Mar. 1950	Year to date
Sub-contractors			
Pre-employment	156	1068	1322
Rehire	756	0	935
Recheck	73	168	301
Termination	69	157	293
Transfer	0	0	0
Sub-total	1054	1393	2851
Total physical examinations	2394	2726	6815
Laboratory Examinations			
Clinical Laboratory			
Government	0	185	269
Pre-employment, termination, transfer	6218	7597	16396
Annual	2478	2217	7014
Rechecks (Area)	2729	2535	8128
First Aid	20	27	66
Clinic	2696	3522	8847
Hospital	2793	3226	9096
Public Health	16	75	138
Total	16950	19384	49954
X-Ray			
Government	0	19	28
Pre-employment, termination, transfer	1083	1324	2798
Annual	507	437	1404
First Aid	101	103	280
Clinic	211	270	698
Hospital	196	207	598
Public Health	9	5	23
Total	2107	2365	5829
Electrocardiographs			
Industrial	77	38	165
Clinic	1	7	11
Hospital	26	24	80
Total	104	69	256
Allergy			
Skin Tests	16	55	97
First Aid Treatments			
Operations			
Occupational Treatments	303	361	1082
Occupational Retreatments	1353	1361	3988
Non-occupational Treatments	2876	3645	10100
Total	4532	5367	15170

MEDICAL DIVISIONS

MARCH 1950

First Aid Treatments	Feb. 1950	Mar. 1950	Year to date
Construction			
Occupational Treatments	81	216	348
Occupational Retreatments	266	613	986
Non-occupational Treatments	86	137	267
Total	433	966	1601
Total First Aid Treatments	4965	6333	16771
Major Injuries			
General Electric	1	0	1
Sub-contractors	1	1	4
Total	2	1	5
Sub-major Injuries			
General Electric	2	2	11
Sub-contractors	3	13	16
Total	5	15	27
Absenteeism			
Weekly employees, all causes	2.44%	2.57%	2.62%
Weekly employees, sickness only	1.96%	1.93%	2.04%
Total days lost by male due to sickness	1525	1879	5513
Total days lost by females due to sickness	752	946	2818
Total days lost due to sickness	2277	2825	8331
Investigation:			
Total calls requested	15	26	69
Total calls made	15	26	69
No. absent due to illness in family	0	1	1
No. not at home when call was made	0	0	3

Village Medical Division

General

Medical Divisions' roll increased from 361 to 362. The average daily adult hospital census increased from 74.0 to 76.6, as compared to 87.1 a year ago. The figure for a year ago includes both Kadlec and North Richland Hospital.

Ratio of hospital employees to patients for the current month is 2.16.

Nursing hours per patient day:

Medical, Surgical, Podiatrics	3.30
Obstetrical	6.03

Clinic visits increased from 5506 to 6914, which is a 25.6% increase as compared to the previous month, and 25.3% below a year ago. North Richland Medical Center accounted for 4.0% of the total clinic visits this month.

MEDICAL DIVISIONS

MARCH 1950

General (continued)

The net expense of the Richland community medical program for February, 1950 was $4,467., as compared to $6,504. for January. Breakdown is as follows:

Kadlec Hospital net expense ($810.00)*

This is a decrease of $4184. as compared to January, due primarily to decreased expenses as a result of the short month and an increase in services to Industrial Medical by the Clinical Laboratory and X-Ray Departments. (* Net gain)

Clinic net expense $5277.00

This is an increase of $2147. over January due primarily to the payment of doctors' January commissions in February and a reduction in revenue resulting from a decrease in major surgery and obstetrical deliveries.

Clinic Visits	Feb. 1950	Mar. 1950	Year to date
Medical	1094	1462	3618
Pediatrics	728	858	2256
Surgical	644	787	2072
Gynecological	437	518	1328
Obstetric (new)	66	92	226
Obstetric (recheck)	673	771	2149
Venereal Disease	43	71	129
Ear, Nose & Throat	301	374	975
Eye	258	305	764
Visits handled by nurses	573	942	2239
Night clinic visits	689	734	2146
Total	5506	6914	17902
Average clinic visits per day	229	266	235
Source of Richland clinic visits			
Richland	90.7%	90.5%	91.4%
North Richland	3.6%	4.2%	3.5%
Other	5.7%	5.3%	5.1%
Home Visits (Pay Cases)			
Doctors	365	335	1292
Nurses	311	275	1062
Total	676	610	2354

Kadlec Hospital

Census			
Admissions - Adults	380	476	1294
Patient Days: Adults	2071	2372	6788
Infants	327	305	995
Total Patient Days	2398	2677	7783
Average Stay: Adults	5.4	5.0	5.3
Infants	5.4	4.9	5.3
Average Daily Census: Adults	74.0	76.6	75.2
Infants	11.7	9.8	11.1
Total Average Daily Census	85.7	86.4	86.3

MEDICAL DIVISIONS

MARCH 1950

Census (continued)	Feb. 1950	Mar. 1950	Year to date
Discharged against advice	2	2	7
One-day cases	39	92	194
Occupancy Percentage: Adults	83.2%	86.0%	84.8%
Infants	146.2%	123.0%	138.5%
Admission Source: Richland	82.1%	83.3%	83.2%
North Richland	6.1%	5.7%	5.9%
Other	11.8%	11.0%	10.9%
Admissions by Employment: General Elec.	78.5%	80.9%	
Government	2.6%	2.5%	
Facility	2.9%	3.4%	
Sub-contractor	4.7%	7.5%	
Schools	1.3%	1.1%	
Military	0	.1%	
Other	10.0%	4.5%	
Surgery			
Majors	70	66	212
Minors	65	85	218
Eye, Ear, Nose, Throat	35	69	158
Transfusions	64	68	169
Dental	3	2	5
Vital Statistics			
Deaths	2	4	10
Live Births	60	62	185
Still Births	0	0	2
Physiotherapy Treatments			
Clinic	37	81	189
Hospital	57	66	188
Industrial: Plant	280	173	599
Personal	45	7	70
Total	419	327	1046
Pharmacy			
No. of prescriptions filled	2540	3141	8543
Patient Meals			
Regulars	2975	3162	9305
Specials	818	1168	3006
Lights	37	103	214
Softs	1717	1561	5337
Tonsils & Adenoids	77	169	383
Liquids	163	300	599
Surgical Liquids	65	61	193
Total	5852	6524	19037
Cafeteria Meals			
Noon	1480	1502	4916
Night	261	289	826
Total	1741	1791	5742

MEDICAL DIVISIONS

MARCH 1950

Public Health Division

General

There was a slight rise in the number of communicable diseases, attributed chiefly to German Measles. There was also an increase in morbidity, reflected in the number of nursing home visits made, which showed an increase of over 100%.

A time study of administrative nursing, sanitation and social service activities was outlined for the staff by a consultant from the State Health Department, Mrs. Margaret Allen. This study will be started in April.

A mental health program was sponsored by the Richland Health Council with the formation of study groups and a re-showing of the mental health film series.

A program for handicapped children was started by the Richland School District, this division cooperating.

Five resignations from the staff were received, effective May 1st.

Administration	Feb. 1950	Mar. 1950	Year to date
Newspaper Articles	15	1	22
Committee Meetings	0	0	7
Attendance	0	0	52
Staff Meetings	4	8	16
Lectures & Talks	9	6	22
Attendance	511	148	1176
Conferences	37	80	130
Attendance	123	166	337
Immunizations			
Diphtheria	288	384	865
Influenza	0	0	1
Smallpox	75	119	233
Tetanus	0	0	48
Typhoid	0	0	1
Tuberculin Test	3	10	16
Total	366	513	1164
Social Service			
Cases carried over	97	98	283
Cases admitted	22	17	61
Total	119	115	344
Cases closed	21	28	62
Remaining case load	98	87	282
Sources of referral:			
Public Health	4	1	7
Doctors	9	8	30
Interested Person	3	2	7
School	1	0	3
Personal application	2	3	7
Other agency	2	0	3
Miscellaneous	1	3	4
Total	22	17	61

MEDICAL DIVISIONS

MARCH 1950

Sanitation	Feb. 1950	Mar. 1950	Year to date
Inspections made	169	167	543
Bacteriological Laboratory			
Treated Water Samples	155	175	501
Milk Samples (Inc. cream & ice cream)	70	112	247
Other bacteriological tests	229	276	753
Total	454	563	1501
Communicable Diseases			
Chickenpox	15	27	61
Erysipelas	0	1	1
German Measles	24	35	65
Gonorrhea	1	0	1
Impetigo	0	1	1
Influenza	0	1	1
Measles	0	1	2
Mumps	1	1	2
Pinkeye	0	4	5
Ringworm	0	1	2
Roseola	0	0	1
Scabies	1	4	7
Scarlet Fever	9	12	33
Syphilis	6	0	6
Tuberculosis	1	1	2
Whooping Cough	2	0	2
Total	60	89	192
Total No. Nursing Field Visits	739	1581	3376

Dental Division

General

The total number of dental visits was 33% higher than the previous month, and 12% lower than a year ago.

Patients treated	2404	3217	8073

MEDICAL DIVISIONS

PERSONNEL SUMMARY

March 31, 1950

	1100 Area					3000 Area			Sub-total
	Administration	Industrial	Clinic	Hospital	Public Health	Industrial	Clinic	Public Health	
Physicians	2	2.6	16	1	1	2.8	1		26.4
Dentists			9				1		10.
Nurses *	2	8	11	51	10	1	1	1	85.
Anesthetists				3					3.
Nurse Aides		1	2	25	1				29.
Orderlies & Amb. Dr.				6					6.
Tech. - Dent. Hyg.			1						1.
Tech. - Clin. Lab.				8.4		3			11.4
Tech. - X-Ray Lab.				3		2			5.
Tech. - Bact. Lab.				1					1.
Tech. - Phys. Ther.				1					1.
Secretaries	2								2.
Cler. Work. Leaders	1			1					2.
Steno.-Typists	3	2		2	2				9.
Office Mach. Oper.	2	1							3.
Telephone Oper.	4								4.
General Clerks	20	12	8	8	1	10			59.
Pharmacists				4					4.
Dietitians				2					2.
Cooks				5					5.
Kitchen Workers				10					10.
Social Serv. Couns.					3				3.
Sanitarians					3				3.
Health Educator					1				1.
Dental Assistants			8				1		9.
Janitors	1	4.6	2.6	6.2	.6	.5	.4	.1	16.
Bacteriologists				2					2.
Records, Supv.	2								2.
Accounting Supv.	3								3.
Admin. & Assts.	3								3.
Others			3	8					11.
Total	45	31.2	60.6	147.6	22.6	19.3	4.4	1.1	331.8

* (4) Nurses working part time.

Personnel in outlying areas shown on following page.

9

MEDICAL DIVISIONS

PERSONNEL SUMMARY

March 31, 1950

	Outlying Areas								TOTAL
	Sub-total	100-B	100-D	100-F	100-H	200-E	200-W	300	
Physicians	26.4	.2	.2	.2	.3	.2	.2	.3	28
Dentists	10.								10
Nurses	85.	1	4	4	1	4	5	2	106
Anesthetists	3.								3
Nurse Aides	29.								29
Orderlies & Amb. Dr.	6.								6
Tech. - Dent. Hyg.	1.								1
Tech. - Clin. Lab.	11.4	.4	.4	.4	.4	.4	.8	.8	15
Tech. - X-Ray Lab.	5.								5
Tech. - Bact. Lab.	1.								1
Tech. - Phys. Ther.	1.								1
Secretaries	2.								2
Cler. Work. Leaders	2.								2
Steno-Typists	9.								9
Office Mach. Oper.	3.								3
Telephone Operator	4.								4
General Clerks	59.	.5	.5	.5	.5	.5	.5	1	63
Pharmacists	4.								4
Dietitian	2.								2
Cooks	5.								5
Kitchen Workers	10.								10
Social Serv. Couns.	3.								3
Sanitarians	3.								3
Health Educator	1.								1
Dental Assistants	9.								9
Janitors	16.								16
Bacteriologists	2.								2
Records, Supv.	2.								2
Accounting Supv.	3.								3
Admin. & Assts.	3.								3
Others	11.								11
Total	331.8	2.1	5.1	5.1	2.2	5.1	6.5	4.1	362

Number of employees on payroll:

Beginning of month	361
End of month	362
Net increase	1

HEALTH INSTRUMENT DIVISIONS

MARCH, 1950

Summary

The force increased by nine. Four special hazards incidents occurred.

The results of the Operational Division and of the control phases of the Biology and Development Divisions followed normal patterns. Review of past data showed borderline evidence of some accumulation of plutonium in the 234-5 Building personnel.

Health Instrument Divisions

HEALTH INSTRUMENT DIVISIONS

MARCH, 1950

Organization

The composition and distribution of the force as of 3/31/50 was as follows:

	100-B	100-D	100-F	100-H	200-E	200-W	300	700	P.G.	Total
Supervisors	1	1	7	2	2	9	13	5	0	40
Engineers	5	4	16	4	11	13	8	4	0	65
Clerical	0	0	1	1	2	2	4	4	0	14
Others	11	15	40	13	30	63	57	11	8	248
Total	17	20	64	20	45	87	82	24	8	367

Number of Employees on Payroll	March 1950
Beginning of month	358
End of month	367
Net increase	9

Additions to the roll included three technical graduates (rotational program), two inspectors, five laboratory assistants, five general clerks, one stenotypist, and a glass washer. Removed from the roll were two engineers, one technical graduate, three laboratory assistants, a draftsman, and a general clerk.

General

Review of plutonium concentration in the urine of personnel assigned to the 234-5 Building indicates an apparent two-fold increase over that for all plant personnel for October, November, December, 1949, and a 50% increase for January and February. These conclusions are based on evidence at the borderline of statistical significance. If confirmed, they would justify the plans to proceed toward better protective methods. At the present time, there appears to be no immediate cause for alarm about the welfare of this employee group.

Four investigations of special hazards incidents were required. Two involved contamination spread; one resulted from faulty H.I. procedures, and one was concerned with the control of well cars. In no case was there an appreciable radiation exposure of personnel.

Limited occupancy of the partially completed Biology Laboratory began.

3

[redacted]

Health Instrument Divisions

The following trips were reported:

1. C. W. DeLong - study splenic protection against x-rays - University of Chicago.
2. R. F. Foster and P. A. Olson - Pacific Fishery Biologists meeting - Quinault, Washington.
3. M. L. Mickelson - assist recruiting - Texas A & M and University of Texas.
4. F. G. Tabb - study incinerator and waste disposal - Schenectady.
5. R. C. Thorburn - hood design - University of Washington.

The second meeting of the Columbia River Advisory Group was held here.

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

Inventor	Title
None	None

[redacted]

4

1220309

Health Instrument Divisions

OPERATIONAL DIVISION

100 Areas

General Statistics

	February					March					1950
	B	D	F	H	Total	B	D	F	H	Total	To Date
Special Work Permits	742	889	654	340	2625	574	1006	642	472	2694	7,997
Routine & Special Surveys	492	339	356	333	1520	449	444	401	356	1650	4,968
107 Effluent Surveys	80	100	61	85	326	86	113	91	124	414	1,122
Air Monitoring Samples	52	80	73	298	503	115	83	79	372	549	1,495

Retention Basin Effluent

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

	100-B	100-D	100-F	100-H
Power Level (MW)	275	305	305	330
Average beta dosage-rate (mrep/hr)	1.3	1.2	1.4	1.0
Average gamma dosage-rate (mrep/hr)	2.3	2.4	3.0	2.1
Average total dosage-rate (mrep/hr)	3.6	3.6	4.4	3.1
Average integrated dose in 24 hrs. (mrep)	86	87	106	74
Maximum integrated dose in 24 hrs. (mrep)	98	113	127	94
Maximum integrated dose in 24 hrs. (mrep) 1950	98	113	127	94

100-B Area

Pile and Associated Buildings

Radioactive gas of undetermined origin was again found in the Pile Building valve pit and at the entrance to the Process Water Pump Building tunnel. No evidence of active gas was found in the building. Air contamination due to effluent vapors continues to be prevalent in the A, B, C, and Z sample rooms. The gamma radiation in the beam at the top, far edge of the pile showed little change from the preceding month. There was some indication of a fast neutron component in this beam.

P-10 Operations - 108 Building

Surveys for P-10 oxide, using the experimental instrument mentioned in last month's report, showed high level contamination on gloves and on face pieces of

5

[redacted]

Health Instrument Divisions

fresh air masks worn by personnel. Practically all equipment and material in the hood room and operating gallery showed some contamination. A 0.1 Mil nylon screen shielded out all significant readings. Decontamination methods are under investigation.

An air sample taken 300 feet northwest of the building showed a concentration of 1.3×10^{-8} μc P-10 oxide/cc of air. A sample taken from the air space adjacent to a furnace tube showed a concentration of 0.44 μc P-10 oxide/cc air. Breath samples were taken from two persons who showed high results for P-10 oxide in routine urine samples. In both cases, the water collected from the breath showed concentrations similar to that reported in the urine. All samples, both breath and urine, were below the maximum permissible limit.

100-D Area

An extensive survey of the discharge area showed high levels of contamination throughout the area. Principal areas of contamination were tip-offs, the zero foot level catwalk, and the tube caps on the lower five rows. Two tubes, #2451 and #2496 were swabbed and a thick brown slurry was observed to run out of these tubes and drip on the nozzles below. Immediate cleanup was effective. Considerable decontamination of this area is planned prior to work during the extended shutdown. Eleven cases of personnel contamination were reported following work in the discharge area. All were successfully cleaned.

Radioactive gas was found in the H.I. office and was traced to a third safety device drain line in the near riser pit. Restoration of the water seal corrected the condition. Low level contamination was reported in all returned express cars. In one instance, contaminated water spilled out of a cask and contaminated sections of the floor requiring its removal and the sub-flooring in order to decontaminate the area.

The gamma dosage-rate in the beam at the top, far edge of the pile was found to be about 2 roentgens per hour. A slow neutron flux of about 40 mrem/hr was again reported in the beam.

100-F Area

Pile and Associated Buildings

The high radiation levels on top of the pile, reported last month, were eliminated when the #19 V.S.R. tip was replaced. During surveys of the discharge area a high dosage-rate was observed in the vicinity of tube 2261. Three dummy slugs were removed from the end of this tube and the empty section swabbed. Three small, solid particles were found on the swabs and showed an uncorrected dosage-rate of about 50 roentgens per hour as read with the Betty Snoop at 2 inches. Absorption studies indicated a beta energy of about 0.5 MEV and a gamma energy of about 1.0 MEV on smears from these particles.

6

[redacted]

Health Instrument Divisions

The gamma dosage-rate in the beam at the top, far edge of the pile was 4.5 roentgens per hour. Neutron measurements in the beam showed a fast neutron flux of 1.3 rem/hr (10,500 n/cm^2/sec) and about 142 mrem/hr slow neutrons (17,000 n/cm^2/sec).

Biology Laboratories

Digestion of radioactive Russian thistle to obtain the Yttrium and Strontium was accompanied by inadvertent splashing and consequent spread of contamination. Contaminated cartons were found in a regular waste basket and on a bench top.

Animal Farm

Radioactive iodine feeding was started. Contamination problems were minimal.

100-H Area

Following scrams of the vertical safety rods, dosage-rates as high as 800 mrep/hr were observed in the work area at the elevator rail. The activity was due to A^{41} in the gas cloud which came down the front face of the pile. Very little gas escaped to the work area proper. On two occasions, airborne contamination was observed in the storage area and was traced to the near effluent expansion box vent. Apparently this condition results when the wind is from an easterly direction and thus carries the high concentration of airborne contaminates towards the Pile Building. The condition in the Pile Building is alleviated when the wind direction changes. Hand and shoe contamination found on routine checks led to the discovery of airborne contamination coming from the floor drain in the upstairs counting room of the Pile Building. This is an unused drain and it was plugged and sealed. Fast neutrons were reported at the #4 T-seam on the #2 Experimental Level. Soft beta contamination was observed on all rod racks in the inner rod room. Installation of special equipment on the #1 Experimental Level progressed without incident. This location was released from a contamination zone status thereby eliminating protective clothing requirements.

7

Health Instrument Divisions

200 Areas T and B Plants

General Statistics

	February			March			1950
	T	B	Total	T	B	Total	To Date
Special Work Permits	300	331	631	568	356	924	2,083
Routine & Special Surveys	434	492	926	592	541	1133	2,912
Air Monitoring Samples	543	781	1324	628	1093	1721	4,140
Thyroid Checks	106	75	181	111	106	217	529

Air Sample Results

Location	No. Taken	Number Above 10^{-12} µg Pu/cc	Number Above 10^{-7} µc f.p./liter	Maxima µg Pu/cc	Maxima µc f.p./liter	Remarks
T Plant						
Canyon	210	***60	175	*1.3×10^{-10}	**10^{-5}	*Paper pickup Sect. 18. **Blocks off 4R & 6L.
221 Galleries	154	21	10	4.6×10^{-11}	2.1×10^{-7}	Crane Cab.
R-13 Changehouse	69	32	9	5.6×10^{-11}	1.3×10^{-6}	High Canyon Air.
222	55	29	14	1.6×10^{-11}	2.1×10^{-7}	Room 7.
224	120	18	11	5.8×10^{-12}	1.8×10^{-7}	F-10 Room.
Others	20	1	5	1×10^{-11}	3.1×10^{-7}	152 U Div. Box open.
B Plant						
Canyon	167	***23	94	1.8×10^{-9}	2.3×10^{-5}	Jetting-Section 14 open.
221 Galleries	372	9	2	9.6×10^{-12}	1.6×10^{-7}	Section 17 - Operating Gallery.
R-13 Changehouse	41	5	2	1.5×10^{-12}	4.4×10^{-7}	---
222	136	43	11	1.6×10^{-10}	4.3×10^{-7}	Slurping 300 A waste.
224	226	16	2	3.3×10^{-12}	1.5×10^{-7}	Sect. B-Op. Gallery.
Others	151	140	0	1.9×10^{-9}	--	A Cell roof vent.

*** Sensitivity limit 10^{-11} µg Pu/cc.

Canyon Buildings

In the T Plant, considerable crane work resulted in gross deck contamination from Section 2 through Section 13. An estimated milligram of plutonium was reported on the canyon deck surfaces between Sections 15 and 20. Monitoring assistance was required while taking thirteen process samples. General

8

contamination was also reported in the R-13 stairwell and in the 75 ton crane cab. One instance of skin contamination resulted in the crane cab. Surveys of the railroad tunnel revealed several contaminated floor locations, and three incidents of clothing contamination of trainmen were also reported. Equipment was removed from the head end of the canyon and decontamination of all surfaces in this area was started.

In the B Plant, canyon deck decontamination continued with emphasis on reducing contamination in cell cracks at 12R and 13L. The unused 9-2 centrifuge was removed to the canyon deck for maintenance work. Surface dosage-rates up to 20 rep/hr were found and reduced to 360 mrep/hr. The 3-5 R to 4-8 gang valve and attendant piping was replaced with no spread of contamination.

Control Laboratories

All 200 Area laboratories are reported together at the end of this section.

Concentration Buildings

In the T Plant, smears of the roof vent fan blades showed contamination in every instance. About 10 μg Pu was found on the vent line outside of "B" cell, and it was cleaned and painted. Fifteen maintenance repair jobs were accomplished with no personnel contamination found.

In the B Plant, dip tubes were replaced in three tanks and a leak repaired in a fourth with no contamination spread. Air samples taken at the cell roof vents indicated the following discharge of Pu during the period February 23, 1950 to March 26, 1950.

Cell Vent	μg Pu/24 hours
A	20
B	6
D	23

Stack Areas

In the T Plant, the source of the water reported last month in the sand filter water seals appeared to be due to leaking steam jets in the ventilation tunnel.

Waste Disposal Areas

Cleanup work around the 101-U tank was completed with the burial of ninety-six drums of contaminated dirt. Three sludge samples were obtained from the 101-U tank with no further spread of contamination. Sand blasting of cask cars was resumed.

[redacted]

Health Instrument Divisions

Plant Laundry

Thirty-two of 57 spot and continuous air samples taken showed positive results with a maximum of 1.4×10^{-11} µg Pu/cc obtained while washing laundry from the Purification Building.

General

All thyroid checks were below the warning level.

The Isolation Building

General Statistics

	February	March	1950 To Date
Special Work Permits	43	31	95
Routine & Special Surveys	346	376	722
Air Monitoring Samples	399	431	830

Air Sample Results

Location	Number Taken	Number Above 10^{-12} µg Pu/cc	Maxima µg Pu/cc	Remarks
Operating Cells	217	30	3.8×10^{-9}	SWP - Cell 2.
Control Laboratory	193	23	6.5×10^{-11}	Room 33 - Contaminated sink.
Development Laboratory	12	0	--	--
Ducts	9	7	8.5×10^{-12}	--

Operating Cells

There were fourteen items not regulated found contaminated, three cases of personnel contamination successfully reduced, and thirteen contaminated floor locations reported. Maximum levels of gamma radiation were 23 mr/hr on P.R. containers, 3 mr/hr on process hoods and 12 mr/hr on SC.

Purification Building

General Statistics

	February	March	1950 To Date
Special Work Permits	169	136	463
Routine & Special Surveys	369	371	1061
Air Monitoring Samples	1246	1338	3600

[redacted]

10

Health Instrument Divisions

Air Sample Results

Location	Number Taken	Number Above 10^{-12} µg Pu/cc	Maximum µg Pu/cc	Remarks
234 Operating Section	264	72	1.2×10^{-10}	SWP work - Hood 7.
235 Operating Section	302	23	3.8×10^{-11}	Airlock operation.
Technical Control	248	15	5.5×10^{-11}	Room 155 - Normal
General	323	18	6.5×10^{-12}	Room 128 - Skin decontamination (8 µg Pu involved).
Ducts after primary filtering	117	92	7.3×10^{-9}	Hoods 2, 4-7, composite.
26 inch Vacuum discharge	20	19	8.4×10^{-10}	---
10 inch Vacuum discharge	20	0	$<10^{-12}$	---
Stack Breech	44	0	$<10^{-13}$	---

234 Building - Operating Section

Two incidents of contamination spread occurred within process rooms and ten floor spots were found in adjacent rooms. Four cases of skin contamination were successfully cleaned, three of which occurred while working in hood gloves. Thirteen major maintenance jobs involving work in Zone IV or on process lines were completed with contamination confined to work areas and protective clothing.

235 Building - Operating Section

Three incidents of contamination spread were confined within process rooms. An estimated 7 mg Pu were reported in Rooms 231 and 229 as a result of a ruptured hood glove and failure of an operator to check his hands when removing them from the hood glove. Skin contamination up to 8 µg Pu was successfully removed. Two other cases of skin contamination occurred and were cleaned. Nine major maintenance jobs involving work in Zone IV or on process lines were completed.

General Building

One instance of skin contamination was successfully decontaminated. Weekly averages of air samples of the 26 inch process vacuum system were all above 10^{-10} µg Pu/cc after filtering and a redesign of the filtering system is under consideration.

200 Area Control Laboratories

	T	B	231	234-5
Items contaminated - not regulated	161	191	146	195
Skin contamination - plutonium	1	1	2	6
Skin contamination - fission product	0	3	-	-
Contaminated floor locations	34	43	9	41

[redacted]

Health Instrument Divisions

In the T Plant, monitoring assistance was required during the slurping of ten samples. A routine survey of the locker room disclosed a contaminated plant shoe with surface dosage-rate of 25 mrep/hr.

In the B Plant, personnel contamination of the face, lips, and chest occurred during the stirring of a sample. Decontamination of the lips was not successful until the second day. Twelve 300 Area waste shipments required monitoring during slurping with dosage-rates up to 25 rep/hr at one inch reported. Considerable plutonium air contamination was found in Room 7, and assault mask protection was required for several days. Sixteen samples showed concentrations above 10^{-11} µg Pu/cc, with a maximum of 1.6×10^{-10} µg Pu/cc. The source or sources was not determined, but poor air flow rates at the decontamination sinks appears to be a possibility.

In the Isolation Building, the soapstone, non-process sink in Room 33 was discovered contaminated with approximately 7.5 µg Pu. The sink was partially cleaned and taken out of service. Intensive investigations failed to reveal the source of the contamination. This sink drains into the waste ditch and a sample of the water there showed a maximum concentration of 500 d/m Pu/liter as compared with the normal concentration of about 5-10 d/m/liter. Shoe contamination led to the discovery of approximately 8 µg Pu in corridors, offices, and locker rooms with the maximum spots of contamination found in Room 6C. Decontamination was successful. Although Room 6C appeared to be the source of this contamination, procedures were reviewed and found adequate.

In the Purification Building. six cases of hand contamination led to the discovery of a contaminated telephone in the office (Room 140). Surveys revealed about 9 µg Pu on the telephone and about 2 µg Pu on a Kleenex in the office waste basket. Again, investigation to determine how the telephone was contaminated proved fruitless.

[redacted]

12

[redacted]

Health Instrument Divisions

The 300 Area

General Statistics

	February	March	1950 To Date
Special Work Permits	160	155	493
Routine & Special Surveys	226	179	589
Air Samples	177	149	456

Metal Fabrication Plant

Forty-six of seventy-three air samples taken were above 5×10^{-5} µg U/cc as follows:

Location	Number Taken	Number Above 5×10^{-5} µg U/cc	Maximum Conc. µg U/cc	Conditions
314 Main Room	18	10	1.3×10^{-4}	Normal Operation.
Extruder	4	4	3.5×10^{-4}	Extruding.
Straightening	2	1	5.9×10^{-5}	Straightening Oiled Rods.
Chip Recovery	22	16	9.9×10^{-4}	Normal Operation.
Machining	6	1	5.7×10^{-5}	Normal Operation.
Unloading Railroad Cars	5	5	6.8×10^{-4}	Unloading Oiled Rods.
Miscellaneous	16	9	1.0×10^{-4}	Restroom, window open, free metal burning.

Air samples taken during the unloading of coolant oil treated rods failed to substantiate previously reported results.

Technical Building

Rupture of a special G.M. tube during counting of a Pu sample caused some spread of contamination in Room 1. The work area was readily decontaminated. A total of 58 air samples was taken in the building; two were above 2×10^{-11} µg Pu/cc with a maximum of 5.9×10^{-11} µg Pu/cc obtained in Room 55 during removal of hood ductwork.

Cold Semi-Works Building

Overflow of contaminated liquid in the tank area occurred on two occasions and removal of contaminated dirt is in progress. Eighteen air samples were taken in the building and all were below 5×10^{-5} µg U/cc. About 1,626 pounds of uranium have been discharged to the waste ponds and about 282 pounds to the 300 N crib.

[redacted]

13

[redacted]

Health Instrument Divisions

Hand Score Summary

There were 38,646 alpha and 38,723 beta hand checks recorded. About 0.09% of the alpha and about 0.05% of the beta scores were high. Again, about 70% of the high beta scores were recorded in the 100 Areas.

[redacted]

14

Health Instrument Divisions

PERSONNEL METERS

Pencils

	100-B	100-D	100-F	100-H	E&N 200	200-W	300	Total	1950 To Date
Pencils Read	11,188	11,797	15,771	10,653	18,958	30,207	38,806	137,380	374,682
Single Readings (100 to 280 mr)	14	18	19	19	24	42	63	199	616
Paired Readings (100 to 280 mr)	0	0	0	0	0	1	0	1	10
Single Readings (Over 280 mr)	25	18	21	13	16	56	95	244	621
Paired Readings (Over 280 mr)	0	0	0	0	1	0	1	2	6
Paired Readings Lost	1	0	2	1	0	3	2	9	17

None of the three significant pencil results was confirmed by the badge results. Investigation of lost readings indicated no possibility of an over-exposure.

Badges

	100-B	100-D	P-11 101-P 100-F	100-H	200-E	R.R.T. 200-N	200-W	300	Total	1950 To Date
Badges Processed	1667	1911	2346	1764	3120	521	5201	7408	23,938	62,782
Number Readings (100 to 300 mrep)	0	19	17	6	2	0	85	133	270	750
Number Readings (Over 300 mrep)	0	1	2	0	0	0	2	0	5	16
Lost Readings	0	0	1	2	0	0	2	1	6	17

Investigation of badge readings over 300 mrep showed no possibility of an over-exposure.

Lost readings were accounted for as follows:

Badges lost in area	2
Badges dropped in liquid	1
Badges contaminated and destroyed	1
Defective film	1
Light struck	1
Total	6

Investigation of the above lost readings revealed no possibility of an over-exposure.

15

[redacted]

Health Instrument Divisions

Badge Resume, Construction Areas

	200-W Redox	100-DR	Total	1950 To Date
Badges Processed	914	3,178	4,092	6,887
Number Readings (100 to 300 mrep)	2	10	12	12
Number Readings (Over 300 mrep)	0	0	0	0
Lost Readings	0	3	3	7

Two badges were lost in the area and one badge film damaged by excessive heat.

Total badges processed 1950,	Operations	62,782
	Construction	6,887
	Total	69,669

In addition to the badge program, a total of 3,314 items of non-routine nature were processed during the month. The 1950 total is 7,221.

Slow Neutron Pencil Summary

	100-B	100-D	100-F	100-H	Total	1950 To Date
Number of pairs issued	45	73	52	527	697	1,601
Number of significant readings	1	16	3	21	41	127
Number of significant readings (Above 100 mrem)	0	0	0	1	1	1

Investigation of the result over 100 mrem disclosed the individual was a visitor, had dropped his pencils and further had removed the end caps. Review of work locations showed no possibility of an overexposure.

The fast neutron film monitoring program was started this month.

[redacted]

16

Health Instrument Divisions

CONTROL AND DEVELOPMENT DIVISION

Site Survey

Drinking water samples followed previous trends noted in the amount of active materials. The 300 Area sanitary water gave alpha activity averaging 6 dis/min/liter from the use of the 300 Area wells. A surface dispersion study of the activity in the Columbia River indicated the maximum activity of 3 mμc/liter along the south bank for a distance of about seven miles in the vicinity of Hanford.

Air monitoring results with detachable chambers remained at the normal levels. An apparent increase by a factor of 2-4 in the number of active particles removed from the air by filters in the vicinity of the separations areas was noted.

The I^{131} on vegetation has decreased to < 3 mμc/kg at all residential areas with the exception of Benton City where the activity was at the background limit of 3 mμc/kg. The maximum activity was an average of 420 mμc/kg near the 200 West gatehouse. No significant trend has been noted in the nonvolatile beta emitters.

Results obtained from the monitoring of the P-10 stack at the 100-B Area in cooperation with the Operational Division have indicated that between 0.8 and 8 curies/day of the oxide are liberated from the stack. One high value of 430 curies was obtained. Direct sampling from furnace indicated 200 to 400 mc liberated per heating cycle. A study of the efficiency of various dessicants has been instituted.

The 107 effluents averaged between 500 to 780 mμc/liter, with the maximum cccurring at 100-D.

Geology

The radioactivity levels in water samples from wells 361-B-1, 361-B-9, and 241-T-361 remained at the previously established values. Well 361-T-12 was drilled from a depth of 75 feet to a depth of 314 feet with 32 feet of water in the well. Samples of this water indicate that it too is contaminated somewhat.

The 234-5 cribs, #1 and #2, are at least partially sealed and much of the waste liquid is overflowing to the tile field. Overflow was first noted in January after about 4 million liters of waste liquids had been discharged. The tile field is at a depth of only 4 feet so that a capillary rise of contamination to the surface is possible. Samples are being analyzed to check this possibility.

The one drilling crew which drilled the 361-T-12 well was moved to the 300 Area in order to complete several wells prior to the rise of the Columbia River. A river gauge has been placed near the 300 Area to aid in correlating changes in the river flow with the expected changes in the 300 Area wells.

17

[redacted]

Health Instrument Divisions

Meteorology

Forecasts	Number Made	Percent Reliability
Production	93	78.9
24-hour	62	80.2
Special	16	87.5

For the third consecutive month the temperatures were below normal and the precipitation was above normal. The total precipitation was 0.87 inches spread over 22 days. The coldest period was from the 10th to the 13th, and on the 11th the temperature failed to get above 32 degrees. The maximum temperature observed was only 64 degrees on the 31st.

Bioassay

There were 531 plant samples analyzed for plutonium during the month. The blank samples averaged 0.06 d/m, a slight increase over past months, and the average yield was 94%. Eight resamples were necessitated by values greater than 0.33 d/m. The three resamples from January, and five of the six from February, have been completed with results less than 0.33 d/m. A review of the data from personnel sampled monthly in 234-5 indicated average results somewhat higher than the routine samples. These results are given below:

	234-5		All Samples		
Month	Number Samples	Average d/m	Number Samples	Average d/m	Statistical Test
September	10	0.0340	220	0.0345	Not sig.
October	13	0.0700	470	0.0259	90 - 95%
November	16	0.0781	479	0.0348	98 - 99%
December	15	0.1067	378	0.0553	99%
January	13	0.0892	458	0.0626	Not sig.
February	*17	* 0.0659	388	0.0449	--

* One value of 0.64 d/m not included in average.

The summation through January indicates a positive difference. A survey to see that all personnel with high exposure potential are included in this list is being made as well as a study of the possibilities of low level hand or clothing contamination.

Three hundred eighty six samples were analyzed for fission products with 16 samples greater than the arbitrary resample limit of 10 c/m.

One hundred seventy samples were analyzed for uranium on the fluorophotometer. The maximum result was 48 µg/liter from an employee in the melt plant.

[redacted]

18

1220403

[redacted]

Health Instrument Divisions

A total of 128 urine samples, including 70 rechecks, and 5 breath samples, was analyzed for P-10 oxide in the control laboratory. Twenty of these samples were positive, with 15 of the positive values from two people. The maximum result was 13-14 μc/liter, which is close to a maximum permissible level considering the uncertainty of the instrument calibration. Later results on this man indicated a decrease to 9-10 μc/liter.

Methods Development

The first thirteen groups of spiked samples and blank samples processed in the Bioassay laboratory by electrodeposition on a 7 mm disk gave an average yield of 81% with a standard deviation of 17% and a blank of 0.04 d/m. An additional group of 6 runs gave yields of only 60%, presumably due to the use of commercial sodium hypochlorite and excessive spattering from small beakers. Attempts to electrodeposit on disks 2.4 mm in diameter have resulted in yields generally less than 50%. Satisfactory yields on the larger disc were obtained using a Mallory copper oxide battery charger in a test of the effect of half-wave rectification.

A run to determine the rate of buildup of background on the NTA film indicated that the original background was probably not removed by the peroxide treatment on this batch. Backgrounds ranged between five and eight tracks per square mm. A reading of double this amount on a 7 mm diameter disc would amount to 0.05 d/m for a one-week exposure.

Samples of vegetation analyzed for K^{40} on the spectrophotometer gave results comparable to those expected from the counting rates for locations distant from the separations areas. Ashed samples from near the separations areas gave counting rates in excess of the K^{40} rate due to nonvolatile activities deposited from the stacks.

The ether extraction of air samples on filter paper from the 234-5 Building indicates yields of 10-50% based on a measurement in the "Long Tom" counting chamber. The main difficulty appears to lie in obtaining the plutonium in solution from the filter without extracting fibers and organic residue.

Some work has been started on the use of proportional counters to count P-10 oxide samples. Attempts to find a suitable gas produced from water have consisted of the reported production of methane from aluminum carbide and water, and the use of a Grignard reagent, ethyl magnesium iodide, to produce ethane. Results to date have been poor since the counters do not have an adequate plateau and do not respond properly to an external gamma source.

[redacted]

19

Health Instrument Divisions

Methods Control

Tests on the background variations of the L.B.A. counters by comparing individual one-hour results against the eight-hour background indicate that about 10% of the Bioassay samples will be out of the recount limits due to background variations.

Studies of the Pu-U analysis in water have continued with inconclusive results as to the reason for losses. A direct lanthanum fluoride precipitation procedure has now replaced the TTA analysis for studies of the plutonium content of waste samples. Several tests on the P-10 analytical method have changed the details of handling the samples to eliminate trouble with high results after a contaminated sample has been run.

A summation of work performed follows:

Laboratory	No. of Analyses
Vegetation	1182
Water	2039
Solids	358
Fluorophotometer	655
P-10	94
Miscellaneous	78
Total	4,406
Counting Room	
Beta measurements	4,032
Alpha measurements	3,791
Control points	2,128
Decay Curves (points)	1,003
Absorption curves	16
Total	10,970

Physics

Some progress has been made in reducing background due to alpha contamination in the aluminum walls of the proportional recoil counters. The walls were coated with a thin layer of silver which reduced the background by a factor of three. The background is still five times that of the brass chambers. The counters are also slightly sensitive to slow neutrons and caps are being made to cover the kovar-glass seals which presumably cause this sensitivity.

Tests of the high pressure ionization chambers using methane in one and carbon-dioxide in the other indicate that the system still is somewhat gamma energy dependent. When the chambers are balanced using Co^{60} source the chamber filled with carbondioxide will give a greater reading when a radium source is used. The magnitude of the difference depends on the amount of filtering used with the radium source.

[redacted]

Health Instrument Divisions

The program for personnel metering using neutron sensitive film was put into operation on March 13, 1950. The sensitivity of the new film was found to be 6.8×10^{-7} tracks per neutron. This is an increase of 75% over the old, and when coupled with a reduced fading which was also observed gives a total increase of about 200% in sensitivity. This increased sensitivity means that now a "tolerable" exposure to neutrons over the two week period will produce a total of 70 recoil tracks in 40 fields of view as against 25 tracks in 40 fields with the old film. The use of mechanical counting aids is also effective in increasing efficiency so that the time for reading each film has been reduced to about one third.

The measurement of low energy beta radiation by detection of the Bremstrahlung is possible but the overall efficiency is low. The best results obtained so far on a 2 microcurie P-10 sample was about 5 c/m above background.

Industrial Hygiene

Further investigation has been made of apparent local microscopic changes in samples of uranium fume after they have been collected. Attempts were made to make observation both with the electron microscope at Washington State College and by ordinary light microscope at this location. Results are inconclusive and further work is necessary, preferably by immediate electron microscopy here.

A report has been issued on a study of ammonia exposures in the Reproduction Section in the 700 Area.

Instrument Development

The pulse analyzer was used to determine the energy of alpha emitters in several unknown samples prepared by Methods. Comparison of results with actual sample content showed the largest error to be 0.04 MEV, somewhat less than 1%. Resolution was not good enough to permit quantitative estimation.

An alpha scintillation probe similar to the one being tested in 234-5 will be marketed by a commercial manufacturer. The experimental probe failed when the light shield was broken, but replacement was the only repair required. Field reports continue to be favorable.

Construction and testing of a portable BF_3 counter was completed. Field testing awaits construction of a satisfactory field counter by Instrument Division. The laboratory counter originally built to specification operates satisfactorily.

Sulphur 35 beta particles were counted by the scintillation method with a counting rate about half that obtained in a methane flow chamber. The crystal was about 2 cm. square, source area was about 0.4 cm^2 and distance from source to crystal about 3 mm. The O.R.N.L. kindly supplied crystals for experimental purposes. The same arrangement was found to be unsatisfactory for counting low energy betas for P-10 measurements.

21

[redacted]

1220806

Health Instrument Divisions

An electrometer was built onto the pressure chamber for thyroid counting to eliminate connecting cable difficulties. When calibration is completed, the instrument will be tried by the Biology Division.

Calibrations

	Number of Routine Calibrations		
RADIUM CALIBRATIONS	February	March	1950 to Date
Fixed Instruments			
Gamma	343	388	1,121
Portable Instruments			
Alpha	228	318	786
Beta	452	625	1,511
Gamma (Radium)	722	1,043	2,514
X-ray Scanning	3	2	8
Neutron	66	124	278
Total	1,471	2,112	5,097
Personnel Meters			
Beta	130	1,152	2,255
Gamma (Radium)	7,802	8,832	23,345
X-ray	3,306	8,184	17,902
Neutron	--	--	--
Total	11,238	18,168	43,502
GRAND TOTAL	13,052	20,668	49,720

Health Instrument Divisions

BIOLOGY DIVISION

Analyses Group

1. Plutonium Analyses in Tissues

Rat carcasses separated to skins and G.I. tracts have been received from the Biochemistry Group and their analyses have been started.

2. Radioactivity in Carcasses

The investigation of the two methods outlined last month for the separation of Ra from carcass ash continued through March. Yields of 60 - 70% have been obtained from the chemical procedure, while the use of a resin column gave disappointingly low yields.

3. Composition of Effluent Water

Analyses of the two year old algae sample from 107-F indicate 60% of the total activity due to Fe^{55}, 34% due to long-lived rare earths, 3% due to Co^{60}, and 2% due to Zn^{65}. The sample showed no C^{14}.

4. Alpha and Beta Analyses of Organic Material

Analytical methods for I^{131}, in sheep feces, urine, milk, and blood have been tested and applied to 40 samples from the Experimental Animal Farm.

5. Miscellaneous

Qualitative determinations of the exchange of tritium gas with hydrogen in water in the absence of a catalyst indicated negligible exchange.

Total beta activity of 2.2 μc was found in a mouse obtained from the C diversion box at 200 E.

Aquatic Biology Group

1. Effect of Pile Effluent on Aquatic Life

The chinook salmon fry in the monitoring test continue to increase in size but their developmental rate is still not entirely satisfactory due to water temperatures below optimum and to continuing disease problems. About 5% of the fish died in most of the lots during the month.

Adult trout which have been held in a concentration of 2% effluent water throughout their entire life are now spawning. The difference in productivity between these and controls will be sought.

Health Instrument Divisions

2. Biological Chains

Yearling trout being held in 5% effluent and fed algae from the 107 Basin continue to show activities approximately twice that of fish not receiving contaminated diet.

3. Radiobiological Survey of the Columbia River

Fluctuating river levels during the first part of the month and the beginning of the spring freshet later inhibited collections of some aquatic forms, but juvenile fish are readily obtainable. In general specific activities were the same as last month. Highest activity in fish was found in the scales of a chiselmouth (4×10^{-4} μc/g), while the highest among organic material collected was in the pupal skins shed from midge larvae (10^{-2} μc/g).

Biochemistry Group

1. Deposition in Lungs of Active Particles

Five rabbits are being exposed to stack gas for four weeks.

Using NTB slides, autoradiographs have been prepared from frozen lung sections of a rabbit exposed to stack gas. Radioactive particles have been observed in the vicinity of alveolar spaces.

2. Gastro-intestinal Absorption of Plutonium

Plutonium feedings were completed. The eighteen rats were sacrificed, separated to skins, alimentary tracts, and remaining carcasses, and transferred to the Analyses Group.

3. P-10 Hazards, Biological Investigation

Following the exposure of one rat to air in a 108 B hood during two process operations, its carcass contained 1.7 μc of tritium per cc of water (about 90 times the permissible concentration).

Botany Group

1. Separations Area Control Plot (200 E, R-3 Danger Zone)

Germination of radioactive Russian thistle seeds collected from plants growing in the zone was found about 15% less than that of controls. Development to seedlings was normal.

2. Agricultural Field Station

Activity of the soil remains the same as last month. Pruning and spraying of

the orchards are in progress and plowing has been completed.

3. Translocation of Radioelements in Plants

Work is continuing on the uptake of activity from pile effluent by grass, oats, and rye. A tomato plant watered with pile effluent translocated the active material so that the specific activity (μc/gm) in the leaves and fruit was respectively 10% and 1% of that of the soil. Ninety per cent of the radioactive material in the fruit was extractable with acetone plus alkaline methyl alcohol.

Physiology Group

1. Photomicrographic and autoradiographic work has been done for the Aquatic Biology and Industrial Hygiene Groups. Histological work for the Zoology Group continues. Sheep blood studies of morphology and chemistry continue on a routine basis.

Zoology Group

1. Biological Monitoring

The group was assigned temporarily to work at the Animal Farm. A jackrabbit collected near Richland had about 0.5 MPC of activity in its thyroid.

2. Toxicology of I^{131}

Sheep have been sheared to lessen sewage pumps stoppages caused partially by shedding of fleece. Ewes are being regrouped to approach equal distribution in size, breeding date, and ram servicing.

One ewe which had previously shown a 4.5 day combined half-life for thyroid deposited iodine now showed a 7 day half-life following a short period of I^{131} ingestion. This 7 day half-life was observed also in two other ewes. The biological half-lives corresponding to the two quoted combine half-lives are 10 days and 56 days, representing an apparent major change in metabolism. All proposed determinations in hematology have been made at least once on all the sheep.

[redacted]

GENERAL ACCOUNTING DIVISION

MARCH 1950

GENERAL

Effective March 1, 1950 an Internal Audit Section was established with responsibilities for developing an internal audit program for Hanford Works, developing related audit procedures, and undertaking the audits indicated by such program. The development of the audit program and preparation of necessary procedures has progressed to the point where regular audits can begin next month.

Audits of General Electric expenditures by both the Atomic Energy Commission and the General Accounting Office are on a current basis. As of March 31, 1950 three unanswered informal inquiries from GAO are on hand. Two of these concern work order procedures and one concerns payments made to shift workers. They advised that there are a number of other questions which may or may not be put in the form of Informal Inquiries regarding GE expenditures which are now in process of audit. There were no unanswered inquiries from the AEC Audit Branch.

Budget Estimates for Fiscal Year 1952 and revisions of the 1950 and 1951 Budgets were completed during the month and are ready for submission to the A & B Committee for their review. These included necessary summaries with supporting details, together with narrative justifications, for Research and Development, P-10 Production, and Construction Budgets.

Accounts Payable volume sharply increased as evidenced by the fact that number of vouchers booked in March exceeded those of the previous month by 41% and purchase orders received on which subsequent billings will be made increased 71%. Paid vouchers are being currently processed and cleared by AEC and only 9 unapproved vouchers remain on hand which are over 60 days old.

Arrangements were completed during March, and approval of the Atomic Energy Commission was obtained, concerning the forwarding of delinquent accounts receivable to the Yakima Adjustment Service of Yakima, Washington for further action prior to their assignment to AEC. Cost of this service to us is 50% of amounts collected.

Studies were made regarding routines relative to the inclusion in Plant accounts of charges of a capital nature originating from work orders. Procedures are being developed whereby the recording of this information is to become a part of an established routine.

Unit cost studies and reports which have been issued in the past were revised and improved. Plans were made to expand the present reporting of unit costs and to furnish management with pertinent information which heretofore has not been presented.

At conferences attended by representatives of the Medical and Community Divisions, General Accounting Division, and the Atomic Energy Commission a rental rate was established for space to be rented to doctors in private practice.

General Accounting Division

Hanford Works and Nucleonics Department Financial Statements for the month of February were completed and distributed on March 17, and March 20, 1950 respectively. General Divisions Operating Reports covering operating costs for February were completed on March 15, 1950.

Payroll Deductions for Red Cross subscriptions were made in March from salaries of 1,129 employees. Check in the amount of $3,303.29 covering these deductions will be made payable to the American Red Cross and forwarded to the Chairman of the Hanford Works Red Cross Drive.

During March, the HAMTC presented 117 new authorization cards for deduction of Union Dues from salaries of employee members of seven unions. The total number of Union members who have authorized payroll deductions of Union Dues as of March 31, was 316.

A plan for Purchase of Safety Shoes by Payroll Deductions was recommended by the Employee and Community Relations Division in February. Permission to make payroll deductions for Safety Shoes under the Copeland Act regulations was received from the Secretary of Labor in March. The Safety Division indicated a desire to make the Plan effective as promptly as possible. Accordingly, representatives of the Payroll Divisions prepared a Payroll Deduction Authorization which was subsequently approved by the Legal Division, and a draft of a proposed accounting procedure which had been discussed with representatives of Purchasing and Stores, Safety Division, and the General Accounting Division. The accounting procedure and payroll deduction authorization were forwarded to Employee and Community Relations Division for preparation of a H. W. Instructions Letter covering Purchase of Safety Shoes by Payroll Deductions. It is expected that the Plan will be placed into effect on April 15, 1950.

During March, salary adjustments retroactive to April 11, 1949, amounting to $6,807.37 were made to 49 employees. As of March 31, 1950, the total amount of salary adjustments made under the Union Agreement was $236,456.78, paid to 5106 employees.

Approximately 1400 man hours were expended by Payroll Divisions in preparing statements of each individual employee's personal participation in the principal General Electric Employee Benefit Plans as of December 31, 1949. It is expected that these personal statements, together with pamphlet "A Report on General Electric's Employee Benefit Plans" will be delivered to employees in April.

Reimbursement Authorization No. 89 covering the Two-Platoon System of Operation in the Community Fire Division was received in February. Representatives of the Community Division, Union Relations and Wage Rate Division, and Accounting Division met early in March for the purpose of discussing various phases of the Two-Platoon System with respect to salary payment practices. Agreement was reached as to the payment practices to be followed, and the Two-Platoon System was inaugurated on March 20, 1950. Additional approvals where required, with respect to payment practices will be secured by the Union Relations and Wage Rate Division.

General Accounting Division

As a result of a survey being conducted by representatives of Booz, Allen and Hamilton, schedules have been prepared in recent months covering all divisions of the Hanford Works, listing certain information with respect to exempt personnel.

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

	February.	March
Disbursements		
Material and Freight - GE	$ 607 297	$ 779 692
Payrolls - GE (Net)	1 673 095	2 037 116
Payments to Subcontractors	986 867	1 805 822
Pension Plan - Company's Cost	1 194 626	-0-
Other	946 182	1 298 156
Total	5 408 067	5 920 786
Receipts		
House Rents	101 465	104 320
Hospital and Clinic	67 915	82 858
Telephones	10 105	13 117
Bus Fares	11 416	11 556
Other	22 988	92 690
Total	213 889	304 541
Net Disbursements	$5 194 178	$5 616 245

General Accounting Division

STATISTICS

Employees and Payroll	Total	Monthly Payroll	Weekly Payroll
Employees on Payroll at beginning of month	7 465	1 640	5 825
Additions and transfers in	179	13	166
Removals and transfers out	(86)	(9)	(77)
Transfers from Weekly to Monthly Payroll	--	85	(85)
Transfers from Monthly to Weekly Payroll	--	--	--
Employees on Payroll at end of month	7 558	1 729	5 829

Employees on Payroll at end of month	February	March
Manufacturing	3 170	3 192
Design and Construction	557	593
Community	728	722
Other	3 010	3 051
Total	7 465	7 558

Overtime Payments		
Weekly Paid Employees	$33 270	$43 074
Monthly Paid Employees	4 818 (1)	7 600 (2)
Total	$38 088	$50 674

Number of Changes in Salary Rates and Job Classifications	396	626

Gross Amount of Payroll		
Manufacturing	$1 099 254	$1 331 946
Design and Construction	197 086	232 687
Community	223 443	270 462
Other	941 590	1 116 524
Total	$2 461 373 (3)	$2 951 619 (4)

Annual Going Rate of Payroll		
Manufacturing	$14 127 322	$14 284 565
Design and Construction	2 492 219	2 637 358
Community	2 862 508	2 853 253
Other	12 030 548	12 199 925
Total	$31 512 597	$31 975 101

Average Salary Rate Per Hour (5)	February			March		
	Weekly	Monthly	Total	Weekly	Monthly	Total
Manufacturing	$2.015	$2.654	$2.125	$2.014	$2.651	$2.126
Design and Construction	1.578	2.726	2.021	1.564	2.709	1.983
Community	1.763	2.331	1.985	1.760	2.152	1.876
Other	1.637	2.544	1.849	1.636	2.544	1.846
Total	$1.813	$2.587	$1.981	$1.810	$2.552	$1.977

(1) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period January 1, 1950 to January 31, 1950

(2) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period February 1, 1950 to February 28, 1950

(3) Includes 4 weeks in case of weekly paid employees

(4) Includes 5 weeks in case of weekly paid employees

(5) Includes shift differential and isolation pay. Excludes overtime premiums, commissions, Suggestion Awards, etc.

General Accounting Division

Employee Plans

Pension Plan

	February	March
Number participating at beginning of month	6 708	6 718
New participants and transfers in	41	30
Removals and transfers out	(31)	(67)
Number participating at end of month	6 718	6 681
% of eligible employees participating	94.5%	94.6%

Employees Retired	March	Total to Date
Number	3	117
Aggregate Annual Pensions Including Supplemental Payments	$ 768	$28 726*
Amounts contributed by employees retired	$1060	$12 042

*Amount before commutation of pensions in those cases of employees who received lump sum settlement

Group Life Insurance*

	February	March
Number participating at beginning of month	5 796	5 752
New participants and transfers in	35	53
Cancellations	(23)	(10)
Removals and transfers out	(56)	(56)
Number participating at end of month	5 752	5 739
% of eligible employees participating	77.7%	77.2%

*Statistics exclude 36 pensioners as of the end of February and 39 pensioners as of the end of March who were granted lump sum pension settlement and who are paying premiums at Hanford Works

Group Life Insurance Claims	March	Total to Date
Number of claims	1	38
Amount of insurance	$4200	$191 947

Group Disability Insurance (1)

Personal Coverage

	February	March
Number participating at beginning of month	29	22
New participants and transfers in	-0-	-0-
Cancellations	(7)	(10)
Removals and transfers out	-0-	-0-
Number participating at end of month	22	12

Dependent Coverage

Number participating at beginning of month	13	9
Additions and transfers in	-0-	-0-
Cancellations	(4)	(3)
Removals and transfers out	-0-	-0-
Number participating at end of month	9	6

General Accounting Division

Group Disability Insurance (1) (continued)

Claims (2)	February	March
Number of claims paid by insurance company:		
Employee Benefits		
Weekly Sickness and Accident	11	11
Daily Hospital Expense Benefits	13	23
Special Hospital Services	11	22
Surgical Operations Benefits	12	21
Dependent Benefits Paid		
Daily Hospital Expense Benefits	6	5
Special Hospital Services	6	4
Amount of Claims paid by insurance company:		
Employee Benefits	$2 099	$3 297
Dependent Benefits	502	223
Total	$2 601	$3 520
Premiums		
Personal - Employee Portion	$ 37	$ 20
- Company Portion	23	13
- Total	$ 60	$ 33
Dependent- Employee Portion	$ 8	$ 5
- Company Portion	1	1
- Total	$ 9	$ 6
Grand Total	$ 69	$ 39

(1) Group Disability Insurance Plan was discontinued November 30, 1949. February and March statistics cover employees absent with continuous service who are participating in the Group Disability Plan. They were not actively at work on December 1 1949, and therefore were not eligible to participate in the new Group Health Insurance Plan.

(2) Statistics are for claims paid during the month and do not necessarily indicate that claims were incurred during the month.

Group Health Insurance (1)

Personal Coverage	February	March
Number participating at beginning of month	6 913	6 891
New participants and transfers in	31	75
Cancellations	(1)	(12)
Removals and transfers out	(52)	(49)
Number participating at end of month	6 891	6 905
% of eligible employees participating	94.0%	94.3%
Dependent Coverage		
Number participating at beginning of month	4 599	4 595
Additions and transfers in	21	46
Cancellations	(2)	(12)
Removals and transfers out	(23)	(10)
Number participating at end of month	4 595	4 619

General Accounting Division

Group Health Insurance (1) (continued)

Claims (2)

	February	March
Number of claims paid by insurance company:		
Employee Benefits		
Weekly Sickness and Accident	64	92
Daily Hospital Expense Benefits	97	156
Special Hospital Services	103	173
Surgical Operations Benefits	64	98
Dependent Benefits Paid		
Daily Hospital Expense Benefits	181	264
Special Hospital Services	204	301
Surgical Operations Benefits	106	164
Amount of claims paid by insurance company:		
Employee Benefits	$13 315	$21 199
Dependent Benefits	18 912	28 223
Total	$32 227	$49 422

Premiums

Personal - Employee Portion	$14 816	$14 848
- Company Portion	7 139 (3)	7 155 (3)
- Total	$21 955	$22 003
Dependent - Employee Portion	$12 866	$12 936
- Company Portion	10 247 (3)	10 302 (3)
- Total	$23 113	$23 238
Grand Total	$45 068	$45 241

(1) Group Health Insurance Plan was made effective December 1, 1949.
(2) Statistics cover only claims paid and not all claims incurred during the month.
(3) Gross company cost before dividend.

Vacation Plan

Number of employees granted permission to defer one week of their 1950 vacation to 1951

	March			Total to Date		
	Weekly	Monthly	Total	Weekly	Monthly	Total
Manufacturing	63	11	74	106	21	127
Design & Construction	0	0	0	0	1	1
Community	1	2	3	7	3	10
Technical	8	3	11	16	8	24
Health Instrument	3	2	5	3	2	5
Plant Security & Services	2	2	4	71*	20	91*
Purchasing & Stores	2	3	5	2	3	5
Medical	2	1	3	2	1	3
General Accounting	3	0	3	5	0	5
Total	84	24	108	212*	59	271*

*Total to Date reduced by one cancellation

Annuity Certificates (For duPont Service)

	March	Total to Date
Number issued	-0-	69

7.

General Accounting Division

Employee Plans (continued)

U. S. Savings Bonds	Mfg.	D&C	Comm'y	Other	Total
Number participating at beginning of month	1 728	254	342	1 457	3 781
New authorizations	17	4	5	31	57
Voluntary cancellations	(33)	(5)	(7)	(27)	(72)
Removals and transfers out	(1)	(3)	(3)	(5)	(12)
Transfers in	1	2	0	2	5
Number participating at month end	1 712	252	337	1 458	3 759
% participating	53.6%	42.4%	46.7%	47.7%	49.7%
Bonds issued					
Maturity Value	$93 875	$13 325	$18 100	$74 250	$199 550
Number	1 993	264	368	1 545	4 170
Refunds issued	36	8	8	40	92
Revisions in authorizations	12	7	5	17	41
Annual going rate of deductions					
G.E. Employees Savings and Stock Bonus Plan	$710 098	$101 012	$119 953	$575 308	$1 506 371
General Electric Savings Plan	$226 298	$ 34 439	$ 41 764	$159 433	$ 461 934
Total	$936 396	$135 451	$161 717	$734 741	$1 968 305

Suggestion Awards	March	Total to Date
Number of awards	36	514
Total amount of awards	$450	$7445

Employee Sales Plan

	March		
	Major Appliances	Traffic Appliances	Total
Certificates Issued	39	282	321
Certificates Voided	1	18	19

Salary Checks Deposited

	February		March	
	Weekly	Monthly	Weekly	Monthly
Richland Branch - Seattle First National Bank	799	829	799	825
North Richland Area Office - Seattle First National Bank	13	7	11	6
Richland Branch - National Bank of Commerce	95	63	115	71
Out of state banks (Schenectady staff)	--	3	--	3
Total	907*	902	925**	905

*Week ended 2-26-50
**Week ended 3-27-50

Special Absence Allowance Requests	February	March
Number submitted to Pension Board	9	10

Absenteeism (Weekly Paid Employees)	1949	1950
January 1 to March 26	2.84%	2.63%

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING

Number of Employees	February	March
On Payroll at beginning of month	174	175
Removals and transfers out	(6)	(7)
Additions and transfers in	7	4
Number at end of month	175	172
Net increase (or decrease) during month	1	(3)
% of terminations and transfers out	3.4%	4.0%
% of absenteeism	3.43%	2.63%

Changes by division in number of Accounting Division employees during March were as follows:

General : No Change

Accounts Payable: No Change

Cost: No Change

General Accounts: Increase of two employees

Two new hires

Plant Accounting: Increase of one employee

One transfer from Plant Security and Services Division

Weekly Payroll: Decrease of five employees

One transfer to Purchasing and Stores
Four illness removals

Monthly Payroll: No Change

Special Assignments: Decrease of five employees

Three transfers to Internal Audit
One transfer to Construction Accounting
One transfer to General Administrative

Budgets: No Change

Internal Audit: Increase of four employees

Three transfers from Special Assignments
One transfer from General Administrative

Injuries	February	March
Major	-0-	-0-
Sub-major	-0-	-0-
Minor	-0-	-0-

9.

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Number of Accounting Division employees as of March 31, 1950 were as follows:

	Number of Employees		
	Non-Exempt	Exempt	Total
General	3	3	6
Accounts Payable	15	1	16
Cost	9	1	10
General Accounts	16	1	17
Plant Accounting	23	3	26
Weekly Payroll	66	5	71
Monthly Payroll	15	2	17
Special Assignments	1	1	2
Budgets	2	1	3
Internal Audit	0	4	4
Total	150	22	172

Non-exempt employees may be summarized as follows:

Classification	Number as of 2-28-50	Number as of 3-31-50
Accounting A	3	3
Accounting B	1	1
Accounting C	2	2
Accounting D	5	6
Business Graduate	5	6
Clerical Working Leader	5	5
Cost Clerk A	1	1
Cost Clerk B	1	1
Cost Clerk D	2	2
Field Clerk B	1	1
Field Clerk C	1	1
General Clerk A	25	23
General Clerk B	43	41
General Clerk C	19	19
General Clerk D	9	8
General Clerk E	1	1
Office Machine Operator B	16	16
Secretary B	1	1
Steno-Typist A	2	2
Steno-Typist B	6	6
Steno-Typist C	1	2
Steno-Typist D	2	2
Total	152	150

Open employment requests as of March 31, 1950 were as follows:

Business Graduate	7
Steno-Typist C	1
Total	8

10.

General Accounting Divisions

	February	March
Accounts Payable *		
Balance at Beginning of Month	$ 56 235	$ 40 224
Vouchers Entered	2 091 175	1 312 642
Cash Disbursements	2 107 405 Dr.	1 284 274 Dr.
Cash Receipts	219	197
Balance at end of month	$ 40 224	$ 68 789
Number of vouchers Entered	1 374	1 939
Number of Checks Issued	976	1 230
Number of Freight Bills Paid	201	230
Amount of Freight Bills Paid	$ 3 295	6 610
Number of Purchase Orders Received	750	1 281
Value of Purchase Orders Received	$ 122 566	241 674
Cash Disbursements		
Community	$ 48 778	$ 35 833
Design & Construction	1 000 140	1 880 383
General	3 938 275	3 488 046
Manufacturing	420 874	516 524
Total	$5 408 067	$5 920 786
Material and Freight	$ 607 297	$ 779 692
Lump Sum and Unit Price Subcontracts	45 524	366 291
CPFF Subcontracts		
Labor	670 740	1 094 320
Others	270 603	345 211
Payrolls (Net)	1 673 095	2 037 116
Payrolls Taxes	317 648	353 502
U. S. Savings Bonds	157 776	156 656
General & Administrative Expenses	200 000	200 000
Pension Plan - Employers Cost	1 194 626	
Stock Bonus Plan, 1949 (Employees)		258 274
Miscellaneous	270 758	329 724
Total	$5 408 067	$5 920 786
Cash Receipts		
Community	$ 89 379	$ 96 434
Design & Construction	30 398	26 682
General	5 501 000	4 863 435
Manufacturing	14 160	12 274
Total	$5 634 937	$4 998 825

* General Divisions only.

General Accounting Divisions

	February	March
Detail of Cash Receipts		
Hospital	$ 67 915	$ 82 858
Scrap Sales	7 948	17 840
Miscellaneous Accounts Receivable	6 336	3 288
Educational Program	1 494	930
Employee Sales	563	1 335
Refunds from Vendors	4 245	3 509
Rents	101 465	104 320
Telephone	10 105	13 117
Bus Fares	11 416	11 556
Sales of Plant & Equipment	350	-0-
Advances from A.E.C.	5 421 048	4 694 284
Income From Special Funds	-0-	61 815
All Other	2 052	3 973
	$5 634 937	$4 998 825
Number of Checks Written		
Community	125	187
Design & Construction	150	240
General	976	1 230
Manufacturing	467	559
Total	1 718	2 216
Bank Balances at End of Month		
Chemical Bank & Trust Company - New York		
Contract Account	$ 994 058	$ 450 548
Seattle First National Bank - Richland		
Contract Account	1 881 310	1 585 563
U. S. Savings Bond Account	224 858	211 087
Salary Account No. 1	20 000	20 000
Salary Account No. 2	30 000	30 000
Travel Advance Account	22 797	28 135
Seattle First National Bank - Seattle		
Escrow Account	64 471	64 471
National Bank of Commerce - Richland		
Contract Account - Manufacturing	479 126	383 476
Contract Account - Community	51 222	64 167
	$3 767 842	$2 837 447
Travel Advances and Expense Accounts		
Cash Advance balance at end of month*	$ 12 903	$ 14 747
Cash Advance balance outstanding over one month*	987	573
Traveling and Living Expenses:		
Paid Employees	20 069	16 078
Billed to Government	19 715	15 281
Balance in Variation Account at end of month	4 357 Dr.	5 153 Dr.

* General Divisions only.

General Accounting Divisions

	February	March
Hospital Accounting		
Accounts Receivable		
Balance at Beginning of Month	$ 171 118	172 649
Invoices Issued	95 762	116 009
Refunds	1 114	2 309
Cash Receipts	(67 915)	(82 857)
Payroll Deductions	(27 355)	(26 984
Bad Debts Written Off	(75)	-0-
Balance at End of Month	$ 172 649	181 126

	Total to Date	March
Scrap Sales		
(a) Number of Sales	167	51
(b) Revenue (Not Including Sales Tax)		
Revenue to G. E.	$ 150 181	$ 11 252
Revenue to A.E.C. (Sale of Tract Houses)	30 359	6 588
Total Revenue	$ 180 540	$ 17 840

General Accounting Divisions

ACCOUNTS PAYABLE

The month of March showed a considerable increase in activity in all phases of work done in this Section and from present indications the flow of work will continue to increase. During March there were 1,939 vouchers recorded, compared to 1,374 in February, an increase of 41%. This number is next to the highest number recorded in any one month since decentralization of the Accounting Divisions in 1948.

At the end of March there were 74 vendor's invoices on hand covering shipments for which no purchase orders had yet been received. The fact that these orders have not been received creates extra work for Accounts Payable, as many invoices have cash discount applying and must be paid within the discount period. Special handling of such invoices is necessary in checking for correctness of unit prices, payment terms, and F.O.B. terms. This condition has been called to the attention of the Purchasing Division with the request that the issuance of these orders be expedited.

The number of checks issued in March increased considerably over February, although not in the same proportion as the increase in vouchers recorded. Details are as follows:

	March	February
Chemical Bank and Trust Co.-New York	432	314
Seattle First National Bank-Richland	798	662
Total	1,230	976

The 1,230 checks were issued in payment of 1,795 vouchers, or an average of 1.46 vouchers per check. In February the average was 1.57 vouchers per check.

In spite of the large increase in number of vouchers recorded during the month, there was only a small increase in the number on hand the end of the month. Details regarding vouchers on hand which required additional supporting data before they could be considered complete, are as follows:

	March	February
Number on Hand - Paid	144	111
Number on Hand - Unpaid	917	785
	1,061	896

The total number of vouchers on hand more than 60 days old which require additional supporting data before they can be forwarded to AEC for approval decreased slightly this month. The total shown below is particularly significant considering the volume of vouchers recorded during the past several months.

	March 31		February 28	
	No.	Amount	No.	Amount
Unpaid Vouchers	14	$ 396	15	$ 666
Uncollected Debit Vouchers	3	115	4	306
Paid Vouchers	9	4,623	12	9,885
Total Vouchers on hand	26	$4,904	31	$10,245

14.

1220.24

General Accounting Divisions

ACCOUNTS PAYABLE (Continued)

Of special interest in regard to the above is the fact that there are only 3 uncollected debit vouchers, none of which is more than 90 days old. This is the result of effective action in collecting these items.

The preparation of a manual of Accounts Payable procedures was started this month. This manual will include exhibits and will explain the step by step procedure of all work performed in this section.

The amount of freight bills paid more than doubled in March over February. Journalization of freight paid to the proper accounts is current and the general ledger balance in the Freight Account, representing undistributed payments, as of the end of March was $341.09.

The Accounts Payable balance in general ledger on March 31 was $68,788.95, most of which (95%) represents items recorded in March which are not due to be paid until April. Details by months of this balance are as follows:

October 1949	$ 22.50
November 1949	18.00
December 1949	133.10
January 1950	107.57
February 1950	3,357.74
March 1950	65,150.04
Total	$68,788.95

BUDGETARY CONTROL

On March 6, a letter of instructions covering budget estimates of Property In Service - Equipment for fiscal years 1951 and 1952 was prepared and sent to all General Division managers and/or division heads and accountants of the Community and Manufacturing Divisions. This letter requested submission of detailed schedules by March 28 as follows:

(a) Equipment not related to construction projects and not included in construction budgets being prepared for fiscal years 1951 and 1952.

(b) Uninstalled equipment related to construction projects but which has not been included in a project proposal and not included in construction budgets for fiscal years 1951 and 1952.

Detailed work sheets, showing budget estimates for the last six months of Fiscal Year 1950, estimates for Fiscal Year 1951 by quarters and estimates for Fiscal Year 1952 covering Within-Division, Research and Development and P-10 production, were received during the week of March 13th from all the General Divisions. These work sheets were reviewed and analyzed as to the information contained therein and the necessary consolidations and summaries were prepared. Summaries and supporting details of Research and Development and P-10 Production were prepared for submission to the A. & B. Committee. Within-Division budget details are not to be submitted to the A. & B. Committee. A narrative justification covering Research and Development and P-10 Production was also prepared and submitted with the respective summaries and details.

General Accounting Divisions

BUDGETARY CONTROL (Continued)

Construction budgets for all General Divisions were received during the week of March 13. Details contained therein were reviewed and schedules prepared for submission to the A. & B. Committee. The necessary preliminary project proposals were obtained and submitted with the budget.

Work sheets were prepared showing estimated charges received from other divisions and estimated charges to other divisions.

A considerable amount of time was devoted in assisting the Medical Divisions with certain details in connection with the budgets of that division.

COST

General Divisions Operating Reports were issued on March 15, 1950, detailed report of Research and Development costs was issued on March 21, 1950, Summary of Costs Report was issued on March 29, 1950, and unit cost reports covering Purchasing and Stores, and Plant Security and Services Divisions were issued on March 20, 1950.

Letters were issued to division managers on March 20 detailing variances in divisional costs between February and January and explaining points of major variations. These letters covered the following divisions: Technical, Health Instrument, Plant Security and Service, and Purchasing and Stores.

In addition, letters were also issued to managers of Technical and Health Instrument Divisions explaining the increase (or decrease) in the Research and Development programs.

Costs of each General Division were again carefully analyzed and cost estimates prepared for the month of March. On the basis of these estimates, liquidation rates and amounts were established.

Considerable time was devoted to studying and making certain revisions in the liquidation of Purchasing and Stores, Plant Security and Services, and 700 Area General costs.

Unit Cost studies and reports which have been issued in the past were revised and improved. Plans have been made to expand the present reporting of unit costs and to furnish management with useful information which heretofore has not been presented.

GENERAL ACCOUNTS SECTION

General Ledger Trial Balances were received from all Accounting Divisions on March 16, 1950. Hanford Works Financial Statements were completed on March 17 and Consolidated Financial Statements on March 20, 1950.

After the completion of February Financial Statements, a complete review was made to determine if any improvements could be made. As a result of this review, several changes are planned in the March reports. These will incompass consolidation of costs and Government Costs Transfers on the Balance Sheet which will in turn be supported by additional detail pages. An additional column will be added on the cost summary sheets for the Budget as of June 30, 1950.

GENERAL ACCOUNTS SECTION (Continued)

Considerable time was devoted to writing up descriptions of General Ledger Accounts. These now number in excess of 100, and new accounts are frequently opened. Descriptions are being written covering all accounts on the books of all divisions.

During March the following new General Ledger Account was authorized:

Account No. 39 - Costs - Extraordinary Depreciation and Obsolescence

Billings from Knolls Atomic Power Laboratory included General Engineering and Consulting Laboratory Assistance to Hanford in the amount of $135,236.78; Research Laboratory Assistance to Hanford in the amount of $104.46 and KAPL Assistance to Hanford in the amount of $4,991.08. Total billed to date in the amount of $2,607,414.38 for General Engineering and Consulting Laboratory covers eighteen different jobs.

So far this month the General Ledger Account-Government Cost Transfers has increased $382,560.93. Costs of $714,585.28 were transferred from the A.E.C. consisting mainly of charges for School Subsidy, Telephone Charges, Miscellaneous Equipment, Fuels and Lubricants, and Miscellaneous Supplies. Costs transferred to the A.E.C. in the amount of $332,024.35 consisted of general assessments, Excess Material, and Special Requests and Back Charges.

During March, $17,840 was collected from the sale of scrap. To date 167 Scrap Sales have been completed amounting to $180,540.

There are two accounts that are over 60 days old open in the Accounts Receivable-Miscellaneous Ledger. These represent claims against carriers and are being followed by the Traffic Section.

Preparations have been completed for the handling of safety shoe sales by payroll deductions. Necessary controls have been set up and payroll deduction listing sheets have been secured. This Section has prepared a complete procedure which will be put in operation as soon as the first Payroll Deduction Authorizations are received from the Purchasing and Stores Divisions.

During the month 92 Expense Reports were processed. Expense billings were paid to employees amounting to $11,245.62. Of this amount we received reimbursement from the AEC for $11,109.00 and the balance of $136.62 was charged to the Traveling and Living Variation Account. The open cash advances at the end of the month were $14,747.47 compared with $12,902.97 the previous month. The entire balance may be considered as current even though several accounts have been open in excess of 30 days. All open accounts have been followed with respective Division Managers and satisfactory reasons have been received for accounts appearing to be past due. The Traveling and Living Variation Account has been charged for $5,153.25 for which the AEC was not asked reimbursement during the period July 1, 1949 to March 31, 1950. During the month the Travel Advance Bank Account was increased from $50,000 to $60,000.

General Accounting Divisions

INTERNAL AUDIT SECTION

This Section, responsible to the Accountant, General Divisions, was established on March 1, 1950. The major responsibilities and functions are to plan and develop an internal audit program for Hanford Works, and to carry out the audits as planned in the audit program.

The scope of work will specifically include all financial operations of Hanford Works under the direction of the Comptroller, Nucleonics Department.

The organization of the Section and present personnel consists of four Internal Auditors headed by a Chief Internal Auditor. It is anticipated that additional personnel will be necessary to complete the audit program planned.

Since the Section was established the major portion of time has been spent in the preparation of Audit Procedures and developing the Audit Program. However, two Auditors are currently assigned to a review of the Surplus, Salvage and Scrap Divisions' records and one auditor is assigned to the Plant Accountability Section for review of work order procedures.

It is expected that preliminary planning will be sufficiently completed in order that work in connection with the regular audit program can begin next month.

MEDICAL ACCOUNTING SECTION

Invoices issued by Kadlec Hospital and the Clinics in the amount of $116 009 exceeded those of any other past month. This increase in invoices issued, $10 247, is the major reason for the increase in the accounts receivable balance from $172 649 to $181 126. Payroll deductions remained at approximately the same as last month; cash receipts increased from $67 915 to $82 857.

Budget Estimates for fiscal year 1952 and revisions of the 1950 and 1951 estimates were completed together with narrative justifications. Suggestions received from consultants retained by the Medical Divisions were incorporated in the preparation of these budgets.

PLANT ACCOUNTING

Accounting reports covering reconciliation and summaries of changes in Plant Accounts have been developed and have been issued monthly for the past two months. Other reports covering expenditures for Plant investment not specifically covered by project authorization or by informal Atomic Energy Commission approval are in process of development and will be issued each month retroactive to January, 1950. A monthly reconciliation of the General Ledger Account, Property in Service - Unclassified Property is also to be issued monthly in the future.

A recent inventory of Office Furniture and Equipment assigned to the Design and Construction Divisions is being reconciled with Plant Accounting records. The Design and Construction Accounting Division will record on their books in the account Major Construction Program Facilities all office furniture and fixtures in their custody. Similar equipment in the custody of the Atkinson-Jones Company is being recorded on the books of that company. The Plant Accounting Section will make an adjustment to balance the recorded value of this equipment with the physical inventory value.

PLANT ACCOUNTING (Continued)

An informal request has been received from the Atomic Energy Commission to transfer recorded assets and applicable reserves covering all schools and school equipment to the AEC. Necessary work to accomplish this is under way.

A study is currently in progress covering routines relative to the inclusion in Plant Accounts charges of a capital nature originating from Work Orders in the various divisions. The purpose of this study is to develop and recommend certain changes in procedures which will insure a greater degree of accuracy in recording these changes and a routine flow of papers and information as regards these transactions.

General Accounting Division

PAYROLLS

During the month of March there were 86 removals from Payroll of which 15 were removals due to lack of work, and there were 179 additions to the Payroll, including 1 transfer from another unit of the Company, resulting in a net increase of 93 employees on the Payroll.

* * * * * * * *

Approximately 78,931 items were addressographed in Weekly Payroll Division during March for other divisions at Hanford Works in addition to regular routine addressograph work.

* * * * * * * *

Under the Group Health Insurance Plan, 713 Claims for benefits by employees were forwarded to Metropolitan Life Insurance Company during March and 929 checks were received from the Insurance Company covering 674 Claims submitted by employees for benefits under the Plan.

* * * * * * * *

Under the General Electric Employee Savings and Stock Bonus Plan, 132 participating employees withdrew from the Plan 977 U. S. Savings Bonds having a maturity value of $45,025.00. U. S. Savings Bonds and Custody Receipts covering purchases by employees through payroll deductions in February were delivered to employees on March 24, 1950. There were 769 U. S. Savings Bonds and 3,158 Custody Receipts distributed to employees. As of March 31, 1950, percentage of Hanford Works employees participating in the G. E. Employees Savings and Stock Bonus Plan and G. E Savings Plan was as follows:

	Manufacturing	D & C	Community	Other	Total
G. E. Employees Savings and Stock Bonus Plan	49.0%	37.9%	41.3%	42.6%	44.8%
G. E. Savings Plan	13.0%	8.9%	9.8%	9.6%	11.0%
Both Plans	53.6%	42.4%	46.7%	47.7%	49.7%

* * * * * * * *

Permission to defer one week of their 1950 vacations until 1951 was granted by Division Managers in March to 84 Weekly Paid employees and 24 Monthly Paid employees. To date, permission to defer one week of 1950 vacations until 1951 has been granted to 212 Weekly Paid employees and 59 Monthly Paid employees.

* * * * * * * *

There were 16 time cards received late in Weekly Payroll during the month of March as follows:

PAYROLLS (CONT.)

Week Ended	Number of Time Cards Received Late
3-5-50	6
3-12-50	3
3-19-50	1
3-26-50	6
Total	16

* * * * * * * *

During the month of March, ninety one corrected Time Cards were submitted by one division to correct errors on original time cards previously submitted. In some instances, the original time cards did not indicate that the employee should be paid Isolation Pay and shift differential for a holiday occurring during the week. Others indicated the employee worked on the holiday, whereas he did not actually work.

Thirty of the necessary adjustments were made during March and the balance will be made during the first part of April.

* * * * * * * *

In connection with the "Security Slogan and Jingle Contest" which is being conducted by the Security Division, three checks of $10.00 each were prepared by Payrolls Division for presentation to Hanford Works employees.

* * * * * * * *

Payroll Deductions for Red Cross subscriptions were made in March from salaries of 1129 employees. Check in the amount of $3,303.29 covering these deductions will be made payable to the American Red Cross and forwarded to the Chairman of the Hanford Works Red Cross Drive.

* * * * * * * *

During March, the Hanford Atomic Metal Trades Council presented 117 Authorization Cards for deduction of Union Dues from salaries of employee members of seven unions as follows:

Union	Number
Instrument Craftsmen's Guild	7
International Union of Operating Engineers, Local 370-C	14
International Chemical Workers Union Local #369	67
Millwrights Local Union #1699	1
International Brotherhood of Electrical Workers Local #77	2
United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, Local No. 598	9
International Brotherhood of Teamsters, Warehousemen, Garage Employees and Helpers, Local #839	17
Total	117

PAYROLLS(CONT.)

The total number of union members who have authorized payroll deductions of Union Dues as of March 31 was 316.

* * * * * * * *

A plan for Purchase of Safety Shoes by Payroll Deductions was recommended by the Employee and Community Relations Division in February. Permission to make payroll deductions for Safety Shoes under the Copeland Act regulations was received from the Secretary of Labor in March. The Safety Division indicated a desire to make the Plan effective as promptly as possible. Accordingly, representatives of the Payroll Divisions prepared a Payroll Deduction Authorization which was subsequently approved by the Legal Division, and a draft of a proposed accounting procedure which had been discussed with representatives of Purchasing and Stores, Safety Division, and the General Accounting Division. The accounting procedure and payroll deduction authorization were forwarded to Employee and Community Relations Division for preparation of a H. W. Instructions Letter covering Purchase of Safety Shoes by Payroll Deductions. It is expected that the Plan will be placed into effect on April 15, 1950.

* * * * * * * *

As a result of discussions between the HAMTC and Union Relations Division representatives, a review was made by Wage Rates Division, of classifications and salary rates of weekly paid employees in certain divisions, and it was determined that 49 employees should have been reclassified in August 1949, with upward salary rate revisions retroactive to April 11, 1949, in accordance with the Union Agreement. Notification was received from Union Relations Division in March of these 49 reclassifications retroactive to April 11, 1949, and retroactive salary adjustments were made amounting to $6,807.37. The total gross retroactive salary adjustments under the Union Agreement as of March 31, 1950 amount to $236,456.78 paid to 5106 employees.

* * * * * * * *

Approximately 1400 man hours were expended by Payroll Divisions in preparing statements of each individual employee's personal participation in the principal General Electric Employee Benefit Plans as of December 31, 1949. It is expected that these personal statements, together with pamphlet "A Report on General Electric's Employee Benefit Plans" will be delivered to employees in April. Preparation of these statements for approximately 7425 active employees and 860 inactive employees was accomplished with a minimum of overtime work.

* * * * * * * *

Reimbursement Authorization No. 89 covering the Two-Platoon System of Operation in the Community Fire Division was received in February. Representatives of the Community Division, Union Relations and Wage Rate Division, and Accounting Division met early in March for the purpose of discussing various phases of the Two-Platoon System with respect to salary payment practices. Agreement was reached as to the payment practices to be followed, and the Two-Platoon System was inaugurated on March 20, 1950. Additional approvals where required, with respect to payment practices will be secured by the Union Relations and Wage Rate Division.

* * * * * * * *

General Accounting Divisions

PAYROLLS (CONT.)

As a result of a survey being conducted by representatives of Booz, Allen and Hamilton, schedules have been prepared in recent months covering all divisions of the Hanford Works, listing certain information with respect to exempt personnel.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - MARCH 1950

SUMMARY

There were no major injuries during the month. Major injuries for the year remain at one, a frequency rate of 0.27.

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

Volume in both the 700 and 200-West Area laundries increased slightly over January and February.

Work load continues to increase in the Clerical Services Section, particularly in the Printing Section where there is a backlog of three weeks work on multilith orders.

The Records Control Division is now reviewing files in various divisions and setting up retention periods on office and record files. A tabulation of the volume of duplicate material that can be disposed of shows a total of 52.5% in the Security and Services Divisions.

On March 9, the preliminary group of the 518th AAA Battalion moved into the Hanford Project and established camp, with the main force arriving at Hanford Works at 1:00 A.M. March 14. This entire force consisted of 1,000 officers and enlisted men. Then 240 mechanized attaches signal corp, engineers and quartermaster troops arrived to increase the number in camp to 1,300. Later during the month, part of the group was moved out of this area, reducing the number stationed at Hanford Works to 900.

Four additional battalions of the 31st AAA Brigade will move in in the near future.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - MARCH 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

	Beginning of Month	End of Month	Increase	Decrease
Staff	3	3		
Patrol and Security	579	583	4 (a)	
Safety & Fire Protection	149	146		3 (b)
Office Services (General Services, Clerical Services, and Records Control	219	223	4 (c)	
TOTALS	950	955	8	3

NET INCREASE: 5

(a) - Patrol and Security

6 - Rehired (Patrol)
1 - New Hire (Patrol)
1 - Transferred to Construction Division (Patrol)
1 - Removed from Roll due to Leave of Absence (Patrol)
1 - Termination (Patrol)

(b) - Safety and Fire Protection

3 - Removed from Roll - Reduction of Force

(c) - General Services

1 - New Hire
6 - Rehired
2 - Returned from Leave of Absence
1 - Retirement

Clerical Services

9 - New Hires
10 - Transferred to other Divisions
3 - Terminations

Plant Security and Services Divisions

SAFETY AND FIRE PROTECTION

Injury Statistics

Days since last Major Injury	48
Accumulated Exposure Hours since last Major Injury	2,012,197
Major Injury Frequency Rate (start-up to date)	0.82

	February	March	Year to Date
Major Injuries	1	0	1
Sub-Major Injuries	2	2	11
Minor Injuries	279	335	948
Exposure Hours	1,124,885	1,329,231	3,658,997
Major Injury Frequency Rate	0.89	0.0	0.27
Major Injury Severity Rate	0.011	0.0	0.003
Minor Injury Frequency Rate	2.48	2.52	2.59

Sub-Major Injury No. 175

On March 2, at approximately 10:15 AM, an employee of the Minor Construction Division working in 100-F Area received a linear fracture to the distal phalanx, right great toe, extending into interphalangeal joint and partial avulsion of the nail. The employee was breaking concrete with a concrete breaker when the bit broke 3½" from the point causing the blunt end of the bit with the weight of the concrete breaker to strike his right great toe causing the injury.

Sub-Major Injury No. 176

On March 15, at approximately 3:45 PM, an employee of the Minor Construction Division working at Columbia Camp received a transverse fracture to the distal phalanx, left small toe. The injured and another carpenter were piling stringers on a pile. They dropped one onto the pile and in so doing the jar caused another stringer at the bottom of the pile to roll over onto its wide side. A corner of one end rolled onto the injured's foot and struck his little toe behind the safety cap of his shoe.

100 Areas activities

The bag elevators in 190-H and 183-H Buildings were revised to improve safe working conditions. These bag elevators were inspected and approved.

Recommendations were made for the safe application of cacoon coating by spray to be used by the Minor Construction Division. This work was done at P-11.

Recommendations were made to the [illegible] Division that a propane tank be removed from the 105-H Building. Also that an acetylene tank be placed on the outside of the Building (this recommendation made to the 100-H Instrument Division).

An inspection of the new freight elevator in 105-DR was made with a representative of the [illegible] Division. Equipment on the elevator requires that it be classified as a freight elevator and, in compliance with the code, used only as such.

Plant Security and Services Divisions

100 Areas Activities (Contin.)

A study of the methods used in spraying casks with cacoon compound for controlling contamination and eliminating a great amount of work required to clean them was made. Readings with an explosimeter indicated an explosive mixture only in the immediate vicinity (within 2 feet) of the spraying operation. It was recommended that this work, in the future, be done only out-of-doors in good ventilation. Further investigation is being made of this work.

The installations of new derails at the railroad coal docks were checked. It was recommended that the derails in 100-D be relocated back far enough to accomodate a maximum number of cars that would be spotted in this location. This was agreed to by the Power Division, Transportation Division and the Safety Division.

A meeting was held in the AEC Safety Office March 20 to discuss a standard method of loading casks into express railroad cars. Representatives of all Divisions concerned and the AEC were present. An agreement was reached to fabricate some portable metal devices which would be acceptable. A member of the Maintenance Division was assigned the responsibility of having drawings made and the equipment fabricated. The "P" Division agreed to issue a report on the Committee's agreement and include as standard practice, the prints and methods in their standard practice manual.

The installation of compressed gas control equipment in the 100-B Area Health Instrument laboratory was approved.

The safety contest planned by the Area Council, 100-B Area, was started March 1 and will continue until April 15.

The safety supplement published in recognition of 100-D Area's one year without a lost time injury was issued on March 17.

Two rail grinders were inspected and recommendations made for additional guards to be installed on the grinding wheels to protect them from damage when in transit or being lifted on and off the tracks. Also approved an auxiliary switch on the motor side of the apparatus to protect employee from possible exploding wheels when starting equipment. (Riverland).

The frequency of the elevator inspection in 100-B Area, 105 Building, was lengthened to three months instead of one.

200 Areas Activities

The "S" Division is conducting a training course for new supervisors in line with expansion. The Area Safety Engineer was asked to assist in safety instruction and orientation. The first session was held on March 28, with one group of new supervisors.

At the request of the "S" Division Superintendent, the Area Safety Engineer has prepared a Safety "Sense-us" for use by the "S" Division. The intent is to secure a cross section of the effect of the safety program, provide information pertinent to safety equipment, and instill a feeling of enthusiasm toward Safety. The material, questionnaires, etc. will be ready for distribution by March 21, and the program will get under way duringthe first week in April.

Plant Security and Services Divisions

200 Areas Activities (Contin.)

The 200-West Area is due to complete a fourth year without a lost time accident on April 4, 1950. Considerable publicity has been made of this fact in an effort to assist the area in achieving their fourth year.

The necessity for approved or hydrostatically tested manifold for high pressure gases was brought to the attention of the Divisions involved. Steps will be taken to assure safe installation of such equipment.

Recommendations are being prepared for the coding of emery wheels in Maintenance Shop tool room storage. The color coding system will eliminate the hazards involved with not knowing safe peripheral speeds of all types of grinding wheels.

A study was made of those operations involving lathe work in which gloves are used or required. Recommendations were given to fit the case.

The hazards of spraying vinyl acetate chloride cocoon was discussed with "S" Division. Recommendations were made pertaining to respiratory protection, ventilation and fire hazards.

Further tests for alkaline content were made on 200 Area Laundry clothing after being washed. No indication shown in last tests.

Acid storage and handling hazards were discussed with the "S" Division. Recommendations for safe handling were made and accepted.

Chemical handling including carbon tetrachloride and hazardous metals were discussed with the "S" Division and recommendations made.

Air samples have been made on air supply equipment being used for breathing air in field work. Control of temperature and source have eliminated carbon monoxide problems.

300 Area Activities

Investigation was made of an unsafe hand condition present in the process of sluicing ashes through sluice pit at the 384 Building. Discussed correction with Power Division. Agreement made to change equipment to eliminate the pinch points.

Investigated the cause and necessary correction of mechanical trouble on a hydrocrane. Difficulty caused a minor injury to a rigger. Correction in chain travel agreed upon.

700-1100 Areas Activities

The Aluminum ladders that have been furnished by Alad Aluminum Ladder Company were checked for stability and design as per code requirement as well as contrasted with acceptable aluminum ladders of other manufacture. Because of their substandard, non-rigid condition, they were not approved as safe for use on this plant.

700-1100 Areas Activities (Contin.)

The present Safety Bulletin on ladders is being revised to conform with revised American Standards and expanded to give more complete coverage to purchase, care and use of ladders.

A procedure has been drawn up and accepted by Stores Receiving covering the furnishing by Stores of special types of safety shoes that are needed for foot protection and are not carried in stock by Stores. Illustrated descriptive sheets of special types of shoes are being placed in the shoe truck for convenience of employee in ordering shoes.

A revised list of all safety protective supplies that have been approved for eye, face, respiratory and head protection is being prepared for the purpose of keepingthese supplies standard with both Construction and Operating Divisions.

The Transportation Division was requested to arrange for the wearing of steel foot guards by all employees subjected to injury from falling or rolling objects and do not wear safety shoes.

The Safety Quiz Contest conducted by the Transportation Division for the past three months was completed on March 22, 1950. This contest was successfully conducted and established a beneficial degree of safety mindedness in the minds of a large majority of Transportation employees. Placques will be presented to the winners on April 4, 1950.

Fire Protection

The fire trucks in the Areas where there is no fire department personnel were excessed.

Work is being started on an additional fire truck for fighting brush fires. The truck will carry 1000 gallons of water.

A watchman's clock system was installed in the warehouses at Pasco and put into operation.

It was found that the underground gasoline storage tank at the garage in the 100-D Area was not equipped with a vent. A vent has been installed.

The handling of nitrated rags in the 200-West Area is creating a fire and explosion hazard. This problem is being studied by the Fire Protection Engineer.

Three firemen were assigned the job of checking fire extinguishers and gas masks throughout the plant.

Industrial Fires

Division	Area	Number of Fires	Cause	Loss
Health Instrument	100-F	1	Electric	None

Industrial Investigations

Power	100-H	1	Burning & Welding	None
Health Instrument	300	1	Electric	None
	TOTAL	2		

Plant Security and Services Divisions

Fire Protection (Contin.)

Outer Areas

Area	Number of Fires	Cause	Loss
Pasco	1	Wind fanned fire that was left smouldering	None
Midway	1	Steam locomotive of Chicago and Milwaukee Railroad	None
TOTAL	2		

Fire Extinguishers

Inspected	3,763
Installed and relocated	77
Refilled	39
Tested	200
Resealed and Repaired	60
Recharged	10
Salvaged	2

Gas Masks

Inspected	114
Serviced	18

Fire Drills and Lectures

Outside	66
Inside	111
Auxiliary Brigade	193
Safety Meetings	24

All fire alarm boxes in the Industrial Area were tested.
All fire hose houses, hydrants, and lines in the Industrial Area were inspected.

OFFICE SERVICES DIVISIONS

General Services

Laundering volumes were as follows:

Plant Laundry (Building 2723)

	February	March
Coveralls - Pieces	28,458	30,854
Towels - Pieces	6,653	7,929
Miscellaneous	68,268	77,916
Total Pieces	103,379	116,699
Total Dry Weight - Lbs.	146,066	163,090

Plant Security and Services Divisions

General Services (Contin)

Richland Laundry (Building 723)

	February	March
Flatwork - Pieces	50;909	69;258
Rough Dry - Pieces	29;595	32;599
Finished - Pieces	2,772	3,621
Total Pieces	83,276	105,478
Total Dry Weight - Lbs.	62,457	68,561

Monitoring Section (Building 2723-W)

Poppy Check - Pieces	85;867	98;041
Scaler Check - Pieces	96,909	108,849
Total Pieces	182,776	206,890

Clerical Services

Mail Room

The volume of mail continues to increase. A new postage meter machine was installed which has greatly facilitated handling the outgoing mail.

	February	March
Pieces of Internal Mail Handled	396;352	419;850
Pieces of Postal mail handled	57,976	59;165
Pieces of registered mail handled	860	1,413
Pieces of insured mail handled	522	562
Pieces of special delivery mail handled	136	221
Total Mail Handled	455,846	481,211
Total Amount of Postage Used	$1,250.07	$1,719.08
Teletypes sent out	859	1;315
Teletypes received	916	1,527
Total Teletypes Handled	1,775	2,842
Total number of Store Orders filled and delivered	2,061	652

Office Equipment Section

	February	March
Office Machines Repaired in Shop	220	298
Office Machines Service Calls	325	388
Total Machines Serviced	545	686

Plant Security and Services

Printing Section

Work continues to be very heavy in this section and there now is a backlog of ninety-two multilith orders on hand which is approximately three weeks work.

	February	March
Multility orders received	280	300
Multility orders completed	290	372
Multilith orders on hand at month end	72	0
Mimeograph orders received	2,095	758
Mimeograph orders completed	2,099	758
Mimeograph orders on hand at month end	0	0
Ditto orders received	1,139	314
Ditto orders completed	1,141	314
Ditto orders on hand at month end	0	0

Stenographic Services Section

	February		March	
	Hours	Quantity	Hours	Quantity
Dictation and Transcription	0	0	0	0
Machine Transcription	51:30	107	58:50	119
Letters	52:25	123	50:35	111
Manual and Procedures	63:55	154	84:30	148
Duplicating-Stencils, Ditto	289:35	594	219:00	379
Special	370:10	1,183	391:02	2,157
Training	282:00		545:24	
Unassigned time during month	81:00		98:00	
Meeting time	8:42		37:42	
Illness	8:00		21:42	
Total Hours	1,207:17		1,506:45	
Employees loaned to other Divisions	211:30		840:12	
Total Hours Available	1,418:47	2,346:57	2,346:57	

Records Control Division

Quantity of records received, processed and stored:

Community Division	2	Standard Records Cartons
Design & Construction Division	152	" " "
Employee & Community Relations Division	7	" " "
General Accounting Division	82	" " "
Medical Division	11	" " "
Power Division	30	" " "
Project Engineering Division	15	" " "
Purchasing & Stores Division	36	" " "
Technical Divisions	5	" " "
Transportation Division	9	" " "
TOTAL	349	Standard Records Cartons

Records Control (Contin.)

Persons furnished records services:	254
Records cartons issued:	302

Records Inventory

A review has been made this month with the Plant Security and Services Divisions, General Accounting Divisions, Community Divisions, Purchasing and Stores Divisions and Employee and Community Relations Division determining which files are Office files and which are Record files, and setting retention periods on both. A tabulation of the volume of duplicate material that can be disposed of shows a total of 52.5% in the Security and Services Divisions.

Microfilming

The flatbed microfilm camera on rental from Recordak Corporation was returned to them on March 24. Microfilming is being held up because of material not being ready. Atomic Energy Commission equipment will be used whenever microfilming is to be done.

Stenographic Manual

A preliminary writing of the correspondence section of the manual was reviewed by the Records Committee. Suggestions made by the committee will be studied and reviewed again when Mr. R. C. Robin is here on April 10, 1950.

The Records Committee recommended the purchase of 60 additional sections of metal shelving. An order has been placed for this shelving.

Forms Control

Forms design activities were distributed over Personnel Divisions, Employee Relations Divisions, Design and Construction Divisions, Project Engineering Divisions, Medical Division and Health Instrument Division. All forms used by the Health Instrument Division were accumulated and are being arranged for review. Forms revised for the Medical Division and Electrical Division affected considerable change in procedures which will result in various substantial savings and will speed up paper flow.

A recommendation report covering a new filing procedure was completed and submitted for review.

PATROL AND SECURITY

General

One member of the Security Patrol Supervision was transferred to the Security Field Inspection Group on March 1.

Patrol and Security - General (Contin.)

Lane No. 1 at the Richland Barricade will be used for all busses that must stop for a photo pass check beginning March 6. Lane No. 2 (wide lane) is for busses that do not require a check but must present a card to the Security Patrolman, signifying that all persons on the bus have proper identification. This arrangement is for shift change time only.

The post designated as Gate 650, 200-W Area, was extended to 24 hour coverage, one man per shift effective March 8,

On March 8, the post known as Redox Badge House, 200-W Area was discontinued. Since health badges are no longer required for the Redox Area, the area was opened to construction workers.

Reorganization of the Security Patrol Administration Section was completed March 8. This section is now staffed with four supervisors, three instructors, four general clerks, two seamstresses and five patrolmen.

Effective March 9, the Security Field Inspection group established an office in Room 114, Building 770.

One Steno Typist was transferred from Security Patrol Administration section to the Security Division on March 9.

Effective March 10, a Supervisor of Security Patrol was appointed Military Liaison officer. This supervisor will handle all Security and Security Patrol problems and contacts with the United States Army stationed at Hanford Works.

Beginning March 10, the United States Army started using two lanes at the Richland Barricade. Two military policemen are posted to handle military traffic.

Three members of the Security Patrol Division attended the special fingerprint classes conducted by the Federal Bureau of Investigation. These classes started March 13 and were completed March 17.

Security control of the 3000 Administration Area was established March 13. This area will be controlled by a receptionist Monday through Friday from 8:00 A.M. to 4:45 P.M. Security Patrol will man the reception desk from 7:30 A.M. to 8:00 A.M. and 4:45 P.M. to 5:15 P.M. Monday through Friday. At all other times, the area will be secured by Security Patrol.

On March 15, the 700 area fence was relocated to allow the public free access to Building 702. This procedure will become effective April 1, 1950.

Beginning March 17, the firing of individually assigned weapons was inaugurated at the Patrol Training School.

Major repairs to all perimeter fences were started March 20.

At 4:30 P.M. on March 24, Radio Station WGLB 15 was added to the Hanford Works network. This station will afford radio communication for the P-11 Area. The area was closed at 4:30 P.M. and classified an "exclusion" area on March 24.

Effective March 24, the 24 hour post at the Ferry Barricade was discontinued. This will leave only the straight day post on duty. Any hours that this post is open, other than on straight day shift, will be handled by the lap-over group on shift.

Plant Security and Services Sivisions

Patrol and Security - General (contin.)

Beginning March 26, the 100-B Area Security Patrol started manning the Riverland Yard Rover Post on the No. 1 and No. 3 shifts, Monday through Friday, with 24 hour coverage on Saturdays, Sundays and holidays.

Security Patrol took over Building 2709, in the 200-E Area and Buildings 1709-B, 1709-D and 1709-F in the 100 Areas on March 27. These buildings were formerly assigned to the Fire Department, but will be utilized by Security Patrol now for vehicle storage.

On March 28, a new post was established in the 105-DR Area. This post will be known as Tunnel 105-DR Building and will control construction workers working at the base of the west wall of the 105-DR Building.

Effective March 30, a new 24 hour one-man post was established in the 300 Area. This post will be known as Post 303-K and will control entrance to this Building.

In the Security Slogan and Jingle contest being conducted by the Security Division, there have been 202 entries submitted to date. The fourth week of the contest was completed at the close of the reporting period.

Security oritentation talks were given to 62 new employees who received their "Q" clearance from the ATomic Energy Commission during the month.

Patrol

The 200 Areas handled 100 process escorts between the areas.

Requests handled totaled 620, consisting mainly of opening doors, gates and providing escorts for employees of other departments.

A total of 111 Unusual Incident Reports were received, consisting mainly of Security Violations, lost badges, pencils, contraband picked up at barricades, traffic accidents and fires.

A total of 498 pat searches were made of employees leaving the operating areas during the month.

Patrol supervision handled one first aid case during the absence of the Area Nurse.

Classified escorts totaling 41 were handled during the month.

A total of 24 traffic escorts were handled during the month.

Patrol made 25 ambulance runs for the Medical Division during the month.

Practice evacuations were held as follows:

100-B Area	3-22-50	10:35 A.M.
100-D Area	3- 7-50	10:36 A.M.
100-F Area	3-15-50	1:24 P.M.
100-H Area	3-23-50	10:09 A.M.

Practice Mobilization Plan:

300 Area - Plan A	3-22-50	4:59 A.M.

Plant Security and Services Divisions

Patrol (Contin)

Arrest Summary

	February	March
Warning tickets issued	0	0
Verbal warning given	3	6
Citation Tickets issued (traffic only)	0	0

Accident Summary

Total accidents	12	0
Government permits suspended	0	0

Training

Training courses held during the month were as follows:

	Hours
Pistol	1 1/2
Small Bore Firing	2
Patrol Operations	3 1/2
Health	1/4
Safety	1/2
Security	1/4

Targets and materials of value were removed from Gas House and put in steel hutment for storage on March 1.

A recheck of serial numbers of the hand guns contained in the arsenal was made and a Kardex system established to eliminate any chance of mistakes in records of weapon transfers on March 2.

On March 6, new ammunition was obtained from the arsenal to exchange AEC ammunition which was several years old.

The hand guns in the 700 Area were inspected and cleaned March 14.

On March 16, twenty guns were drawn from the arsenal, checked and cleaned for issue to the 200-West Area.

On March 21, eight revolvers were withdrawn from the arsenal, cleaned and checked for 100-D Area.

An instructor at the Training School accompanied the Inspection Committee on the Safety Hurdle Race inspection on March 27 and 28.

Security

There were 284 Security Meetings held and attended by 3,813 General Electric employees during the month.

Plant Security and Services Divisions

Security (Contin)

Employee Clearance

Class "Q" clearances received on old employees this month	1
Class "Q" clearances received on old employees to date	4,460
Class "Q" clearances received on new employees this month	64
Class "Q" clearances received on new employees to date	6,352
Class "Q" clearances received on both old and new employees since February 17, 1947	10,812
Formal "P" clearances awaiting change to "Q"	53
Authorization clearances issued this month	72

Statistical Summary of Outstanding Area Badges

	February					March			
	A	B	C	Total		A	B	C	Total
100-B	1712	622	469	2803	100-B	1750	634	462	2846
100-D	779	947	515	2241	100-D	836	975	496	2307
100-F	691	1086	409	2186	100-F	688	1136	399	2223
100-H	1724	717	508	2949	100-H	1699	773	504	2976
200-E	863	1777	349	2989*	200-E	877	1805	341	3023*
200-W	1330	1716	349	3395	200-W	1368	1754	333	3455
200-N	31	866	134	1031	200-N	26	849	128	1003
300	1329	1656	235	3221	300	1325	1688	222	3235
100-DR	791	6		797	100-DR	1578	6		1584
Redox	214			214	Redox - declared open area 3-9-50				
					P-11	48	24	4	76

*Includes 36 "A" badges at Riverland Yards

*Includes 36 "A" badges at Riverland Yards

Visitor or Temporary Badges

Area	February	March
100-B	547	570
100-D	1005	1052
100-F	902	947
100-H	387	453
200-E	769	786
200-W	1114	1195
200-N	721	727
300	1544	1623
100-DR	4	
P-11		3
Total	6993	7356

Plant Security and Services Divisions

Security (Contin)

Special Clearance Section

Following is a statistical summary of clearance status of vendor and consultant vendor companies:

Total companies forwarded to AEC this month:	12	Personnel:	65
		Consultant Personnel:	4
Total companies forwarded to AEC last month:	1	Personnel:	3
		Consultant Personnel:	1
Total companies forwarded to AEC to date:	230	Personnel:	2,446
Total companies cleared for "Restricted Data" this month:	8	Personnel:	20
		Consultant Personnel:	3
Total companies cleared for "Restricted Data" last month:	7	Personnel:	19
		Consultant Personnel:	4

New companies forwarded to Atomic Energy Commission this month:

Carpenter Steel Company, Alloy Tube Division
24 California Street
San Francisco, California

Continental Foundry and Machine Co.
903 Grant Building
Pittsburgh 19, Pennsylvania

Worthington Pump and Machinery Corporation
2616 Western Avenue
Seattle, Washington

University of Idaho
Moscow, Idaho

Goodyear and Yochem
E. 514 Sanson Avenue
Spokane, 13, Washington

Leland S. Rosener, Engineers
233 Sansome Street
San Francisco, 4, California

Fluor Corporation
2500 S. Atlantic Boulevard
Los Angeles, California

Western Sheet Metal Works
507 W. Main Street
Walla Walla, Washington

Yakima Cement Products Company
1202 S. First Street
Yakima, Washington

Number and type of clearance granted by Atomic Energy Commission this month to vendors and consultants:

Formal "P"	0
Formal "Q"	14
Emergency "Q"	9

[redacted]

HANFORD WORKS
General Electric Company
Richland, Washington

REPORT OF VISITORS FOR PERIOD ENDING MARCH 31, 1950

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
ACCOUNTING DIVISION							
I. Visitors to this Works							
R. Turner General Electric Company Schenectady, New York	Accounting Problems	F. E. Baker	3-1-50	3-3-50	X		
MEDICAL DIVISION							
I. Visitors to this Works							
S. T. Cantril Tumor Institute Swedish Hospital Seattle, Washington	Medical consultations	W. D. Norwood, M.D. P. A. Fuqua	3-14-50-	3-14-50	X		
DESIGN AND CONSTRUCTION DIVISIONS							
I. Visitors to this Works							
E. L. Mincher General Electric Company Schenectady, New York	Set up and start experiment and discuss plans for future irradiation program	H. J. White	3-13-50	3-17-50	X	100-B-105 100-D-105 100-F-105 100-H-105 300-3706	
K. N. Mathes General Electric Company Schenectady, New York	Set up and start experiment and discuss plans for future irradiation program	H. J. White	3-13-50	3-17-50	X	100-B-105 100-D-105 100-F-105 100-H-105	300-3706

[redacted]

DECLASSIFIED

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
M. A. Edwards General Electric Company Schenectady, New York	Discuss project 432, 234-5 working committee and process area building	G. Thayer	3-2-50	3-10-50	X		100-B-105 100-H-105 200-E-XXX 200-W-234 and 235 300-3706
H. J. Foye Link Belt Company Chicago, Illinois	Inspect coal handling system his firm installed in 300 Area Power House	A. E. Rhodes	3-31-50	3-31-50		X	300-XXX
II. Visits to other Installations							
T. Williams to: Crane Company Chicago, Illinois	Design conference on pipe and electrical connector program	P. M. Weiss A. M. Houser	2-24-50	3-4-50			X
D. E. Irons to: Fluor Corporation Los Angeles, California	Interview Technical personnel to be loaned to General Electric, Hanford	H. J. Gearin	2-24-50	3-3-50			X
C. O. Clemetson to: Kellex Corporation New York, New York	Technical consultation to expedite design of instrumentation	G. White, Jr.	2-27-50	3-4-50	X		
W. C. Royce to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Inspect and study laboratory mock-up facilities	E. R. Jette	3-7-50	3-9-50	X		
J. L. Boyd to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Laboratory design and and inspection of ventilation controls and mock-up	E. R. Jette	3-6-50	3-8-50	X		
W. C. Royce to: Radiation Laboratory Berkeley, California	Laboratory design and operation	N. B. Garden	3-9-50	3-11-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
J. L. Boyd to: Radiation Laboratory Berkeley, California	Laboratory design and operation	N. B. Garden	3-9-50	3-11-50	X		
J. J. McCullough to: Argonne National Lab. Chicago, Illinois	Review design and perform experiments on silo viewing windows and lighting	H. H. Hull	3-9-50	3-11-50	X		
J. J. McCullough to: Whiting Corporation Chicago, Illinois	Meeting on remote maintenance crane	H. D. Greiner	3-9-50	3-11-50		X	
H. M. Parker to: Kellex Corporation New York, New York	Design conference on MJ-1 and MJ-2 projects	G. White, Jr.	3-15-50	3-17-50	X		
H. M. Parker to: Gen. Eng. & Con. Lab. Schenectady, New York	Design conference on MJ-1 and MJ-2 projects	H. A. Moulthrop D. E. Garr	3-13-50 3-20-50	3-15-50 3-21-50	X X		
D. O. Webb to: Fluor Corporation Los Angeles, California	Contract negotiations	H. J. Gearin	3-7-50	3-9-50	X		
J. M. Fox, Jr. to: Pacific Car & Foundry Co. Renton, Washington	Discussion on steel design	W. G. Kenworthy O. C. Nugent	3-15-50	3-18-50		X	
J. M. Fox, Jr. to: Washington Iron Works Seattle, Washington	Discussion on steel design	F. G. Frink	3-15-50	3-18-50		X	
T. Williams to: A. O. Smith Company Milwaukee, Wisconsin	Witness demonstration	- -	3-21-50	3-27-50		X	
C. W. Harrison to: Argonne National Lab. Chicago, Illinois	Conference on design of shipping container	H. L. Hull	3-30-50	3-31-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
W. P. Ingalls to: Knolls Atomic Power Lab. Schenectady, New York	Consultation regarding design and installation of equipment for 432 Project	R. S. Neblett D. H. Marquis	3-20-50	3-25-50	X		
H. M. Parker to: Knolls Atomic Power Lab. Schenectady, New York	Consultation regarding design and installation of equipment for 432 Project	R. S. Neblett D. H. Marquis	3-20-50	3-25-50	X		
R. L. Booth (Kellex employee) to: Argonne National Lab. Chicago, Illinois	Review design and perform experiments on silo viewing windows and lighting	H. H. Hull	3-9-50	3-11-50	X		
ELECTRICAL DIVISION							
I. Visits to other Installations							
A. L. Vosmer to: Gen. Eng. & Consult. Lab. Schenectady, New York	Review electrical design on MJ-1 Project	H. A. Moulthrop D. H. Marquis	3-4-50	3-11-50	X		
HEALTH INSTRUMENT DIVISIONS							
I. Visitors to this Works							
P. E. Church University of Washington Seattle, Washington	Meteorology consultation	D. E. Jenne	3-22-50	3-23-50	X		
L. R. Donaldson University of Washington Seattle, Washington	Aquatic biology building plans	H. A. Kornberg	3-14-50	3-15-50	X		
A. M. Piper U. S. Geological Survey Portland, Oregon	Geology problems	R. E. Brown	3-23-50	3-23-50		X	

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
R.C. Newcomb U. S. Geological Survey Portland, Oregon	Geology problems	R. E. Brown	3-23-50	3-23-50		X	
E. F. Eldridge Columbia River Advisory Board Olympia, Washington	Water pollution and public health- 2nd meeting of Columbia River Advisory Board	H. M. Parker F. E. Adley	3-6-50	3-7-50		X	
E. C. Jonsen Columbia River Advisory Board Seattle, Washington	Water pollution and public health- 2nd meeting of Columbia River Advisory Board	H. M. Parker F. E. Adley	3-6-50	3-7-50		X	
C. M. Everts Columbia River Advisory Board Portland, Oregon	Water pollution and public health- 2nd meeting of Columbia River Advisory Board	H. M. Parker F. E. Adley	3-6-50	3-7-50		X	
R. R. Harris Columbia River Advisory Board Portland, Oregon	Water pollution and public health- 2nd meeting of Columbia River Advisory Board	H. M. Parker F. E. Adley	3-6-50	3-7-50		X	
II. Visitors to other Installations							
C. W. DeLong to: Argonne National Lab. Chicago, Illinois	P-10 Project and discussion of various biology projects	A. M. Brues	3-20-50	3-22-50	X		
F. G. Tabb to: Gen. Eng. & Con. Lab. Schenectady, New York	Consultation on RM Lino at Hanford	H. A. Moulthrop	3-15-50	3-17-50	X		
F. G. Tabb to: Knolls Atomic Power Lab. Schenectady, New York	Inspection of waste incinerator	L. L. Gorman	3-15-50	3-17-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
PROJECT ENGINEERING DIVISIONS							
I. Visitors to this Works							
W. H. Finkelday Singmaster and Breyer New York, New York	Submit findings of 300 Area Rolling Mill studies pertinent to contract with his firm	S. F. Schuro	3-13-50	3-17-50	X		300- 3706 303
J. P. Hubbell Singmaster and Breyer New York, New York	Submit findings of 300 Area Rolling Mill studies pertinent to contract with his firm	S. F. Schuro	3-13-50	3-17-50	X		300- 3706 303
II. Visits to other Installations							
H. F. Peterson to: Argonne National Lab. Chicago, Illinois and LaMonte, Illinois	Inspection of warehousing and transportation facilities	Mr. Quinlan	3-6-50	3-6-50		X	
H. F. Peterson to: Atomic Energy Commission Oak Ridge, Tennessee	Inspection of transportation and warehousing facilities and consultation on P-10 program	J. H. Beatty K. A. Dunbar	3-9-50	3-10-50	X	X	
MANAGEMENT							
I. Visitors to this Works							
R. J. Cordiner General Electric Company Schenectady, New York	Consultation on General Management problems and assistance	G. R. Prout	3-30-50	4-1-50	X		All Areas- All Bldgs inc. 235
H. A. Winne General Electric Company Schenectady, New York	Consultation on General Management problems and assistance	G. R. Prout	3-29-50	4-1-50	X		All Areas - All Bldgs inc. 235
R. O. Bullard Plastics Division, G. E. Schenectady, New York	Follow construction of Schenectady portion of contract	J. R. Rue C. N. Gross	4-3-50	4-5-50	X		300-All 100-D-105 200-W-223T, 231

[redacted]

[redacted]

Name-Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
INSTRUMENT DIVISION							
I. Visitors to this Works							
R. L. Tower C. J. Yost Company Seattle, Washington	Discuss problems of Proportioneer pump	R.C. Mann	3-2-50	3-2-50		X	300 321
POWER DIVISION							
I. Visitors to this Works							
W. F. Wahlenmaier Fairbanks Morse Company Portland, Oregon	Inspect pumps in 184 buildings	H.F. Measley	3-7-50	3-8-50		X	100-B-XXX 100-D-XXX 100-F-XXX 100-H-XXX
PURCHASING AND STORES DIVISION							
I. Visits to other Installations							
R. J. Gandy to: United States Fuel Company, Utah Fuel Company, Spring Canyon Coal Company, Kemmerer Coal Company, Utah Coal Operators Association, ALL Salt Lake City, Utah	Gather information on coal production needed by Purchasing Division	- -	3-21-50	3-29-50		X	
R. J. Gandy to: Harris Coal Company, Nuggett Coal Company, Southern Wyoming Coal Operators Ass. Northern Colorado Coals, Inc., ALL Denver, Colorado	Gather information on coal production needed by Purchasing Division	- -	3-21-50	3-29-50		X	
R. J. Gandy to: Sheridan Wyoming Coal Co., Big Horn Coal Company, BOTH Sheridan, Wyoming	Gather information on coal production needed by Purchasing Division	- -	3-21-50	3-29-50		X	

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
R. J. Gandy to: Montana Coal Operators Ass. U. S. Geological Survey, BOTH Billings, Montana	Gather information on coal production needed by Purchasing Division	- -	3-21-50	3-29-50		X	
J. C. Hamilton to: Espey Manu. Company New York, New York	Set up new inspection procedure on instruments and check present ones	- -	3-1-50	3-1-50		X	
J. C. Hamilton Schutte & Koerting Co. Philadelphia, Pennsylvania	Set up new inspection procedure and check present ones	- -	3-2-50	3-3-50		X	
J. C. Hamilton to: Connery Construction Co. Philadelphia, Pennsylvania	Set up new inspection procedure and check present ones.	- -	3-2-50	3-3-50		X	
L. G. Jones to: City Galvanizers, Inc. Portland, Oregon	Consultation regarding set up of inspection procedures on nozzles	Mr. Williams	3-15-50	3-16-50		X	
L. G. Jones to: Iron Fireman Company Portland, Oregon	Set up of inspection procedures on nozzles	Mr. Lowery	3-15-50	3-16-50		X	
L. G. Jones to: Air Metal Products Co. Everett, Washington	Set up inspection procedures on hoods	Mr. Castle	3-13-50	3-14-50		X	
L. G. Jones to: Western Gear Company Seattle, Washington	Set up inspection procedures	Mr. Moore	3-13-50	3-14-50		X	
H. F. Peterson to: Atomic Energy Commission Oak Ridge, Tennessee	Inspection of warehouses	F. P. Trent	3-8-50	3-10-50		X	

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
H. F. Peterson to: Atomic Energy Commission Lamont, Illinois	Inspection of AEC warehouses	J. F. Harris	3-7-50	3-8-50		X	
T. L. Lindgren to: Atomic Energy Commission Oak Ridge, Tennessee	Inspection of Warehouses	F. P. Trent	3-8-50	3-10-50		X	
T. L. Lindgren Atomic Energy Commission Lamont, Illinois	Inspection of AEC warehouses	J. F. Harris	3-7-50	3-8-50		X	
II. Visitors to this Works							
D. A. Westermeyer Consolidated Freightways Pasco, Washington	Deliver special load ingot	H. O. Monson	3-6-50	3-6-50		X	100-H XXX
A. R. Wiegland United Truck Lines Pasco, Washington	Deliver material on Order HW-58764-M	H. O. Monson	3-6-50	3-6-50		X	300- 303-J
K. Wilburn VanWaters and Rogers Seattle, Washington	Deliver material on Order HW-58425-M	H. O. Monson	3-15-50	3-15-50		X	300 303-J
W. R. Brender Lee and Estes Pasco, Washington	Deliver material on Order HW-7555	H. O. Monson	3-21-50	3-21-50		X	100-DR
M. Brill Lee and Estes Pasco, Washington	Deliver material on Order HW-7555	H. O. Monson	3-21-50	3-21-50		X	100-DR
R. Culberhouse Propane Gas & Equipment Co. Pasco, Washington	Deliver material on Order HW-60031	H. O. Monson	3-22-50	3-22-50		X	300- XXX

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
C. Freauff Lee and Estes Company Pasco, Washington	Deliver material on order HW-57849-M	H. O. Monson	3-23-50	3-23-50		X	105-DR
L. Bonwell West Coast Freight Seattle, Washington	Deliver material on order HW-56197-M	H. O. Monson	3-24-50	3-24-50		X	100-H XXX
W. S. Edwards West Coast Freight Seattle, Washington	Deliver material on order HW-56197-M	H. O. Monson	3-24-50	3-24-50		X	100-H XXX
B. Folker West Coast Freight Seattle, Washington	Deliver material on order HW-56197-M	H. O. Monson	3-27-50	3-27-50		X	100-D XXX
L. Bonwell West Coast Freight Seattle, Washington	Deliver material on order HW-56197-M	H. O. Monson	3-27-50	3-27-50		X	100-D XXX
F. Schink Centennial Flour Mills Seattle, Washington	Deliver material on order HW-60278-G	H. O. Monson	3-29-50	3-29-50		X	100-F XXX
C. Freauff Lee and Estes Pasco, Washington	Deliver material on order HW-57849-M	H. O. Monson	3-30-50	3-30-50		X	105-DR
"P" DIVISION							
I. Visitors to this Works							
C. G. Kruse International Business Machines Kennewick, Washington	Install IBM machines in 105-B Control Room	J. R. Young	3-13-50	3-14-50	X		100-B 105
II. Visits to other Installations							

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
W. P. McCue to: Knolls Atomic Power Lab. Schenectady, New York	Consultation on reactor program	L. L. Ferguson W. R. Kanne	3-13-50	3-17-50	X		
W. A. Blanton to: Mallinckrodt Chemical Works St. Louis, Missouri	Visit melt plant facilities	H. Thayer	3-13-50	3-15-50	X		
W. A. Blanton to: Argonne National Lab. Chicago, Illinois	Visit metallurgical laboratory related to Hanford Works processes	F. Foote	3-15-50	3-15-50	X		
W. A. Blanton to: Knolls Atomic Power Lab. Schenectady, New York	Attend meeting on metal fabrication	A. U. Seybolt	3-16-50	3-18-50	X		
"S" DIVISION							
I. Visits to other Installations							
O. C. Schroeder to: Argonne National Lab. Chicago, Illinois	Consultation on design problems	H. H. Hull	3-9-50	3-11-50	X		
C. T. Groswith to: Gen. Eng. & Con. Lab. Schenectady, New York	Conferences on MJ-2 project	D. H. Marquis	3-20-50	3-31-50	X		
TECHNICAL DIVISIONS							
I. Visitors to this Works							
D. G. Reid Oak Ridge National Laboratory Oak Ridge, Tennessee	Consultation on P-10 project and recent pilot plant processes	R. H. Beaton P. F. Gast R. B. Richards	3-8-50	3-9-50	X		300-3706, 321 200-W-271,231

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
F. L. Steahly Oak Ridge National Laboratory Oak Ridge, Tennessee	Consultation on P-10 project and recent pilot plant processes	R. H. Beaton P. F. Gast R. B. Richards	3-8-50	3-9-50	X		300-3706, 321 200-W-271,231
F. Bruce Oak Ridge National Laboratory Oak Ridge, Tennessee	Consultation on P-10 project and recent pilot plant processes	R. H. Beaton P. F. Gast R. B. Richards	3-8-50	3-9-50	X		300-3706, 321 200-W-271,231
H. E. Goeller Oak Ridge National Laboratory Oak Ridge, Tennessee	Consultation on P-10 project and recent pilot plant processes	R. H. Beaton P. F. Gast R. B. Richards	3-8-50	3-9-50	X		300-3706, 321 200-W-271,231
B. Rubin Radiation Laboratory Berkeley, California	Obtain information on certain chemical processes	F. W. Albaugh	3-13-50	3-14-50	X		300-3706, 321
L. W. Niedrach Knolls Atomic Power Laboratory Schenectady, New York	Discussion on separations chemistry problems	R. H. Beaton F. W. Albaugh	3-27-50	3-31-50	X		300-3706, 321 200-W-271-T,U 231 100-F-105 (this area 3-30 only
C. E. Weber G. E. Research Laboratory Schenectady, New York	New experiments of Beta type	J. B. Lambert	3-8-50	3-9-50	X		300-3706 100-D-105 100-F-105 100-H-105
P. E. Brown Argonne National Laboratory Chicago, Illinois	Run an in-pile test	R. E. Nather	3-20-50	4-20-50	X		300-3706 100-F-105 100-H-105
D. N. Dunning Argonne National Laboratory Chicago, Illinois	Run an in-pile test	R. E. Nather	3-20-50	4-20-50	X		300-3706 100-F-105 100-H-105
J. R. Low Knolls Atomic Power Laboratory Schenectady, New York	Materials testing program	W. K. Woods	3-23-50	3-24-50	X		300-3706 100-H-105

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Unclass Areas
J. H. McKinley Argonne National Laboratory Chicago, Illinois	Consultation on ANL-140	W. K. Woods R. E. Nather	3-28-50	3-29-50	X	300-3706 100-H-105
W. H. Byford Argonne National Laboratory Chicago, Illinois	Consultation on ANL-140	W. K. Woods R. E. Nather	3-28-50	3-29-50	X	300-3706 100-H-105
K. H. Kingdon Knolls Atomic Power Laboratory Schenectady, New York	Discuss KAPL assistance to Hanford	A. B. Greninger	3-30-50	3-31-50	X	100-B-105 100-H-105 200-W-234-235
T. M. Snyder Knolls Atomic Power Laboratory Schenectady, New York	Discuss KAPL assistance	A. B. Greninger	3-30-50	3-31-50	X	300-3706 100-D-105
H. Hurwitz Knolls Atomic Power Laboratory Schenectady, New York	Technical consultations at Dr. Greninger's request	A. B. Greninger	3-13-50 3-17-50	3-17-50 3-24-50	X	300-3706
II. Visits to other Installations						
R. A. Koehler (employee of Gen. Eng & Con. Lab) to: Argonne National Laboratory Chicago, Illinois	P-10 consultation at Dr. Greninger's request	W. H. Zinn	3-2-50	3-3-50	X	
Z. D. Sheldon (employee Knolls Atomic Power Lab) to: Argonne National Laboratory Chicago, Illinois	P-10 consultation at Dr. Greninger's request	W. H. Zinn	3-2-50	3-3-50	X	
A. A. Johnson to: Argonne National Laboratory Chicago, Illinois	P-10 consultation	W. H. Zinn	3-2-50	3-3-50	X	

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
J. C. L. Chatten to: Argonne National Laboratory Chicago, Illinois	P-10 consultation	W. H. Zinn	3-2-50	3-3-50	X		
E. A. Eschbach to: Argonne National Laboratory Chicago, Illinois	P-10 consultation	W. H. Zinn	3-2-50	3-3-50	X		
M. C. Lambert to: General Electric Company Schenectady, New York	Attend G.E. spectrophotometer service conference	- -	3-1-50	3-1-50		X	
M. C. Lambert to: Knolls Atomic Power Lab. Schenectady, New York	Discuss instrumental analytical problems	C. A. Hansen, Jr. J. F. Flagg	3-3-50	3-3-50	X		
M. C. Lambert to: Gen. Eng. & Con. Lab. Schenectady, New York	Discuss instrumental analytical problems	T. A. Rich	3-3-50	3-3-50	X		
M. C. Lambert to: Gen. Eng. & Con. Lab. Schenectady, New York	Discuss instrumental analytical problems	H. A. Liebhafsky	3-2-50	3-2-50	X		
P. H. Reinker to: Atomic Energy Commission Washington, D. C.	Technical consultation	E. Teller	3-3-50	3-3-50	X		
R. J. Hale to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Inspect and discuss new laboratory design	E. R. Jette	3-6-50	3-8-50	X		
R. J. Hale to: Radiation Laboratory Berkeley, California	Inspect and discuss radiochemical laboratories and supporting shops	N. B. Garden	3-9-50	3-10-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
F. B. Quinlan to: Los Alamos Scientific Lab. Los Alamos, New Mexico	Inspect and discuss new laboratory design	E. R. Jette	3-6-50	3-8-50	X		
F. B. Quinlan to: Radiation Laboratory Berkeley, California	Inspect and discuss radiochemical laboratories and supporting shops	N. B. Garden	3-9-50	3-10-50	X		
H. L. Sterling to: Radiation Laboratory Berkeley, California	Inspect and discuss radiochemical laboratories and supporting shops	N. B. Garden	3-9-50	3-10-50	X		
J. F. Gifford to: Radiation Laboratory Berkeley, California	Inspect and discuss radiochemical laboratories and supporting shops	N. B. Garden	3-9-50	3-10-50	X		
R. G. Wheeler to: Knolls Atomic Power Lab. Schenectady, New York	Attend metallurgical information meeting	J. P. Howe	3-15-50	3-17-50	X		
R. Ward to: Knolls Atomic Power Lab. Schenectady, New York	Attend metallurgical information meeting	J. P. Howe	3-15-50	3-17-50	X		
R. Ward to: Oak Ridge National Lab. Oak Ridge, Tennessee	Metallurgical consultation	J. H. Frye J. M. Horndon	3-20-50	3-20-50	X		
R. Ward to: Battelle Memorial Inst. Columbus, Ohio	Metallurgical consultation	H. W. Russell	3-21-50	3-21-50	X		
A. R. Matheson to: Knolls Atomic Power Lab. Schenectady, New York	P-10 consultation	Z. D. Sheldon	3-20-50	3-24-50	X		
A. R. Matheson to: Gen. Eng. & Con. Lab Schenectady, New York	P-10 consultation	D. H. Marquis	3-20-50	3-24-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
R. E. Nather to: Atomic Energy Commission Washington, D. C.	Technical consultation	C.A. Nelson	3-23-50	3-24-50	X		
F. B. Quinlan to: Western Gear Corporation Seattle, Washington	Consultation on fabrication of manipulators and tongs.	G. E. Moore	3-24-50	3-24-50	X		
F. B. Quinlan to: Chemical Process Const.Inc. Seattle, Washington	Discuss use and fabrication of lucoflex plastic for chemical hoods	Mr. Houghton	3-24-50	3-24-50	X		
H. R. Schmidt to: Argonne National Lab. Chicago, Illinois	Discuss, observe and examine operation of mass spectrograph	M. Inghram	3-23-50	3-24-50	X		
R. B. Richards to: Brookhaven Nat'l Lab. Upton, New York	Waste disposal meeting	B. Manowitz	3-26-50	3-28-50	X		
R. B. Richards to: Knolls Atomic Power Lab. Schenectady, New York	Discussion of SPRU	J. Marsden	3-29-50	3-30-50	X		
G. Sege to: Houston, Texas	A.C.S. Meeting	- -	3-27-50	3-30-50		X	
R. L. Moore to: Houston, Texas	A.C.S. Meeting	- -	3-27-50	3-30-50		X	
W. H. Reas to: Houston, Texas	A.C.S. Meeting	- -	3-27-50	3-30-50		X	
W. M. Harty to: Argonne National Lab. Chicago, Illinois	MJ-3 consultation	H. L. Hull	3-30-50	3-31-50	X		

[redacted]

[redacted]

Name - Organization	Purpose of Visit	Person Contacted	Arrival	Departure	Restricted Data Class	Restricted Data Unclass	Areas
B. F. Butler to: Research Laboratory Schenectady, New York	Discuss application of statistics to research and development program	K. H. Kingdon	3-12-50	3-19-59	X		
B. F. Butler to: Knolls Atomic Power Lab. Schenectady, New York	Discuss application of statistics to research and development program	H. Brooks	3-12-50	3-19-50	X		
H. R. Schmidt to: Oak Ridge National Lab. Oak Ridge, Tennessee	Discuss and observe special analytical operations and arrange to have certain Hanford samples analyzed there	M. T. Kelly	3-16-50	3-17-50	X		
A. H. Bushey to: University of Washington Seattle, Washington	Meet with Chemistry Dept. - - staff		3-17-50	3-17-50		X	
D. W. Pearce to: University of Washington Seattle, Washington	Meet with Chemistry Dept. - - staff		3-17-50	3-17-50		X	
H. R. Schmidt to: Knolls Atomic Power Lab. Schenectady, New York	Discuss Redox and TBP analytical methods and review recent analytical studies	J. F. Flagg	3-20-50	3-22-50	X		

[redacted]

PURCHASING AND STORES DIVISIONS
SUMMARY
MARCH, 1950

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

	Total Personnel as of 2-28-50	Total Personnel as of 3-31-50	Net Change
Exempt	53	55*	Plus 2
Non-Exempt	238	245**	Plus 7
TOTALS	291	300	Plus 9

* Includes 5 Administrative personnel not shown on divisional reports.
** Includes 4 Administrative personnel not shown on divisional reports.

The work load in Purchasing, Stores, and Traffic continued to increase during the month.

In order to keep current with the work, it was found necessary, after a survey, to work selected groups in both Purchasing and Stores Divisions overtime on one weekend.

Procurement for DR Water Works progressed satisfactorily; however, it did not appear at month end that the October 1, 1950 completion date could be met.

The General Chemical Division, Allied Chemical and Dye Corporation, was the successful bidder on our Aluminum Nitrate requirements. This will necessitate the building of a new plant at a location within 50 miles of the Project.

The coal strike was settled during the month, coal shipments resumed and at month end, our inventories were rapidly being brought to safer levels.

Materials valued at $71,271.74 were declared excess from Stores active inventories.

A preliminary budget proposal for a central warehouse facility was submitted.

The disposition of buildings and equipment at Columbia Camp was progressing satisfactorily at month end.

Materials and equipment valued at $492,078.02 were removed from excess inventories for use on the Project.

Negotiations with the California-North Coast Rail Lines resulted in a reduction in freight on Soda Ash in carload lots of approximately $80.00 per car.

Savings as a result of rate reductions obtained by the Traffic Section amounted to $116,187.85.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION
MARCH, 1950

GENERAL:

The work load again increased materially during the month. 2,052 purchase orders were placed as compared to 1,337 placed in February. 3,282 purchase requisitions were received and assigned as compared with 2,454 during February. Requisitions on hand at month end totaled 1,062 as compared with 969 at the end of the previous month.

Ratings of all exempt personnel were completed during the month.

The procurement schedule for the DR Water Works is progressing satisfactorily. However, approximately 10 per cent of the necessary requisitions had not been received by month end. The placement and expediting of all orders were closely followed.

By month end 68 orders for MJ-1 and 14 orders for MJ-3 had been placed. As work on both projects is in preliminary stages, it will be several weeks before intensive expediting is required.

The General Chemical Division, Allied Chemical and Dye Corporation was the successful bidder on our aluminum nitrate requirements and will build a plant for the production of this material within 50 miles of the Project. Negotiations are in progress toward the contract which covers the three-year period May 1, 1951 through April 30, 1954.

Operation of the nation's coal mines having returned to normal following the strike settlement, shipments of coal are being scheduled in sufficient quantities to return our plant stock to the proper level as rapidly as cars can be handled. The present coal contract expires May 31, 1950, and, as the requirements for the 1950-51 season are substantially larger than in the past, it was deemed advisable for the essential materials buyer to make a trip through the major coal producing areas that can furnish coal to Hanford Works for the purpose of obtaining up-to-date information on the producers. Information gathered on this trip will be of value in both the preparation of bid invitations and in the evaluation of bids received.

Bids have been received on the year's requirements for ammonium silico fluoride and nitric acid. After evaluation, our recommendations were sent to the Commission for approval.

Market research on essential materials for MJ-1, MJ-3 and MJ-4 is continuing.

P-10-A and P-10-B both of which are extensions to the original P-10 Project are being handled by Minor Construction and are underway on an accelerated basis. The Purchasing Division was requested, and is complying with the request, to expedite the procurement of materials requisitioned for these projects.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

PERSONNEL

	Total Personnel as of 2-28-50	Total Personnel as of 3-31-50	Net Change
Exempt	27	30	Plus 3
Non-Exempt	28	29	Plus 1
TOTALS	55	59	Plus 4

SAFETY AND SECURITY

Safety and Security Meetings scheduled	2
Number of Employees attending	59
Minor Injuries	0

STATISTICS

	G	D	Total
Requisitions on hand 3-1-50 (includes 139 assigned to Govt.)	857	112	969
Requisitions assigned during March	3,002	280	3,282
Requisitions placed during March	2,923	266	3,189
Requisitions on hand 3-31-50 (includes 95 assigned to Govt.)	936	126	1,062

		Number	Value
HW Orders placed		1,863	$874,073.31
HW Alterations placed		118	7,541.26 CR
	Total	1,981	$366,532.05
HWC Orders placed		189	$384,163.20
HWC Alterations placed		36	105,621.92
	Total	225	$489,785.12
AEC Orders placed		168	$367,097.69
DC Orders placed		29	253,328.02

	OR	ORC	Total
Government Transfers	8	0	8

Open Orders

HW Orders	1,206
HWC Orders	219
Govt. Orders	22

Number of new orders requiring inspection during month	30
Number of orders requiring inspection completed during month	15
Number of orders outstanding requiring inspection at month end	72
HW Orders expedited (Special Request)	310
HW Orders expedited (Routine)	602
HWC Orders expedited (Routine)	200

PURCHASING AND STORES DIVISIONS
STORES DIVISION
MARCH, 1950

GENERAL

Materials valued at $71,271.74 were declared excess from Stores active inventories during the month. This was accomplished by excessing materials representing more than a years supply and by deleting 101 obsolete stock items. Total Stores inventories, material and supplies, and spare parts, were reduced by $21,075.90 even though stationery supplies valued at $73,355.08, previously charged directly to all divisions on a pro-rata basis, were established as a Stores active account. This was done as a result of discussions held between the Accounting and Stores Divisions.

1915 purchase requisitions were processed through screening and 1741 items were furnished from plant inventories as a result.

The disbursement of materials held for construction use continued at an accelerated pace during the month as additional craftsmen were added to the rolls of subcontractors.

The preliminary budget for a central warehouse was submitted during the month.

The disposition of Columbia Camp progressed satisfactorily during the month and was complete with the exception of four buildings that could not be classified as scrap and will be disposed of by the Commission as excess. The sale of all scrap buildings at Columbia Camp was completed for a total of $2,949.76.

166 representatives of government and private businesses were escorted through our warehouses and scrap yard for the purpose of negotiating the purchase of scrap and the transfer of excess property.

Formal excess lists totaling $322,236.99 were submitted to the Commission during the month and 200 shipping orders were processed.

Materials and equipment valued at $492,078.02 were removed from excess and returned for use on the Project.

PURCHASING AND STORES DIVISIONS
STORES DIVISION

PERSONNEL

	Total Personnel as of 2-28-50	Total Personnel as of 3-31-50	Net Change
Exempt	21	18	Minus 3
Non-Exempt	202	207	Plus 5
totals	223	225	Plus 2

SAFETY AND SECURITY

Safety and Security Meetings Scheduled	11
Number of Employees Attending	225
Minor Injuries	4

STATISTICS

Construction Materials Inventory Control	
Items in Stores Stock (Estimated)	52,100
Items in Small Tools	17,800
Store Orders Filled	6,501
Number of Requisitions screened - AJ	241
Number of Requisitions screened - GE	1,606
Number of Items Furnished from Stock	1,963
Value of Material Offered by Screening	$390,325.84
Value of Inventories at Month End	12,508,194.60
Value of Disbursements	513,144.94

Inventory Control Section	
Number of items added to Stores stock	179
Number of items deleted from Stores stock	101
Items in Stores stock at month end	47,943
Store Orders filled	19,060
Number of requisitions screened this month	1,915
Number of items furnished from plant sources this month	1,741
Inventory valuation at month end (903-all captions, 906 & 912)	$1,419,136.35
Inventory valuation (Spare Parts) at month end	1,645,252.53
Inventory valuation (Special Materials) at month end	3,207,595.81
Total value inventories at month end, including Spare Parts & Special Materials	6,271,984.69
Value of disbursements, not including cash sale items	177,898.46*
Value of Cash Sales	966.72
Value of materials declared excess	71,271.74
Value of materials returned to Stores stock for credit	2,228.67

*Includes $14,395.62 disbursed to Construction and CPFF subcontractors.

Receiving, Warehousing & Disbursing	
Receiving Reports issued	3,157
Emergency Stores Orders filled	5

PURCHASING AND STORES DIVISIONS
STORES DIVISION

STATISTICS (Cont.)

Receiving, Warehousing & Disbursing		
Returnable containers on hand at month end		6,872
Returnable containers on hand over six months		1,875
Shipments processed (containers and materials)		195
Surplus, Salvage & Scrap		
Excess Account 10.10 Balance 2-25-50		$18,997,388.54
Receipts 2-25-50 to 3-25-50		
Automotive Equipment	$123,564.75	
Machine Tools and Equipment	1,528.80	
Office Furniture, Machines	16,832.70	
Household Furniture, etc.	18,132.22	
Material and Supplies	308,500.95	
Miscellaneous Equipment	72,076.58	
Suspense (Equipment adjustments not yet processed)	47,045.11	
	$493,590.89	493,590.89
		$19,490,979.43
Disbursements 2-25-50 to 3-25-50		
On Project		
Lumber	$ 2,454.05	
Automotive Equipment	413,692.47	
Machine Tools & Equipment	21,311.96	
Office Furniture, Machines	19,154.61	
Household Furniture, etc.	5.50	
Material and Supplies	27,191.88	
Miscellaneous Equipment	8,267.61	
Off Project		
Lumber	255,539.73	
Automotive Equipment	156,969.32	
Machine Tools & Equipment	7,629.22	
Office Machines & Furniture	34,228.13	
Household Furniture, etc.	44,843.66	
Material and Supplies	202,798.47	
Miscellaneous Equipment	20,453.80	
	$1,214,540.35	1,214,540.35
Balance Account 10/10 as of 3-25-50 (See attached list for breakdown of materials in this account by classifications)		$18,276,439.08
Total Receipts to Date		$29,729,705.76
Total Disbursements to Date		11,453,266.68

PURCHASING AND STORES DIVISIONS
STORES DIVISION

Scrap Sales Completed	7
Scrap Sale Revenue as of 2-25-30	$39,406.81
Scrap Sale Revenue as of 3-25-30	$14,969.57
Total Scrap Sale Revenue to date	$54,376.38

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10

Class	Description	Monetary Value
2	Small Arms	$ 1,421.16
3	Lethal Device Equipment	10.00
4	Ammunition	3.28
5	Flags, Bunting, Pennants, etc.	195.27
7	Fuel	641.46
8	Motor Vehicles: Electric trucks, tire tubes	733,274.81
9	Boats	7.00
10	Outboard Motors and all Accessories	7,209.48
11	Pumps and pump parts	168,325.10
12	Marine Hardware	2,299.62
13	Engine and Fireroom Fittings	5,841.97
14	Lubricants	27,718.96
15	Electric Cable and Insulated Wire	64,807.66
16	Radio and Sound Signal Apparatus	27,258.05
17	Electric Apparatus	1,376,976.91
18	Instruments of Precision and Photographic Equipment	69,241.12
19	Blocks	35,355.31
21	Cordage: Hemp, Jute, Oakum, Twine, etc.	16,728.34
22	Wire Rope, Bare Wire, etc.	51,805.75
24	Canvas, Duck, Tentage, etc.	15,158.87
26	Furniture	228,575.67
27	Textiles: Thread, Finding, Floor Coverings	441,586.89
29	Toilet Articles	8,086.10
30	Bathroom and Toilet Fixtures	58,587.92
31	Non-Electric Lighting Apparatus	2,087.55
32	Fire-Surfacing and Heat Insulating Materials	56,180.44
33	Gaskets, Hose, Packing, Sheet and Strip Rubber, Hose Fittings, Flexible Tubing	139,335.65
34	Belting, Harness (Leather) etc.	5,243.44
37	Special Wearing Apparel and Athletic Equipment	129,340.74
38	Brooms and Brushes	6,823.51
39	Lumber	746,413.33
40	Machine Tools	716,221.02
41	Hand Tools	459,551.61
42	Builders and General Hardware	247,264.03
43	Bolts, Nuts, Rivets, Screws, Washers, etc.	388,697.31
44	Pipe and Non-flexible Tubes and Tubing	1,140,267.09
45	Pipe Fittings	2,544,885.89
46	Metal in Bars, including Flat, Hexagon	241,637.44

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10 (cont.)

Class	Description	Monetary Value
47	Metal in Plates and Sheets	$160,970.21
48	Metal Shapes and Structural	47,911.64
51	Acids, Chemicals, etc.	85,523.85
52	Paints and Paint Ingredients	158,359.44
53	Pens, Pencils, Paper, etc.	33,993.37
54	Office Equipment	75,465.20
55	Clothing	5,993.14
57	Laboratory Equipment	51,649.98
58	Fire Fighting Apparatus: Railway Equipment Prefabricating Buildings, etc.	410,722.86
59	Building Materials: Asphalt, Bricks, etc.	180,580.68
60	Boilers and Power Plants	131,871.44
63	Tableware	2,958.71
64	Kitchen Utensils and Apparatus	60,882.82
65	Ovens, Ranges, Stoves, etc.	20,097.42
66	Machinery: Pneumatic Tools, etc.	530,428.17
69	Animal and Hand-Drawn Vehicles	15,264.28
70	Agricultural Implements	1,705.37
71	Badges, Insignia and Medals	1,602.00
72	Leather Boots and Shoes, Leather Clothing, etc.	7,195.09
74	Infantry and Landing Force	830.93
78	Motorized Equipment and Heavy Construction Equipment	6,041,854.54
83	Airplane Accessories, Equipment and Parts	340.33
	Suspense (Equipment adjustments not yet processed)	91,563.12
	Total of Account 10.10 as of March 25, 1950	$18,276,439.08

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION
MARCH, 1950

GENERAL

The work load increased materially during the month.

Extended negotiations between this Section and the California-North Coast Rail Lines have resulted in a reduction of 10¢ per cwt. in the freight rate on Soda Ash, in carload lots, from Trona, California to Hanford, Washington. The reduced rate will be published on statutory notice, and will result in savings of $80 per car.

Due to an increase in shipments of Nitric Acid to the Project, the Purchasing Division requested this Section to secure three more tank cars for this service. Our efforts were successful in having the Department of the Army agree to furnish the cars on a loan basis, and instructions were furnished them to ship direct from Chicago to Dupont, Washington for loading to Hanford.

Effective March 20, 1950, all traffic functions of the Atkinson and Jones Construction Company which have been handled by this Section for the past ten months were turned over to their newly formed Traffic Section.

Traffic procedures and policies as followed by General Electric Company have been included in Purchasing Procedures and Control for CPFF Subcontractors. Atkinson and Jones Traffic Section objected to our policies with respect to Routing and General Instructions to Common Carriers; however, after explaining fully the reasons for these policies, the objections were withdrawn.

On March 23, 1950 a letter was received from the Commission's Administrative Division stating that upon agreement of the Commission the Milwaukee Road had arranged for tariff publication of certain changes in connection with their station known as "Hanford" and the town of Richland. Under date of March 28, 1950 a letter from the Manager of the Purchasing and Stores Divisions was forwarded to the Commission objecting strenuously to the action taken, whereupon the Commission advised that the Milwaukee Road had been requested to withhold publication until the matter could be reviewed further and resolved to our mutual satisfaction.

As a result of rate reductions obtained from the carriers, there was a total savings in freight charges for the month of March amounting to $116,187.85. This makes a total savings from September 1, 1946 to date of $1,297,257.82.

PERSONNEL

	Total Personnel as of 2-28-50	Total Personnel as of 3-31-50	Net Change
Exempt	2	2	0
Non-Exempt	6	5	Minus 1
TOTALS	8	7	Minus 1

SAFETY AND SECURITY

Safety and Security Meetings scheduled	1
Number of Employees attending	7
Minor Injuries	0

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS

Savings Report

1. Rate reductions obtained from the carriers:

Commodity	Origin	Savings for March	Savings 9-1-46 thru Feb. 1950	Total Savings 2-1-46 to date
Acid, Nitric	Dupont, Wash.	$ 1,695.83		
Acid, Sulphuric	Dupont, Wash.	183.33		
Coal, Mine Run	Colstrip, Mont.	110,494.67		
Gas, Chlorine	Tacoma, Wash.	135.00		
Gas, Nitrogen	Philadelphia, Pa.	93.24		
Soda, Caustic	Willbridge, Ore.	2,406.74		
Ferric Sulphate	Stege, Calif.	1,179.04		
		$116,187.85	$1,181,069.97	$1,297,257.82
2. Freight Bill Audit		541.06	46,016.19	46,557.25**
3. Loss & Damage and Overcharge Claims		594.52	92,238.40	92,832.92
4. Ticket Refund Claims		237.85	7,487.92	7,725.77
5. Household Goods Claims		--	13,843.71	13,843.71
		$117,561.28	$1,340,656.19	$1,458,217.47

**Includes $19,495.23 for the AEC

Work Volume Report

Reservations Made	Rail	45
	Air	121
	Hotel	98
Expense Accounts Checked		110
Household Goods & Automobiles	Movements Arranged Inbound	10
	Shipments Traced	1
	Insurance Riders Issued	2
	Insurance Bills Approved	20
	Furniture Repair Orders	3
	Claims Filed	1
Ticket Refund Claims	Filed	7
	Collected - Number	12
	Collected - Amount	$237.85
Freight Claims	Filed	17
	Collected - Number	13
	Collected - Amount	$594.52
Freight Bill Audit Savings		$541.06

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Work Volume Report (Cont.)

Freight Shipments Traced		35	
Quotations	Freight Rates	173	
	Routes	138	
Bills Approved	Air Freight	1	
	Air Express	10	
	Carloading	100	
	Express	175	
	Rail	673	
	Truck	194	
Carload Shipments	Inbound - GE	1,194	
	Others	11	
	Outbound - GE	105	
	Others	0	

Report of Carloads Received

Atkinson & Jones Construction Company	Lumber	1	
	Steel Pipe	7	
E. F. Hauserman & Company	Steel Partitions	1	
U. S. Army	Poles	2	11
General Electric Company	Aluminum Sulfate	1	
	Ammonium Silico Fluoride	1	
	Asphalt	1	
	Caustic Soda	14	
	Cement	45	
	Chemicals	4	
	Chlorine	3	
	Coal	1,085	
	Express	2	
	Ferric Sulphate	5	
	Hydrofluoric Acid	1	
	Laundry Tubs	1	
	Lime	4	
	Machinery	1	
	Merchandise	4	
	Nitric Acid	13	
	Phosphoric Acid	3	
	Plumbers Goods	1	
	Salt	2	
	Soda Ash	2	
	Sulphuric Acid	1	1,194
Total Entire Project			1,205

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

SUMMARY -- MARCH, 1950

1,950 applicants were interviewed during March, 489 of which were individuals who applied for employment with the Company for the first time. In addition, 271 applications were received through the mail. Open requisitions increased from 103 at the beginning of March to 152 at the end of the month. Total plant personnel increased from 7,464 to 7,565. Turn-over rate decreased from .899% in February to .85% in March. Investigation of certain employees of commercial facilities operators was discontinued effective March 9. The responsibility for determining that all employees in a particular seniority group have been considered for upgrading prior to transferring employees or engaging employees from the outside was transferred from the Wage Rate Division to the Employment Group effective March 22.

The constitution and by-laws for the proposed G.E. Employees Services Fund were completed and discussed with the H.A.M.T.C. during March. The plant American Red Cross Drive for 1950 resulted in contributions totalling $ 13,235.58, or 88.8% of the quota allotted.. Six divisions exceeded their quota. The State Director of Selective Service and the local Board Chairman advised during a visit that all single registrants under the Selective Service Act are being classified as rapidly as possible. 237 visits were made to employees off work because of illness. Four employees retired and one employee death occurred during March. Seventeen suggestion awards, totalling $ 150 were granted to employees during March. These awards represented an estimated savings of $ 733.80. Approval has been granted to the Travelers Insurance Company to settle the claim of for the death of his wife in the amount of $ 30,000. The Board of Insurance Appeals sustained a decision of the Department of Labor and Industries refusing the claim of who had alleged that he had received a hernia while employed by a sub-contractor. Estimated savings resulting from this decision was approximately $ 500.

34 supervisors participated in the 40-Hour Training Program during March, which included a luncheon for all participants during the last day of this Program. The Current Event Economics Program for exempt employees, started in February, was extended into March with a total of 803 exempt employees participating during the two months. 75 meetings were held for nonexempt employees on the Current Event Economics Program during March. This program will extend into April, and 2,900 nonexempt employees have already participated. Information meetings for all exempt employees on the Employee Benefit Plan Status Report were held during the last week of March, and will extend one week in April. Four additions and six revisions to the Supervisor's Handbook on Employee Relations were distributed during March. A representative of the Training and Program Development Group participated in a conference in New York City on the Labor Law Training Program, which is being developed by the New York Office.

Employee and Community Relations Divisions
Summary

Certification of the Industrial Firemen's Union as part of the HAMTC was received from the NLRB, after which negotiating meetings were held. A notice was distributed to all supervisors that the present Agreement with the HAMTC would continue in force for another year. In reply to a request for decertification of the HAMTC, and in answer to a letter received from the CIO seeking recognition, the Company took the position that it would recognize only organizations certified by the NLRB. Two meetings were held with the Council Grievance Committee. The analysis of the wage rate survey revealed that our margin over other companies in the Area has decreased since the 1948 Survey from 12.5% above the community to 8.5%. A survey was made of rates of pay for industrial firemen in the community. As a result of the Trades Council decision to work Pacific Standard Time during the coming months when the Project will be operating on Daylight Saving Time, a survey was instigated to determine the extent to which such action would affect the over-all continuity of Operations. The dispute over retroactive payments to Plumbers and Steamfitters for travel during April, May, June and July, 1948, was resolved with the Plumbers returning to work on March 27.

During the month, the News Bureau supervisor, together with others in Community and Public Relations, assisted in the preparation of statements for the local newspapers concerning the possibility of a shutdown of construction work because of the refusal by the Plumbers Union to supply workmen for two companies concerned with plumbing work. The resulting publicity in the newspapers was instrumental in keeping tri-city area residents informed concerning the matter, and it was possible through this method to obtain factually correct stories, and to place a final story which announced the reaching of an agreement by which plumbers would be sent to the job.

Through the medium of a press conference, the desires of newspaper representatives serving Richland were fulfilled regarding the Richland Town Plan. Working cooperatively, the News Bureau supervisor and the supervisor of Community Divisions Public Information set up a conference at which copies of the plan were made available to newspaper representatives, and the Community Manager for General Electric, the A.E.C. Community Management Chief, and a representative of the firm which developed the plan, answered questions by the newsmen.

The special Safety Supplement commemorating the accomplishment of a third year of operation without a lost-time injury in 100-D Area was completed by Special Programs, and inserted in Hanford Works NEWS during the month.

A strike of the personnel of the printer of Hanford Works NEWS caused the editor considerable delay and extra effort during the month. Although the paper was published for one week after the beginning of the strike, the publisher requested that another printer be found to take over the paper for subsequent weeks. Quotations were requested from all printers in the Tri-City Area. The only quotation obtained was from COLUMBIA BASIN NEWS.

Employee and Community Relations Divisions
Summary

The arrival of Army personnel to conduct maneuvers and set up necessary installations on the Hanford Project aroused interest among Richland residents to such an extent that it was necessary that the Community Divisions Public Information supervisor give attention to the satisfying of questions concerning recreation facilities which would be made available to Army personnel.

Arrangements were made for three speaking engagements during the month. These were: a talk by the Employee and Community Relations Manager before all senior and junior classes of Columbia High School, a popularized talk by a member of the Hanford Works Project Engineering Divisions concerning work in an atomic energy plant for the Richland Rotary Club, and a talk by a member of the Technical Recruiting Group before the Benton City P.T.A.

A special visualizer presentation, together with the talk to be used in making the presentation, was prepared for the Employee and Community Relations Divisions Manager. The presentation is to be made before the Atomic Energy Commission Personnel Information Panel at the Knolls Laboratory in Schenectady on April 4, 5 and 6.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

MARCH, 1950

ORGANIZATION AND PERSONNEL

Employee Relations

Employment:

Effective March 20, 1950, one stenographer-typist "B" in the Investigation and Files Group was transferred to the Design and Construction Division, and a stenographer-typist "C" was transferred from the Plant Security and Services Division to fill this vacancy.

On the same date, a General Clerk "C", assigned to the Investigation and Files Group was transferred to the Maintenance Division in the outer areas. The position left vacant was filled by upgrading within the Division.

Effective March 28, 1950, a stenographer-typist "C", assigned to the Procurement and Procedures Group, was transferred to the Pile Technology Division to fill a requisition for a cleared stenographer urgently needed, and on March 30, 1950, a stenographer-typist "C" was employed to fill the vacancy caused by this transfer.

Effective March 31, 1950, a general clerk "C", assigned to the Procurement and Procedures Group, was terminated due to illness. This position was filled by upgrading within the Division, and a general clerk "D" was employed to fill the opening resulting from these upgrades.

Employee Services:

Effective March 31, 1950, a general clerk "D" terminated her services.

Training and Program Development:

There were no organization changes in this group during the month of March.

Union Relations and Wage Rates

Effective March 13, 1950, one Staff Assistant was transferred from the "S" Division to the Union Relations and Wage Rates Division.

Employee and Community Relations Divisions
Organization and Personnel

Community and Public Relations

Effective March 3, 1950, one General Clerk "B" was added to the Community and Public Relations Division.

Effective March 20, 1950, one Reproduction and Photographic "D" was added to this division.

Effective March 30, 1950, one General Clerk "D" was added to the division to replace an employee who will be transferred to another division the first part of next month.

Number of employees on payroll	March, 1950
Beginning of month	82
End of month	84
net gain	2

This gain was due to increased activities.

5

Employee and Community Relations Divisions

ACTIVITIES

Employee Relations

Employment:

	February, 1950	March, 1950
Applicants interviewed	1,349	1,950

489 of the above applicants interviewed in March were individuals who applied for employment with the General Electric Company for the first time. In addition, 271 new applications were received through the mail.

Open requisitions:	February, 1950	March, 1950
Exempt	1	5
Nonexempt	103	152

Of the 103 open nonexempt requisitions at the beginning of the month, 66 were covered by interim commitments. Of the 152 open nonexempt requisitions at the end of the month, 943 were covered by interim commitments. In addition, 5 exempt requisitions were being processed.

	February, 1950	March, 1950
Employees added to the rolls	103	177
Employees removed from the rolls	70	76
Net gain or loss	+ 33	+ 101

Of the 76 employees removed from the rolls during March, 12 were terminated due to lack of work, 10 of which were outside the bargaining unit.

Turn-over:	February, 1950		March, 1950	
	Male	Female	Male	Female
Including employees laid off for lack of work	.48 %	.45 %	.646 %	2.5 %
Excluding employees laid off for lack of work	2.83	2.75	.48	2.36

Over-all plant turn-over:	February, 1950	March, 1950
Including employees laid off for lack of work	.94 %	1.01 %
Excluding employees laid off for lack of work	.899	.85

Employee and Community Relations Divisions

At the end of March, there were 398 employees in lack of work status, divided into the following categories:

	February, 1950	March, 1950
Nonbargaining unit employees	503	212
Bargaining unit employees	230	186
Total	733	398

The decrease in the number of employees off the payroll in lack of work status is due primarily to the fact that a number of these employees have been in lack of work status over twelve months, and as a result, are no longer employees of the Company.

During the month of March, 27 new requests for inter-Divisional transfers were received and reviewed by the Employment Office. Transfers were effected for 19 employees as the result of these requests. In addition, transfers were effected for 17 employees who had received notice of termination due to lack of work.

In the past it has been the practice to conduct background investigations of certain employees of the commercial facilities operators. A recent survey was made to determine as to whether this practice should be continued, and although it was agreed that these investigations had served a useful service from the security and investigation standpoint in the past, in view of the present security requirements, it was determined that this type of investigation need no longer be conducted. Accordingly, effective March 9 the investigation of certain facilities operators employees was discontinued. This should result in a slight reduction of the operating cost of the Investigation Group.

In accordance with H.W. Instructions Letter No. 140, entitled "Procedure for Disciplinary Action", the Central Files Group installed a procedure during March to assure the withdrawal of contacts and warning notices from personnel files upon the expiration of one year from the date of filing.

In the past it has been the practice for the Wage Rate Division to be responsible for determining if all employees within a particular seniority group had been considered for upgrading purposes prior to transferring employees into the group, or engaging them from the outside, to fill open requisitions. As a result of discussions with the Wage Rate Group together with the fact that these records are readily available to the Employment Office, effective March 22, this responsibility was assigned to the Employment Office.

Employment Statistics:

Number of Employees on Rolls	2-28-1950	3-31-1950
Exempt	1,639	1,728
Nonexempt	5,825	5,837
TOTAL	7,464	7,565

Employee and Community Relations Divisions

ADDITIONS

	Exempt	Nonexempt	Total
New Hires	8	94	102
Re-engaged	2	57	59
Re-activations	0	15	15
Transfers (from other plants)	0	1	1
Actual Additions	10	167	177
Payroll Exchanges	85*	0	85
Gross Additions	95	167	262

TERMINATIONS

Actual Terminations	5	44	49
Removals from roll	1	26	27
Payroll Exchanges	0	85**	85
Gross Terminations	6	155	161

Approximately 47% of all terminations were on a voluntary basis, and most of these were for the following reasons: (a) Personal Reasons (b) Another job

GENERAL

	2-1950	3-1950
Applicants interviewed	1,349	1,950
Fingerprint impressions taken (in duplicate)	234	416
Procurement letters written	710	688

ABSENTEEISM STATISTICS
(Weekly Salary Roll)***

Male	2.45 %	2.32 %
Female	3.41	3.27
Total Plant Average	2.76	2.55

INVESTIGATION STATISTICS

Cases pending at beginning of month	554	664
Cases received during the month	224	411
Cases closed	114	163
Cases pending at month end	664	912
Cases found satisfactory for employment	178	337
Cases found unsatisfactory for employment	4	1
Cases closed before investigation completed	5	1
Special investigations conducted	4	38

* Transferred from Weekly Salary Roll
** Transferred to Monthly Salary Roll
*** Statistics furnished by Weekly Payroll Division

Employee and Community Relations Divisions

Employee Services:

The constitution and by-laws for the proposed G.E. Employees Services Fund were completed during the past month, and reviewed with the committee from the H.A.M.T.C. Representatives of those agencies who will be participating in the fund were contacted and requested to submit in writing a verification of their desire to participate. As a result of these contacts, the Executive Secretary of the American Cancer Society visited the Employees Services Group on March 2, and the Executive Secretary of the American Heart Association made a visit on March 27. After several contacts with the State Office of the Infantile Paralysis Foundation, information was received that that organization did not desire to become a participant in this fund.

The 1950 American Red Cross Drive was completed during March, with a total of $ 13,235.58 being contributed, which constituted 88.8% of the quota allotted to the Hanford Works. The following divisions exceeded their respective quotas: Maintenance, Transportation, Plant Security and Services, General, Law, and Employee and Community Relations.

72 Progress Reports, in connection with the Rating System, were forwarded to various divisions in connection with new employees or transfers which have been made, in order that these reports might be completed and returned for filing.

25 Patent Agreements were forwarded to employees for completion, as the result of a change in their status.

The following employees retired during March:

Harry F. Colby, Community Divisions, (Optional);
Robert Kamprath, Community Divisions, (Optional);
John C. Miller, Medical Division; and
R. W. Tueth, Plant Security and Services Division.

In addition, two former employees who retired were visited during March.

One employee death occurred during March, namely:

Transportation Division.

Assistance was rendered to members of the family of the deceased, with respect to all Employee Benefit Plans, and Social Security information.

Three employees removed from the payroll because of illness were contacted during March by letter to determine if they are planning to return to work.

On March 22, a letter was released to all supervisors informing them of the Company's attitude with respect to Blue Cross and Blue Shield Group Insurance Plans. This information was forwarded to supervisors inasmuch as there have been numerous inquiries as to the reason why these group plans were not used by the Company.

Four publications of information on Employee Benefit Plans was prepared and released for publication in the Works News.

Employee and Community Relations Divisions

The following visits with absent employees were made during the past month by representatives of the Employee Services Group:

Kadlec Hospital	232
Employees at home	9
Salary checks delivered to employees confined at Kadlec Hospital	53

Bulletin board postings in all Areas were made with respect to the following:

Union notices	2
Savings Bonds posters	1
Suggestion System posters	1

During March, 9 employees in lack of work status requested that their separation be changed to resignation in order that their pension contributions might be refunded.

Eight certificates were issued for Company appliances during the month of March.

Chester D. Chastek, State Director of Selective Service, together with Victor Small, Chairman of Local Board No. 25 of Pasco, visited the Employee Services Group, at which time he advised that all single registrants under the Selective Service Act were being classified as rapidly as possible. In addition, Mr. Small was interested in obtaining forwarding addresses on 77 registrants of Local Board No. 25, who had failed to notify the Board of a change in address.

Employee Service Statistics:

Number of employees registered under the Act.	633
Number of employees for whom deferments have been requested	6
Number of technically trained single men not classified (potential 1-A classifications)	7

The Director of Selective Service is mailing all single nonveterans questionnaires, which are to be completed and returned to their Local Boards. Upon receipt of the returned questionnaires these men will be placed in 1-A classifications as fast as the Local Boards can complete these classifications. No registrants, however, have been inducted into the service for more than a year.

As of April 1, employee participation for the Hanford Works in the various Employee Benefit Plans was as follows:

Group Life Insurance	77.7 %
Group Health Insurance	94.
Pension Plan	94.5
Savings and Stock Bonus Plan	45.8

Employee and Community Relations Divisions

Suggestion System:

At the end of March, the volume of work in the Office of the Secretary of the Suggestion System was as follows:

	2-1950	3-1950	Total since 7-15-1947
Suggestions received	98	116	4,613
Investigation reports completed	107	68	4,078
Awards granted by Suggestion Committee	20	17	558
Cash awards	$ 300	$ 150	$ 7,515
Estimated savings resulting from suggestions	3,456	733.80	

The March 3 issue of the Works News featured a front-page picture and story of the presentation of a $ 100 suggestion award to an employee in the Maintenance Division. The March 31 issue carried a front-page story of a $ 35 award made to another employee in the Maintenance Division.

Insurance and Compensation:

Public Liability

-- As a result of continued negotiations in this case, the details of which have been previously reported, the Travelers Insurance Company has submitted a request for approval of settlement of this claim in the amount of $ 30,000. This settlement for this amount was agreed to by the claimant's attorneys. The approval for settlement in this amount was granted by the General Electric Company and the Atomic Energy Commission to the Travelers Insurance Company on March 31, 1950.

-- A claim was submitted in this case by the claimant as a result of an injury to her right foot received when she slipped in the Post Office at North Richland on February 14, 1949. Considerable investigation has been conducted in this case, and negotiations by the Travelers Insurance Company with the claimant have been underway during the past months. On January 3, 1950, the Travelers Insurance Company requested approval for settlement of this claim in the amount of $ 1,750. Both the Company and the Atomic Energy Commission feel that this settlement is excessive in view of the injury involved, and on March 24, the Travelers Insurance Company was requested to submit additional information concerning the justification for this amount, it being the feeling of the Company and the Atomic Energy Commission that possibly settlement could be obtained for $ 1,000 or less.

-- This claim arose from an accident which occurred June 5, 1948, in which an airplane owned by the plaintiff, during a take-off at the C.A.P. Airport, collided with a vehicle operated by a sub-contractor of the The judgment in this case was in the amount of $ 3,500. On March 2, 1950, a judgment was rendered in that amount, and as the result of negotiations by the Travelers Insurance Company, this judgment was settled on March 8, 1950, with a compromise of $ 3,275, including court costs. Approval of this settlement by the Atomic Energy Commission and the General Electric Company was transmitted to the Travelers Insurance Company on March 24, 1950.

Employee and Community Relations Divisions

Compensation

During March, protests were submitted to the Department of Labor and Industries in four compensation cases, in which award payments were made. These cases were as follows:

, permanent partial disability award of $ 1,260.
for time loss payments after the claimant had refused surgery on 10-26-1949.
for 25% permanent partial disability amounting to $ 900, based on loss of earning power.
permanent partial disability award of $ 360 on the basis that the award was made for subjective findings only.

Entering of these protests constitutes a request for reconsideration by the Supervisor of Industrial Insurance, Department of Labor and Industries.

Appeals were entered during March with the Board of Industrial Insurance Appeals on the following compensation cases:

) For allowance orders entered January 27, 1950,
) the cases were appealed on the grounds that claim-
) ants' conditions were unrelated to their employ-
) ment.

-- The claimant previously alleged he sustained a hernia while employed by the a sub-contractor of the but was unable to furnish a date on which the injury occurred. The Company opposed allowance of this claim and the Department of Labor and Industries sustained its position by their order of May 9, 1949. The claimant subsequently appealed to this order to the Board of Industrial Insurance Appeals, and after a hearing was conducted, the Board sustained the decision of the Supervisor, and crossed the case last month. This decision resulted in a savings of approximately $ 500 for the Company.

Life Insurance

Code information for use by insurance companies in issuing insurance to employees at this Works was furnished to 83 insurance companies and investigation agencies during the month of March.

Insurance Statistics:

	2-1950	3-1950	Total since 9-1-1946
Claims report to the Department of Labor and Industries	32	0	3,243
Claims reported to Travelers Insurance Company	18	15*	431

* Of the above claims reported during March to the Travelers Insurance Company, 10 were property damage claims, and 5 were bodily injury claims.

Employee and Community Relations Divisions

Training and Program Development:

During the week of March 13-17, the 40-Hour Supervisors Training Program was again presented to 34 supervisors. On the last day of this Program, a luncheon was held which all supervisors participating in the Program, attended. In addition, six members of management were invited as guests.

The Current Event Economics Program was again conducted during March, with 25 additional meetings being held for exempt employees. This program, which was described in the February Monthly Report was attended by a total of 803 exempt employees.

Beginning the week of March 13, a Current Event Economics Program was started for nonexempt employees. This Program will run during the months of March and April, and during the month of March, there were a total of 75 meetings held, with 2905 nonexempt employees attending. This Program consisted of a brief discussion on "Big Progress and Big Business Go Together", and also the showing of the film, "The Price of Freedom". At the end of this Program, copies of the Readers Digest's article on the book, "The Road Ahead", were distributed to all employees participating.

During the last week in March, an information program was conducted for supervisors in which the contents of the proposed letter to be distributed by the Vice President and General Manager on or about April 10 concerning the status of each employee's contributions to certain employee benefit plans, were discussed. The purpose of this program was to provide the supervisors with information concerning these benefit plans, in order that they might answer inquiries made by their employees after they have received their individual reports. This Program will continue for one week during April. During the one week it was presented in March, a total of 213 supervisors attended.

Effective March 1, the Training and Program Development Group assumed the responsibility for the sale of the book, entitled "Men and Volts". A total of 110 copies of this publication were received by the training staff, and during the month of March 9 volumes were sold.

81 Supervisor's Handbooks on Employee Relations were distributed during March. 4 additions and 6 revisions were mailed during March to holders of the Supervisor's Handbook on Employee Relations.

During March, a total of 102 new employees were given orientation. Of this number, 81% elected to participate in the Group Health Insurance Plan, and 57% elected to participate in the Group Life Insurance Plan. In addition to the above number, 57 re-engaged employees were given orientation, of which 52% elected to participate in the Group Life Insurance Plan, and 76% elected to participate in the Group Health Insurance Plan.

During March, 6 additional sets of instructor's manuals for the Sales Analysis Institute's course on "Principles and Methods of Supervision", were received by the Training and Program Development Group.

On March 6, the Training Supervisor attended a conference in New York, at which the Labor Law Training Program, which is being developed by the New York Office was previewed, and a discussion was held in connection with the leader's guide to be used in connection with the Program.

Employee and Community Relations Divisions

A conference-type program was developed during the month of March for use in connection with the recent Hanford Works Instructions Letter issued with respect to the "procedure for disciplinary action". Due to other commitments it will not be possible to present this program until sometime in May.

Considerable time was spent during March in the preparation of a portfolio to be distributed to all exempt employees during April, explaining in detail the G.E. Employees Services Fund.

Several Conference have been held in conjunction with the Employee Services Group relative to developing a plan whereby employees with perfect attendance may be given recognition. The purpose of this plan is to not only give recognition for perfect attendance, but also develop some method which might be of assistance in reducing absenteeism.

10

Employee and Community Relations Divisions

Union Relations and Wage Rages

Union Relations - GE Personnel:

On March 23, the Certification of the Industrial Firemen's Union as part of the HAMTC was received from the National Labor Relations Board. Subsequent to that time, meetings were held with representatives of the Firemen's Union for the purpose of negotiating a contract.

Analytical work on the Articles of the Contract continued in anticipation of the reopening of the HAMTC - GE Contract until March 16, at which time we were notified by HAMTC representatives that the Union did not wish to reopen the Contract for renegotiation. On March 20, a memorandum was distributed to all supervisors to the effect that since neither the Company nor the Union gave notice of a desire to modify the Contract, the Agreement would continue in force.

In reply to a request that the Company petition the National Labor Relations Board for an election to decertify the HAMTC, the Company stated that inasmuch as Hanford Works employees had chosen the HAMTC as their representative in an election conducted by the NLRB, the initiative in such a matter should be taken by the employees themselves.

A letter was received on March 27 from the Congress of Industrial Organizations seeking recognition as the bargaining agent for the employees at Hanford Works. In reply, the Company again stated that we could recognize only those organizations certified by the NLRB.

On March 27, a supplement to Instruction Letter No. 122 was issued, setting forth a clarified definition of a "straight day worker."

The comparison of the rates paid certain laborers and mechanics on General Electric rolls as compared with rates of pay for laborers and mechanics engaged in construction work for subcontractors has continued to occupy almost the full attention of one member of the Division.

Grievance Statistics:

Twenty-five grievance reports were received during the month, bringing the total received this year to 65. Two hundred and forty-two grievances have been received since the grievance procedure was established. Grievances were sent in this month from the following divisions:

Medical	1
Minor Construction	1
Mfg. Electrical	2
Mfg. Instrument	2
Mfg. Maintenance	3
Mfg. "S"	1
Mfg. Transportation	10

Employee and Community Relations

Mfg. "P"	3
Village Maintenance	2
Total	25

Employee grievance reports received during the month of March were regarding the following subjects:

Jurisdictional	10
Health, Safety	2
Hours of Work	1
Overtime Rates	1
Sick Leave & Days Off	1
Vacations	1
Seniority	3
Information to Employees	1
Leave of Absence	1
Wage Rates	3
Misc.	1
Total	25

The status of all grievances received to date is as follows:

	1949	1950	Total
Settled satisfactorily, Step I	52	10	62
Not settled satisfactorily, Step I	125	55	180

Of the 55 grievances received this year which were not settled at the Step I level, 17 have been satisfactorily processed at the Step II level and were settled. Only 6% of the total grievances received this year have been submitted by employees outside the bargaining unit. Thirty-eight per cent of this year's grievances were submitted by employees in only 4% of the divisions.

Meetings:

The Council Grievance Committee and the Company Negotiating Committee met twice during the month for the purpose of processing grievances at the Step II level.

All supervisors were informed regarding the disposition of the grievances discussed at these meetings.

Union Relations-Subcontractor Personnel:

A resolution in the form of a letter from the Pasco-Kennewick Building Trades Council on March 7, 1950, announced the decision that all Tri-City Contractors as well as Hanford Works Contractors and Local Unions would be governed by Pacific Standard Time relative to starting and quitting hours during the coming period when the Hanford Works will be operating under Daylight Savings Time.

Employee and Community Relations Divisions

In order to determine the effects of dissimilar work periods for Construction Crafts and Operations personnel on the over-all continuity of Operations, a survey of G.E. Divisions and Contractors has been instigated and is in progress at month's end. A complete report of the findings of this survey will be forthcoming in the near future.

The dispute over retroactive pay to the Plumbers and Steamfitters for Travel during April, May, June and July, 1948, was resolved during the month.

The Hanford Works Addendum to the Washington State Agreement was negotiated and signed on March 13, and Plumbers resumed work on March 27. This necessitated considerable project negotiations and some travel.

A study of all contingencies due to wage escalations on the 234-5 Building was completed at the request of the Contract Section of the Design and Construction Division in order that they might close out their phase of the C-198 project.

A meeting in Spokane of Eastern Washington Construction Contractors was attended. The object of the meeting was to develop closer cooperation and uniformity between the various contractor organizations in regard to wages and conditions.

Requests for Reimbursement Authorizations handled during the month are as follows:

Double Time, Maintenance Wiremen
Plumbers Travel, April, May, June, July, 1948
Additional Classifications for Operation of IBM Equipment
Appendix "C" Revision - Transportation and Travel Expenses
Technical Engineers - Salaries
Revision in Wording Reimbursement Authorization No. 91 - Boilermakers
Plumbers - Medical Rejects
Wage Increases - Painters

Reimbursement Authorizations received are as follows:

Double Time - Maintenance Wiremen - No. 90
Plumbers Travel, April to August, 1948 - No. 52

A work stoppage resulted from the refusal of the Union representing the Plumbers and Steamfitters to furnish men to the piping and heating sub-subcontractors. The dispute involved the travel pay discussed above. The matter was settled on March 25 and Plumbers and Steamfitters reported to the CPFF piping sub-subcontractors on March 27, 1950.

Wage Rates:

Distribution of the annual General Electric Company's Northwest Area Wage Rate Survey was completed.

Analysis of the Survey was made and charts drawn illustrating comparative rates paid by the Hanford Works and participating concerns. The Survey showed our margin over other companies in the Area has decreased since the 1948 Survey from a figure of 12.5% above the community one year ago to 8.5% in January, 1950.

Conferences were held both before and after the inauguration of the Two Platoon System in the Community Fire Department to determine a method of payment due to the change from weekly to the monthly roll on March 20, 1950. As a result of these conferences it was determined that approval of the General Electric Pension Board and the Atomic Energy Commission was needed in connection with some phases of the new system, and action was started on these matters.

In line with the certification of the Hanford Atomic Metal Trades Council as the bargaining agency for members of the Area Fire Department and the submitted demands which included changes concerning classifications and rates, a survey was made throughout the Northwest municipalities and industries to obtain data on rates and working conditions currently in effect. This survey showed our present rates are well above the average rates paid for Firemen in the surrounding area.

A plant wide study, including personal inspections, was made on the employees classified as Stock and Tool Attendants. As a result of this study recommendations were made concerning changes in job classification for some employees and reorganizational changes in other instances.

The study of ratios of Trainees and Helpers to craft Journeymen was made. The survey showed that supervision has a tendency to avoid the use of Trainees where possible. Steps are being taken to correct this thinking.

Conferences on a training schedule for Draftsmen and Designers were held, and an experience table, to be used for hiring applicants and also for the granting of merit increases, was established.

The daily routine of reviewing occupations, evaluating and classifying jobs, counseling supervision, checking transfers and reclassifications, etc., was continued and involved investigation and approval to the following extent:

Transfers Weekly to Monthly	85
Nonexempt Transfers	51
Job Reclassifications	167
Automatic Increases	288
Merit Increases	2

Employee and Community Relations Divisions

Community and Public Relations

"Public Information" - Community

During the month of March, 64 releases of information were made by the News Bureau. Of this number, 37 were sent to the "local List," 9 to the"daily list" and the others to individual media, generally in response to requests.

Informative newspaper releases made during th month to the "local list" of newspapers and radio stations served, which includes the Columbia Basin NEWS, Tri-City HERALD, Yakima MORNING HERALD, Lind LEADER, Walla Walla UNION-BULLETIN, Spokane CHRONICLE, radio stations KPKW, KWIE, and KIT, including release dates are 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 releases were sent from this office is indicated below).

3/1 A release quoting the Richland patrol Chief gave some suggestions for avoiding accidents when driving.

3/1 It was announced that the old East gate, formerly an entrance to the 700 Area, has been moved in so that access to the business office of the telephone building will be available to telephone subscribers.

3/1 The attendance of several representatives of G.E.'s Security and Patrol Division at a three-day meeting concerned with civil air defense for the West Coast was reported.

3/2 The progress of the shelter belt and street tree planting program was explained and future plans were reviewed.

3/2 A photograph illustrating the proper physical qualifications for holes to be dug by residents for trees to be planted by project forces was sent to local media in conjunction with the above story.

3/3 It was announced that the Pasco office of the Internal Revenue Department would aid Richlanders in the preparation of their income tax returns.

3/6 A five-day course in fingerprinting and the maintenance of identification units, to be taught by the F.B.I. for local law enforcement officers in North Richland, was announced.

3/8 The danger of flying kites in the vicinity of power lines was explained in a release by the Superintendent of Hanford Works Electrical Division.

3/9 Richland motorists were cautioned by Judge Earle W. Brown to be particularly watchful for pedestrians on highways.

3/9 A power outage for the coming week was announced.

3/9 A news release based on a speech given by the Manager of the Employee and Community Relations Division before the senior class at Columbia

High School was distributed. The subject of the talk was "What Industry Expects of a Job Applicant."

3/10 An electrical interruption was announced.

3/10 The assignment of new duties to seven men in the Purchasing and Stores Division was announced by the Manager of the Divisions.

3/10 A feature story explaining a kit flying contest to be sponsored by the recreation section of the Community Activities Division was sent to local media.

3/13 A power outage was announced.

3/14 A news release quoting Jack Fisher, co-chairman of the Richland Student and Parent Council, urging drivers to be careful in the highways was distributed.

3/21 The training given to local law enforcement officers in the F.B.I. Fingerprinting School was explained in a local release.

3/21 Seven photographs depicting the training in the F.B.I. Fingerprinting School were released to local media. Photographs were sent to home towns of the officers in training.

3/21 A power outage was announced.

3/22 A story giving details of the kite flying contest was released to local media.

3/23 It was announced that the trailer storage lot on Abbot, south of Cullum, is open for Richland and North Richland residents who want to park trailers there.

3/23 Emphatic denial was made to a rumor that a wage increase had been granted by G.E. to members of the H.A.M.T.C.

3/24 A power outage was announced.

3/24 A statement by the general manager of the Atkinson-Jones Company at Hanford Works concerning the lay-offs of certain A-J employees was given to local media. It explained that the refusal of the Plumber and Steamfitters Union to supply plumbers and steamfitters had forced a general curtailment of construction workers.

3/27 A power outage was announced.

3/29 Statements by the Richland Fire Chief and the Richland Safety Supervisor urging participationg in clean-up week were released to local media.

3/29 It was announced that R. K. Bollinger, of the G.E. Instrument Division at Hanford Works, attended a three-nation conference on radiation detection instruments at Chalk River, Ontario.

Employee and Community Relations Divisions

3/29 A release was sent to local media which explained the general progress of the construction program and detailed the number of employees who had been hired and the number expected to be hired.

3/29 An assembly at Sacajawea Grade School which emphasized safe ways of crossing thoroughfares was explained in a local release.

3/29 Two photographs showing the above school program with children enacting traffic hazards with toy cars and miniature stop signs were sent to selected local newspapers.

3/30 Suggestions for the removal of fire hazards during clean-up week were enumerated by the Richland Fire Marshall in an informative release.

3/31 A power outage was announced.

3/31 Announcement was made that the Executive Vice-President of General Electric would hold a press conference in Spokane on April 3.

3/31 It was explained that the Executive-Vice President of General Electric was spending two days in Richland attending routine conferences and inspecting production facilities.

3/31 Photographs of the G.E. Executive Vice-President, the Vice-President in charge of Engineering policy with Hanford officials were mailed to newspapers on the local list.

3/31 Announcement of information that can and should be divulged to census takers about jobs at Hanford Works was explained for the benefit of Hanford Works employees in a local release.

Columbia Basin NEWS Only

3/10 It was explained that the asbestos siding and peaked roof placed on a three bedroom prefab at 1512 Perkins are for experimental purposes only.

3/13 A description of the parking lot to be constructed immediately west of the Seattle First National Bank, was given to the Columbia Basin NEWS at their request.

3/29 In answer to a question from the Columbia Basin NEWS, it was stated that the only hiring by G.E. at Hanford Works since the first of the year has been to replace normal turnover in personnel. It was also stated that although G.E. expects to hire several hundred employees during 1950, no schedule showing exactly when the hiring will take place is available.

3/31 A news release was prepared at the request of the Columbia Basin NEWS which revealed the present population of North Richland, the types and numbers of housing accommodations that are available for sub-contractor employees and the businesses that are open at the present time in North Richland.

Employee and Community Relations Divisions

Tri-City HERALD Only

3/1 The reasons why a tailor set up shop in the Desert Inn and went out of business a few days later were explained at the request of the HERALD. It was pointed out that the businessman left of his own free will and accord.

3/7 An interview with Harold Jones, G.E. bus driver, Transportation Division, on the subject "Courtesy on the Streets and Highways", would be presented over radio station KWIE, according to this release.

3/8 A brief statement explaining the progress of the change-over to private practice for doctors and dentists was released.

3/10 Another release calling attention to the KWIE interview with Harold Jones was given to the Tri-City HERALD.

3/13 It was explained to a representative of the Tri-City HERALD that negotiations are not presently being carried on nor has money been allocated for the building of additional government housing in Richland.

3/13 A new story explaining why it was necessary to tear up a newly-laid sidewalk and replace it at the Goethals-Jadwin-Williams intersection was given to the Tri-City HERALD. It was done because the original sidewalk laid by the contractor was not satisfactory.

3/13 The numbers of construction workers hired by A-J during the past week, the present week, and the week coming up were released.

3/21 A special feature story on the Community Activities Division kite flying contest was prepared for the Tri-City HERALD.

3/23 A photograph showing a group of children and a man with a kite was given to the Tri-City HERALD as a means of publicizing the kite flying contest.

3/23 It was explained that no new businesses are expected to be opened in North Richland. Information about the expected total number of trailers in North Richland was also released.

3/29 A photograph showing workmen filling chuck holes on Thayer Drive with a cut line which explained that at present street repairs are underway throughout Richland.

3/29 A new policy on the allocation of dormitory rooms in Richland was explained in response to a request from the Tri-City HERALD.

3/31 A feature story explaining the operation of the Hanford Works mail room was given to the HERALD. The paper was also given a selection of photographs showing mail room personnel at work.

3/31 Information on the progress of the repairs of Richland streets was furnished to the Tri-City HERALD for a story about street repairs in Richland, Kennewick and Pasco.

Employee and Community Relations Divisions

"Public Information" - General

Informative newspeper releases were sent to 72 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. Some releases are also sent to 143 weekly newspapers and some are sent to approximately 100 key personnel. Such distribution will be noted below.

3/1 Announcement of the total number of sub-contractors and General Electric employees expected to be hired during the coming year was made by the Manager of the Design and Construction Divisions. This release was sent to weekly newspapers and to key personnel.

3/3 It was announced that the Richland Fire Department would adopt a two-platoon system on March 20.

3/6 Bailey's Plumbing and Heating of Pasco, Washington was announced as the apparent low bidder for a contract to do water line and fence installation at the Richland sewage plant.

3/7 A news story based on a speech to be given by the Nucleonics Department General Manager before the Los Angeles Rotary Club was sent to local media and to R. W. Jackson for distribution along the West Coast. In this speech certain techniques in the manufacture of plutonium were explained insofar as security restrictions permit.

3/14 A news release based on a speech given by C.P. Cabell before the Richland Rotary Club was mailed to the general list. The speech described the potential use of atomic power for domestic purposes and also explained some of the problems that are dealt with at Hanford Works in the handling of radio-active materials.

3/16 It was announced that invitations to bid on the construction of waste disposal facilities at Hanford Works would be available for issuance to qualified bidders on April 6, according to the Manager of General Electric Company's Design and Construction Divisions. A general description of the work to be done was given and it was explained that contractors would have to obtain security clearance before invitations would be issued.

3/27 An award of a contract to Bailey's Plumbing and Heating of Pasco, Washington for the installation of water lines and fencing at the Richland sewage plant was announced.

3/28 Selection of the first 10 technical graduates to be enrolled in the newly installed G.E. Rotational program at Hanford Works was announced. This training program is believed to be the first of its kind at any U.S. atomic energy plant. This release was sent to weekly newspapers and to key personnel.

3/29 A round-up story on the completion of Richland's business district was mailed to general list media.

3/31 The Manager of the Hanford Works Medical Divisions announced that Richland doctors and dentists would change over to private practice on May 1.

Employee and Community Relations Divisions

Press Conferences

A press conference was arranged on March 21 at 2 p.m. in the office of the Community Manager to present local press representatives with an explanation of and copies of the Richland Town Plan, formerly known as the Master Plan. Representatives of the Columbia Basin NEWS, Tri-City HERALD, Walla Walla UNION-BULLETIN, Spokane CHRONICLE, KWIL and KPKW attended. Explanations of what the plan is, what it is not, why it was prepared, its cost, and why it had not been distributed until this time were presented by the Community Manager. Questions were answered by the AEC Chief of Community Management Division, the Community Manager, and the local General Manager of J. Gordon Turnbull, Graham, Anderson, Probst and White. Arrangements had been completed so that the representatives of each newspaper and radio station could sign a receipt and take away for his own use a copy of the Town Plan for a period of one week. Four 8 by 10 inch glossy prints of sketches and maps from the town and mimeographed copies of the Community Manager's opening remarks were distributed.

Morse Salisbury, Director of Public and Technical Information for the AEC was featured in a press conference at Richland for newspaper publishers and representatives of radio stations in the State of Washington. The Division Head, Community and Public Relations, and the Supervisor of the News Bureau attended the conference. The policy followed by the AEC in the distribution of information was explained.

A press conference was arranged by the Advertising and Publicity Department representative in San Francisco on the morning of March 9 in Los Angeles for the Nucleonics Department General Manager. The Nucleonics Department News Bureau helped with arrangements for this conference. Copies of a news release covering the talk to be given before the Los Angeles Rotary Club were sent for use at the Conference. In addition photographs and biography material was supplied.

Special Stories on Request

A feature story reviewing the growth of Richland's business district was sent to the Portland DAILY JOURNAL OF COMMERCE at their request.

A 2500-word general magazine-type story about Richland, Washington was sent to the editor of the G.E. MONOGRAM. Submission of this article was preceded by considerable correspondence on the subject and discussion in Schenectady between the editor of the MONOGRAM and the Division Head, Community and Public Relations Division from Hanford Works. Nineteen photographs of Richland scenes and Richland people were sent with cut lines with the article.

Other Projects

Copies of a story distributed by the General News Bureau which explained the filing of a suit by UE on behalf of 31 G.E. employees against the Company was given to the Tri-City HERALD and Columbia Basin NEWS with the request that it not be used unless the papers received a story from the wire services on the same subject. Apparently the wire services did not transmit the story to this area end, consequently, the General News Bureau story was not printed.

Employee and Community Relations Divisions

A request was sent to newspapers and magazines that are particularly interested in information about bids for and the award of construction contracts in Richland and at Hanford Works. It explained that all requests for information about contracts should be sent to the Nucleonics Department News Bureau rather than to persons in the Contract Section of Design and Construction Divisions.

The associate editor of the OREGON JOURNAL, Tom Humphrey, interviewed the News Bureau Supervisor to get information about the method in which news releases are distributed here. Mr. Humphrey was in this area investigating the local newspaper situation and gathering material for a story on that subject for the JOURNAL.

At a meeting between the Community Manager, his Assistant, the Supervisor of Community Divisions Public Information, and the Supervisor of the News Bureau, a definite procedure was established for clearing different types of news releases that pertain to the community of Richland.

The Advertising and Publicity Department representative in San Francisco was supplied with information about a Nucleonics Department employee and the son of another employee who were married on the "Bride and Groom" show at the ABC station in Los Angeles on March 31. A photograph of the girl and local clippings were sent with information about when the couple would arrive and where they would stay. The suggestion was also made that G.E. Representatives in California might want to offer the services of their organizations to the couple during their stay.

The cooperation of the Advertising and Public Department representative in San Francisco and the General News Bureau in Schenectady was requested to get the widest possible distribution of two news releases prepared by the Nucleonics Department News Bureau during March. The two stories were: the announcement of the new rotational training program and the notification that bids would be invited for the construction of certain water lines and waste disposal facilities at Hanford Works.

The news story concerning the new rotational program for technical graduates was the first of a series of news and feature articles to be prepared by the news Bureau for distribution to selected groups of media. The plans for publicizing this program include photographs and feature stories for college newspapers and magazines, engineering publications, and newspapers in university and college towns.

An interview was arranged for a representative of the Tri-City HERALD with the General Manager of the Nucleonics Department. The Division Head, Community and Public Relations, and the Supervisor of the News Bureau accompanied the reporter on the interview. An explanation of what has been done and what will be done to make Richland a more nearly normal town resulted in three stories and a photograph of the General Manager in the HERALD. The stories pointed out that considerable progress has been made toward normalcy and that, in view of the problems involved, future steps toward normalcy that are planned at the present time are about all that can be done.

Employee and Community Relations Division

"Employee Information" - Special Programs

Production of a Hanford Works NEWS Safety Supplement commemorating 100-D Area's third major injury-free year was completed by Special Programs during March. It was distributed to all employees in the March 17 issue of the WORKS NEWS. Special Programs activities included both the design and production of the booklet. This included arranging for photographs, writing of captions and copy matter, arranging for layout and art work through the Community and Public Relations Divisions artist, and arranging for printing through the Purchasing Division. The Safety Supplement was produced by the photo-offset method of printing by Bushong & Co. of Portland, Oregon. One of the photographs included in the supplement has been requested for use by "Candid Camera."

Preparation of the Nucleonics Department staff page of the new Hanford Works Organization Directory, and of the Employee and Community Relations Divisions page, was handled through Special Programs.

The Special Programs Supervisor attended three Employee Relations Divisions meetings which were called during March to determine a course of action in establishing some form of recognition for employees who have gone for one or more years at Hanford Works without an absence of any sort. At these meetings, it was determined that recognition should be made on a calendar year basis, and that all Hanford Works service time should be included. It was further decided that recognition should be given in the form of billfold cards to all employees having at least one year of service without an absence, and that each employee who achieves three years will be given a certificate. An employee who achieves five years would receive a lapel pin. Rough layouts of the proposed cards, certificates and the pin have been designed by the commercial artist.

Production of a poster to publicize a kite flying contest sponsored during March by the Community Activities Division was handled by Special Programs. This was at the request of the Community Divisions Public Relations Supervisor.

In line with Special Programs responsibility for publicizing the Health Topics of the Month, the March Health Topic, "Allergy", was publicized through Special Programs in the Hanford Works NEWS. Arrangements for photographs of a Safety Meeting in 100-F Area, at which the March Health Topic was featured, were arranged and published in the Hanford Works NEWS. A story on hay fever was also produced for the WORKS NEWS. The March meeting of the Health Activities Committee was attended by a member of the Special Programs staff in line with these responsibilities.

Special Programs plan for promoting the G. E. Employees Services Fund was started during March. Production and distribution of a letter concerning the Fund to all Hanford Works Supervisors from E. E. Callahan was handled by Special Programs. The first two WORKS NEWS stories concerning the proposed Employee Services Fund were produced through Special Programs, and succeeding Hanford Works NEWS stories were handled through the Hanford Works NEWS. It was necessary to arrange for the redesigning of the promotion poster, which is scheduled to be posted throughout the plant during April, due to one of the five participating service organizations, the National Foundation for Infantile Paralysis, choosing not to participate in the fund. Original and revised art work for this poster

was accomplished through the commercial artist. The posters will be produced in the plant printing section. Cover for the Portfolio of Information which was distributed to all Supervisors through the Training and Program Development Group, was designed by Special Programs.

In addition, both the Constitution and the By-laws for the proposed G.E. Employees Services Fund were reviewed by Special Programs, and a number of corrections and clarifications in the language were suggested. It originally was planned to publish the Constitution and By-laws in the March 31 issue of the WORKS NEWS. However, publication was held to a later issue, due to the fact that legal approval had not been obtained prior to that date.

At the request of the Employment group, twelve information books of photographs showing portions of Richland and of Hanford Works were produced. This included writing captions for each of the series of pictures, obtaining sufficient quantities of existing photographs, and arranging for new photographs to be taken where necessary. These books of photographs will be used by Hanford Works recruiters.

Special Programs also produced at the request of the Employment group a short summary of the G. E. Employee Benefit Plans which are available to employees at Hanford Works. This summary will be included in letters to prospective employees mailed by the Employment group.

At the request of the Technical Personnel Office, Special Programs arranged with the Records and Forms Control section for the developing of a Technical Personnel Record form to be used in the Rotational Training Program.

In attempting to develop an inexpensive method for reproducing photographic prints in quantity, Special Programs produced two photographs of technical instruments through the miltilith process in the 700 Area print shop. These were for Mr. W. J. Major of the Technical Services Division. However, it was determined that this method of reproduction would not be satisfactory, in that too much detail was lost. Consequently, the photographs required by the Technical Services Division will be produced in the 300 Area dark room.

Considerable time was spent by Special Programs during March in revising and arranging for production of Employee Benefit Fund statements which will be mailed to all Hanford Works employees during April. It was necessary to revise the standard form to conform with Employee Benefit plans and procedures at Hanford Works, and to arrange to have this form printed by a private printer. Special Programs also arranged for obtaining sufficient quantities of 9"x 12" first class G.E. mailing envelopes.

A letter dated March 29 to all Hanford Works Supervisors from H. E. Callahan was prepared by Special Programs. This letter requested Supervisors to inform Hanford Works employees whose children are attending nearby off-project schools to provide the parent's badge number, date of latest employment, and name of employer to the schools when requested. In addition, a letter to Personnel Managers of Hanford Works sub-contractors was prepared requesting that this information be passed along to subcontractor employees.

Employee and Community Relations Divisions

Special Programs handled the production and distribution of a letter from the General Manager to all employees concerning the manner in which certain of the 1950 census questions should be answered, from a security standpoint.

Special Programs assisted in the preparation of a letter from the Medical Divisions Manager informing all Richland doctors and dentists that they would enter private practice on May 1. Preparation of a news release to inform the public of the May 1 date was handled by Special Programs and released to the press by the News Bureau.

Through Special Programs, arrangements were made to include two corrections to the G.E. Group Health Insurance Plan Booklet which is being reprinted at this time.

During March, Special Programs assisted the Public Functions and Services Supervisor in the design and production of an Employee Relations visualizer.

"Employee Information" - WORKS NEWS

During the month of March, five issues of the WORKS NEWS were published. Telephone book supplements were inserted in both March 3 and 31 issues. The quantity of papers being published was increased from 7900 to 8000 copies.

Early in the month, the WORKS NEWS was advised of labor difficulties confronting the publisher, the Scott Publishing Co., Inc., Kennewick, Washington. A strike of the printers developed, and the March 10 issue was published under strike conditions. The paper was withdrawn at the publisher's request when it was realized that printing requirements could not be met.

At the request of the Purchasing Division, all specifications and requirements for the printing of the WORKS NEWS were submitted to them. The information was used as the basis for letters which were sent to all printers asking for their bids for printing the paper. The WORKS NEWS has since been advised that the Columbia Basin NEWS was the successful bidder.

Continuous front page stories promoting the Red Cross Drive were run during the month. Front page publicity was supplemented by an editorial and picture features in each March issue.

Advance publicity for a Security Slogan and Jingle Contest (to be run six weeks) was introduced. Current stories and pictures of winners were run in each issue throughout the month.

Constant reminders of plant safety were published in stories of the Transportation and Maintenance Divisions Safety Quiz Contest results and announcement of the Month's Safety Derby winner.

WORKS NEWS reporters were encouraged to contribute feature stories, in addition to regular columns, by playing up the stories with two-column

headlines. This was part of a program to present a more interesting page four and five through the use of more local feature stories on personalities within the plant.

Considerable time was devoted by the WORKS NEWS staff to familiarizing printers with WORKS NEWS style, and to becoming acquainted with the type founts of the new shop.

The proposed Employees Services Fund was announced in the March 17 issue and publicity containing more details of the plan were printed in that and subsequent issues. A safety supplement on 100-D Area's third major injury-free year was included in the same issue. The supplement was prepared by the Special Programs Section.

In cooperation with the spring clean-up campaign for the community an editorial and proclamation about the campaign were included in the March 24 issue. At the same time observance was made of the WORKS NEWS' third birthday in an editorial and editorial cartoon.

Furthering the safety program here, three articles from Safety Engineers were printed in the last three issues of the month. These articles were aimed to give a more interesting and varied presentation of safety on the Lifeline page.

More response was received on the relatively new "Can You Tell Me?" column during March. The entire editorial page of the March 31 issue was devoted to answering employees' questions on plant policy and various subjects of Hanford Works interest.

"Employee Information" - Women's Features

Two women's pages appeared in the Hanford Works NEWS during the month of March.

"Suzie Always Finds Time for Herself", a feature on grooming for the busy housewife and the business woman, appeared in the March 3 WORKS NEWS. It emphasized shortcuts to good grooming when time is scarce. "Foil Afire" warned housewives of the danger of using aluminum foil for certain types of cooking.

Spring fashion forecast, featuring line drawings from a syndicated feature service, was the feature on the women's page for March 24. The accompanying article emphasized the main points of Spring, 1950 fashions.

"What's Doing", a service feature in the WORKS NEWS publicized the following activities: "Love Rides the Rails", Inter-Mountain Alpine Club conditioner climbs, Orthopedic Guild dance and white elephant booth for their annual Christman Fair, volleyball tournament, Treble Clef Concert, and the Roving Bowmen archery club.

A special request was made to the National Needlecraft Bureau, who supply a free pattern service to the WORKS NEWS, for apron patterns for the

Employee and Community Relations Divisions

Orthopedic Guild Christmas Fair. Ten patterns were supplied to the Guild from this service.

"Share a Ride" appears each week in the WORKS NEWS as a service to readers requesting rides and riders for week end and vacation trips. During the month of March, 212 requests for riders and drivers were received for the following destinations: Spokane, Seattle, Portland, Yakima, Walla Walla, LeGrande, San Francisco, Los Angeles, Denver, Chicago, Grandview, Wenatchee; Laramie, Wyoming; Lansing, Mich.; Abilene, Tex.; Kansas City, Mo.; Birmingham, Ala.; Casper, Wyo.; Mason City, Ia.; Wilkes Barre, Penn.; Peoria, Ill.; Tennessee, West Virginia, North Carolina, Michigan, Texas, and Louisiana.

Community Divisions Public Information

In an effort to keep residents from becoming alarmed at the apparent lack of community recreation facilities for Army personnel stationed near Richland, the Supervisor, Community Divisions Public Information, continually urged Community Divisions' supervisors to do all they could to promote the provision of recreation facilities.

The local Red Cross Chapter now is setting-up a U.S.O.-type canteen, and other community organizations are becoming active in establishing recreational programs for Army men.

Three form letters aimed at gaining residents' goodwill, and a booklet on houses and their upkeep will be prepared by the Supervisor, CDPI, for for the Community Housing Division. This results from the "Public Relations Suggestions for the Housing Allocation Section" drawn-up and presented by the Supervisor, CDPI, last month.

An outline for the Community Manager to follow in discussing the Richland Town Plan, at the time of its release to the newspapers, was prepared by the Supervisor, CDPI. Some of the questions likely to be asked by reporters, together with the answers, were attached to the outline. (The Plan was presented to newspapers at a press conference held March 21.)

The Community Council meetings of March 1 and 13 were attended by the Supervisor, CDPI, in order to keep abreast of activities and proposals. The subjects discussed at this meeting were verbally reported to the Division Head, Community and Public Relations, for his information.

The Superintendent of the Community Public Works Division was informed by the Supervisor, CDPI, of the Community Council's views on the proposed change in garbage pick-up days. He was told that at the Council's March 13 meeting, the Public Health Committee frowned on the idea of collecting garbage only once weekly during the Summer. The Supervisor, CDPI, suggested he contact the Public Health Committee Chairman for further discussion and possible clarification of the subject.

The CDPI Supervisor wrote Francis R. Line, lecturer, offering him assistance and cooperation in filming his lecture subject, "Columbia River Country". Mr. Line expects to visit Richland in April to start production on his film.

Employee and Community Relations Divisions

A campaign designed to publicize a radio safety interview with a community and plant bus driver was planned and followed through by the Supervisor, CDPI. Here's how the campaign developed:

Before the broadcast

1. News story in local papers announcing the interview (topic, participants, time, etc.)

2. Radio spot announcements urging listeners to tune in the broadcast

3. Memorandum to bus driver's division for posting on bulletin board

After the broadcast

1. News story announcing interview was held

2. Picture of bus driver and interviewer in the WORKS NEWS

3. "Thank you" letter from Community Manager to bus driver

4. "Thank you" letter to radio station

A publicity campaign aimed at getting residents to participate in the annual "Clean-up Week" was suggested to the Community Fire Division by the Supervisor, CDPI.

A publicity campaign directed at promoting the annual "Easter Egg Hunt" was suggested to the Community Activities Division by the Supervisor, CDPI.

A report of the material mailed to community leaders was prepared by the Supervisor, CDPI, for the Division Head, Community and Public Relations Division.

Information on the activities of the Community Divisions was gathered by the Supervisor, CDPI, and passed along to residents through news stories released by the News Bureau and WORKS NEWS.

The Supervisor, CDPI, attended all of the Community Divisions staff meetings, as a means of maintaining close liaison between the Community Divisions and the Community and Public Relations Division. At each meeting, this supervisor reviewed the actions he had taken toward winning the goodwill of residents for the Community Divisions, and noted, for future action, the community relations problems presented during the meeting.

Public Functions and Services

Arrangements were completed for a speaking engagement of the Division Manager before all of the Senior and Junior Classes of Columbia High School in Richland on March 10, 1950. The talk, "Preparing for Business World Contacts," included personnel problems and opportunities at Hanford Works for summertime and full-time employment. Discussion period followed and served to clarify some questions the students asked.

Employee and Community Relations Divisions

A request was received from the Richland Rotary Club for a speaker from General Electric Company for their Tuesday Luncheon Meeting, March 14. This engagement was handled by C. P. Cabell whose subject was, "At Work with the Atom," and concerned some of our preventive measures in isolating contaminating features from our waste materials. The talk was well received by the Rotarians. A recording was made and a text of it is being prepared by Public Functions.

Arrangements were made and completed by Public Functions for the speaking engagement made by R. E. Curtis of Technical and Education Matters group before 150 members of Benton City Parent-Teachers Association on March 21. Subject matter included "Education Opportunities at Hanford Works for Project Personnel."

Letters of appreciation were received from Mrs. H. E. Woodruff, Secretary of the Benton County P-T.A. and Mrs. R. D. Thomas of Rosalia P-T.A., where the Division Manager spoke recently before a representative group.

A request was received from Community Safety Division to stage a radio interview at Radio Station KWIE on Traffic Safety with Harold Jones, representing the bus drivers in the Transportation Division. A script was written and prepared for this activity and rehearsals held with Mr. Jones for the presentation.

Early in the month the Community Activities Division requested that Public Functions stage a presentation before the student body of John Ball school at North Richland on the announcement of the Kite Flying Contest held on March 25. A routine was written, developed and presented by the Supervisor. Spot announcements for radio on this feature were also written.

Public Functions was represented on the Judging Committee for the current Security Slogan Contest and attended regular meetings, held in conjunction with this activity for selection of winning entries.

Additional staging was required for Kodachrome slide film "retakes" on the current production being prepared for Security Division. "On Location" attendance and direction was required of Public Functions in completing this last phase of photography.

The Public Functions Supervisor attended a committee meeting of the Nucleonics Department Safety Council with the Special Programs Supervisor and advanced several suggestions for entertainment during the forthcoming Safety Fair. These suggestions were made on the basis of employing local talent, rather than importing assistance, in order to save the attendant expense of the latter. Following a council meeting with management we will be advised of the decision.

A visitation was made to the Chalk River, Canada conference on Technical Matters by R. K. Bollinger of Hanford Works Instrument Division. In connection with this Public Functions obtained formal clearance on the text being used and handled other attendant details.

The Public Functions Supervisor completed assignment as Employee and Community Relations Divisions Chairmen of 1950 Red Cross Fund Campaign. Team captains were selected from the various groups. Final tallies revealed the Divisions exceeded quota; 105%, actually.

Employee and Community Relations Divisions.

Sixteen G-E films were procured for showings to various groups making requests. Among the organizations were the following:

Richland School System
Power Division - 100-F and 100-D Areas
G.E. School of Nuclear Engineering
Technical Divisions

A special assignment was completed for the preparation of a Visualizer Presentation of the 1949 Accomplishments and 1950 Objectives of Employee and Community Relations Divisions to be given by the Division Manager at the Atomic Energy Commission Personnel Panel, Knolls Laboratory, Schenectady, New York on April 4, 5 and 6. Each Division and Group was approached for material to be used in conjunction with this assignment, the script was prepared, layouts produced for sign shop guide, and all details for the reporduction of visualizer charts by the Design Division Reproduction Section were completed. Special Programs handled the liaison work on sign shop preparation and through the courtesy of the News Bureau assistance was rendered for the preparation of the script. Collating work was handled by the employees in Investigation Files. The objective was attained in the final presentation of a twenty-six page, size 18" x 24" visualizer and 44 page script, size 8 1/2" x 11" (including miniature ozalid reproductions of visualizer charts, graphs and illustrations). Thirty-five booklets of the foregoing items were prepared for distribution by the Division Manager following the formal presentation. A preliminary presentation was made by the Division Manager to the Executive Vice-President of the Company and preliminary presentations were made by the Public Functions Supervisor to the Employee and Community Relations Divisions Heads and their staffs. This presentation was prepared on the basis of utilizing it for local showings at a later date. The duration of the showing is estimated at 40 minutes although additional time may be taken for a more detailed explanation of the contents.

Assistance was rendered in the preparation of the 100-D Area Safety Supplement inserted in the March 17 issue of WORKS NEWS. Photography layout and cartoons were prepared by the Commercial Artist. In addition, the artist also prepared the following:

Monthly Safety Poster
Monthly Suggestion System Poster
Kite Flying Tournament Poster
Employees Services Fund Poster
Supervisor's Association Identification
S-A-G-E Letterhead Drawing
Weekly Editorial and Security Cartoons
Hanford Works Map Change
Sketches and Art Work for Visualizer Presentation
84 Identification Cards for 40-Hour Training Program

Photo House

Considerable activity was noted this month, especially the increase in number of prints requested over and above the normal scope. Some of the factors responsible for this increase included Photographing, entirely, the new shopping district for the News Bureau, and the heavy equipment warehouses for Transportation Division, to assist them in preparing justifications for new warehousing facilities (this last item entailed aerial photography).

Employee and Community Relations Divisions

Special photos were made for Special Programs in their preparation of interest material for recruitment books. The increase amounted to 547 size 8" x 10" photos over the previous month (February).

The number of identification photographs increased 2,002 over the month of February. This was occasioned by the requests from Health Instrument, Patrol, Technical and Transportation Divisions to supply them with these Photo badge type prints for use in their personnel folder identification systems. Present indications are that this will also be solicited by other Divisions.

Some unusual high-speed photography was accomplished by the Photo House Supervisor for Technical Divisions on research and development work. This, together with the sharpness in detail procured in aerial photography is especially noteworthy, and demonstrates versatility in extending unusual services to all divisions at Hanford Works.

One new employee was added to the Photo House staff this month - a Photographic and Reproduction "D" photographer and photo laboratory male employee. This man was formerly employed at Hanford Works and is somewhat acquainted with our practices and procedures which eliminates some of the training normally required. He will be employed in the photo laboratory practically 90% of the time and will do emergency photography when needed.

Hanford Works Photo House Production during March, 1950

DIVISIONS	TYPE OF PRINTS									
	8"x10"	5"x7"	2"x4"	2"x2"	Negatives	Color Slides	Prefab. "A" Badge	PH-28	Laminated	Motion Pictures
EMP. & COMM. REL.										
EMPLOYMENT			430	4104	280		430	162	29	
COMM. & PUB. REL.										
SPECIAL PROGRAMS	96				6					
NEWS BUREAU	287				37					
WORKS NEWS	164				155					
PUBLIC FUNCTIONS	28									
COMMUNITY ENGINEERING	70				48					
FIRE PROTECTION	2				2					
TECH. SERVICE DIV.						28				
DESIGN & CONSTRUCTION	124				15					
STORES DIVISION	32				6					
TRANSPORTATION	14									
TECHNICAL & EDUCATION	70				15	8				
MEDICAL	15				43					
TECHNICAL DIVISION	101									
AEC SAFETY	10				107					
PROJECT ENGINEERING	113									
TOTALS	1126	0	430	4104	714	36	430	162	29	0

NEGATIVES	714
PRINTS	5660
PHOTO ASSIGNMENTS	66

COMMUNITY DIVISIONS

SUMMARY-MARCH, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll:	Beg.of Month	End of Month
Community Administration	6	6
Community Accounting	26	26
Community Public Works	416	431
Community Safety	3	3
Community Commercial Facilities	15	15
Community Housing	40	41
Community Fire	128	104
Community Patrol	84	84
Community Activities	12	12
	730	722

Changes in the force of the Community Divisions during the month of March, 1950, were as follows:

	Reduced	Increased
Community Administration	-	-
Community Accounting	-	-
Community Public Works	-	15
Community Safety	-	-
Community Commercial Facilities	-	-
Community Housing	-	1
Community Fire	24	-
Community Patrol	-	-
Community Activities	-	-
	24	16

The total was reduced by eight employees during the month of March, 1950.

GENERAL

Pending applications for housing increased by twenty-three per cent, from 203 to 261.

Four new commercial facilities opened for business.

Community Fire Division began operation on a two platoon system as of March 20, 1950.

The United States Chamber of Commerce notified local Chamber of Commerce officials that Richland had won second place in the nation for cities of 20,000 to 50,000 population in its 1949 Fire Waste Contest with an honor certificate to be awarded at a later date.

Nineteen employees were added to the Public Works rolls in order to meet the requirements of seasonal grounds maintenance work.

MTBinns/jak
4/11/50

COMMUNITY DIVISIONS
PUBLIC WORKS DIVISIONS
MARCH, 1950

ORGANIZATION AND PERSONNEL

	EXEMPT	NON-EXEMPT	TOTAL
Number of employees on payroll:			
February 28 1950	58	358	416
March 31, 1950	58	373	431

Personnel changes made during month:

New Employees	19
Transfers from Community Fire	5
Transfers from Power	2
Transfers from Minor Construction	1
Transfers to Housing	2
Transfers to Minor Construction	4
Transfers to Power	2
Terminations	1
(One termination of employee who has been on Leave of Absence since 10-31-49)	
Leave of Absence	3

GENERAL

It is anticipated that during the first week in April some mowing of public areas will be started. The repairs and relocation of the irrigation canal will be partially completed by the Contractor to allow irrigation water to be turned into that section by April 17, 1950. To meet this requirement for grounds maintenance work, the Labor Section of the Operating and Maintenance Division has increased their personnel by 19 people.

The new Elgin street sweeper was put into operation on March 29 1950. It is anticipated that considerable improvement in appearance of Village streets will be noted in the near future In conjunction with this program of improving Village streets the Roads and Streets Maintenance is being taken care of as rapidly as weather will permit.

The interior paint program is continuing in the southern part of the prefab area This painting is preceded by foundation repairs and other necessary interior repairs.

PROJECTS

C-203-III.- Water Supply & Sewage Facilities for Richland Village and North Richland Construction Camp - Bailey Plumbing & Heating Company has been named as the successful bidder on work at the Sewage Treatment Plant Notice to Proceed has been given, and Bailey will start to work during the week of April 3 1950. Work such as the retaining wall between the clarifiers is complete along with grading between Sewage Treatment Plant and George Washington Way.

PROJECTS (Contd)

C-282-R - Richland Community Dust & Pollen Program - Field release (6) was prepared and issued.

Construction of the By-Pass Shelterbelt is progressing fairly satisfactorily. Work is behind schedule due to breakdown of equipment. However, should cool weather continue for two or three weeks commitments of the project will be met.

Grass seeding is deferred until the season for planting trees has passed. It is anticipated that work will be started in this part of the project sometime the latter part of May.

No rye seeding has been done thus far this spring due to the fact the seeding equipment is broken down and parts have not arrived for repairing. Areas which will be seeded to rye will be those areas that can be irrigated.

During the month 12 new streets were staked for street trees. Trees were planted for tenants who had dug holes. In addition some trees were planted to replace dead trees on other streets. Total plant this month, 832 street trees, making 2,247 trees for the season.

27 dwarf evergreens and 82 shrubs were planted at the Municipal Building, Patrol Buildings and the Public Health Building.

C-232-Part II - Construction of Robert Gray Jr. High School - Specifications covering contract work incidental to the execution of this project was given to contract portion of the Public Works Divisions. Necessary plans for the execution of the work covered by this project are complete.

C-233-R - Part II - Construction of Spalding School - Specifications covering contract work incidental to the execution of this project was given to contract portion of Public Works Divisions. Necessary plans for the execution of the work covered by this project are complete.

C-348 - Cover Administration Building with Asbestos Siding and Paint Trim - Field release (1) was issued 3-21-50. The subcontractor started work 3-23-50.

C-351-R - Installation of Irrigation System - Public Grounds - Specifications covering contract work incidental to the execution of this project was given to the contract portion of Public Works Divisions. Necessary plans for the execution of the work covered by this project are complete.

Construction of the irrigation system for the shelterbelt is approximately 50% complete Work is satisfactorily completed with the exception of proper excavation of ditches to receive laterals and bubblehead assemblies. Field adjustments have been necessary in order to keep the work moving.

C-356 - Recreational Facilities - Equipment for Schools and Public Parks - Project Proposal was revised and re-issued 3-28-50.

C-357 - Additional Capacity of Richland Sewage Lift Station - Drawings were received from Project Engineering and checked for approval. These drawings have been reproduced and are being submitted for materials procurement. Specifications have been submitted for review by Contract Section. It is scheduled that this project will be given to Contract Section for letting to bidders this week.

Community Public Works Divisions

PROJECTS (Contd)

C-359 - Duane Avenue Improvement - Specifications were written and presented in rough draft to Contract Section. These were returned and comments with suggestions were incorporated into the final draft

C-363 - Rehabilitation of Prefabs - This project was approved by A&B Committee and sent to AEC 3-10-50.

C-367 - Moving 10 Prefabs from Columbia Camp to Richland - This project was approved by A&B Committee and sent to AEC 3-10-50.

"S" PROJECTS

S-148 - North Richland Fire Station Alterations - Prints and work order was issued 3-29-50, to install desert cooler and duct system

S-149 - Fire Station #2 - Final inspection was held 3-22-50 and was accepted with minor exception which will be cleared up immediately. Request to close project was prepared

S-216 - Rehabilitation of Irrigation Ditch - Request was made to move "shack" 3-22-50. Field release #2 was issued Subcontractor started work 3-29-50.

S-229 - Furnace Cleaning, Conventional Houses - Inspection was made 3-17-50. Official inspection report was prepared and cost report issued. Approximately 10% complete.

S-240 - Prefab Roof Maintenance - Contractor completed prime coat and is now placing aluminum coating. 40% complete.

S-258 - Re-roofing B.O.Q. dorms - Rough draft of specifications was made 3-16-50.

S-269 - Fencing Water Recharge Basins - Rough draft specifications were revised.

S-290 - Traffic Control Signals - Final specifications prepared 3-28-50 Drawings 90% complete.

S-311 - Remodeling 722-A Building - Rough draft for specifications were revised 3-28-50.

ENGINEERING DIVISIONS

Organization and Personnel

Number of employees on payroll:	EXEMPT	NON-EXEMPT	TOTAL
February 28, 1950	17	12	29
March 31, 1950	17	12	29

Miscellaneous

The following routine items were processed during the month:

Purchase Requisitions	78
Store Stock Requests	5
Store Stock Adjustment Requests	5
Purchase Orders Expedited	21

Miscellaneous (Contd)

Frequent vendor contacts were made during the month to secure information on materials to be used in future projects and maintenance work. Some contacts were made at the request of the Housing Division.

One member of Community Engineering attended the Street Lighting Convention in Seattle, Washington March 21, 22 and 23 1950.

The following number of jobs were completed on continuous engineering service requests:

ESR #97-CH - Elec. & Struct. Insp.	20
ESR #98-CH - Alteration Inspections	1
ESR #100-CH - Back Charge Estimates	15
ESR #115-CF - Back Charge Estimates	1
ESR #118-CF - Approved Alteration Permits	4

The following Engineering Service Requests were completed or cancelled:

Job No.	Description	Date Completed
17-CH	Renovation of Tract House NN-1040	3-1-50
35-CF	Roof Specifications - Commercial Facilities	3-1-50
51-PW	Additions and Alterations 1182 Bldg.	3-10-50
56-CH	Municipal Bldg., Alterations for Tenant Service	3-28-50
92-CA	Landscaping of Spalding Grade School	3-15-50
195-CA	Fire Alarm System - Spalding School	3-27-50
253-CH	Conversion of Dorms to Apartments	3-28-50
280-CF	Stone & Garmo Food Store	3-15-50
286-CH	Concrete Service Walks	3-15-50
322-PW	Irrigation - Carmichael School	3-10-50
323-PW	Irrigation - Spalding School	3-10-50
326-PW	Water Check Valve - 300 Area	3-8-50
327-CA	Elec. Charge-Marine Corps League & Nazarene Church	3-9-50
337-PW	Facilities for New Housing	3-7-50
357-CA	Installation of stoker, Fire Station #2	3-24-50
359-CA	Relocation of Church Building at Hanford Free Methodist Church	3-24-50

Miscellaneous (Contd)

Technical information and instructions were furnished the following prospective facility operators, clubs churches, and schools.

Addition to Gerdes' Union Oil Service Station
Addition to Anderson Chrysler Motors
Addition to Ernie's Restaurant
Addition to Davis Furniture Store
Proposed American Legion Building

As built drawings for Commercial Facilities were reviewed and letters of exceptions were written on the following facilities:

Hughes Apparel
Tri-City Herald
Densow Drug
Mobiloil Station
Union Oil Station
EJ Hanson's Shop Group

The status of Commercial Facility Sponsored Construction is as follows:

Theater - Construction started 12-14-49 - 35% complete

National Bank of Commerce - Construction started 10-31-49 - 95% complete (Bldg. in use)

Deymonaz - Construction started 9-16-49 - 99% complete (Bldg. in use)

Diettrich Food Store - Construction started 11-3-49 - 95% complete (Bldg.in use)

Barnhart's Bakery - Approved 8-29-49 - Awaiting information

Kaiser & Johnson Food & Drug - Construction started 10-17-49 - 99% complete (Bldg. in use)

Cascade Radio Station - Awaiting information

Multiple Business Building - Construction started 11-2-49 - 99% complete (Bldg. in use)

Morgan & Olberg Drugstore - Approved 10-18-49 - Awaiting detailed plans

Ellis Photographic Studio - Construction started 2-28-50 - 60% complete

Stone & Garmo Food Store - Cancelled 3-15-50

Super Food Market - Approved 3-30-50 - Awaiting detailed plans

Playland Park - Reviewed 3-30-50 - Awaiting start of construction

Spencer-Kirkpatrick - Approved 3-27-50 - Awaiting start of construction

Community Public Works Divisions

Miscellaneous (Contd)

The status of Community Activities Division Sponsored Construction is as follows:

Latter Day Saints Church - Construction started 2-5-49 - 85% complete

South Side United Protestant Church - Construction started 11-5-48 - 99% complete

Richland Baptist Church - Construction started 11-27-48 - 99% complete

Assembly of God Church - Plans approved 10-19-49 - Awaiting information

Church of Nazarene - Construction started 4-12-49 - 99% complete

Church of Christ - Construction started 12-19-49 - 75% complete

Swimming Pool Association - Awaiting information

Christian Science Society - Awaiting information

Catholic Church Site - Awaiting information

Northwest United Protestant Church - Preliminary plans approved 3-8-50 - Awaiting detailed plans

Westside United Protestant Church - Preliminary plans approved 10-14-49

First Baptist Church - Preliminary plans approved 3-22-50

Episcopal Church - Awaiting information

Central United Protestant Church - Awaiting information

The status of School Construction is as follows:

Chief Joseph School - Building permit issued 1-31-50 - Awaiting start of construction.

New Elementary School - Awaiting information

Conversion of Village Food to School Administrative Office - Construction started 11-15-49 - 100% complete

School Agricultural Building - Construction started 3-6-50. Work is progressing and is now 30% complete.

Alteration Permit Progress is as follows:

Facility	Description	Approved	Remarks
Robley Johnson Studio	Alteration to Dark Room	9-20-49	Work Stopped
New City Cleaners	Install gas pump & storage tank	11-23-49	95% complete
Diettrich's Food Mkt.	Install Neon Sign	1-9-50	95% complete

Community Public Works Divisions

Miscellaneous (Contd)

Alteration Permit Progress (Contd)

Facility	Description	Approved	Remarks
Laundryland	Install Neon Sign	2-6-50	95% complete
The Mixer	Install Neon Sign	2-15-50	95% complete
The Bootery	Install Neon Sign	2-28-50	95% complete
Dick & Jerry Fine Food	Install Neon Sign	2-6-50	95% complete
Natl.Bank of Commerce	Install Neon Sign	2-8-50	80% complete
Garmo's Food Store	Relocate Neon Sign	3-27-50	Awaiting start of alterations
Henson Building	Remodel to include Spudnut Shop	3-29-50	100% complete
The Mart	Alter. Elec. System	12-6-49	90% complete
The Mart	Install Air Conditioning Evergeen Lounge	3-28-50	95% complete
The Mart	Structural Alterations	10-5-49	90% complete
The Mart	Install new doors	3-24-50	Awaiting start of alterations
Columbia Service	Install Neon Sign		Awaiting plans

Leased areas were surveyed and plot plans prepared for the following:

Super Food Market and Spencer-Kirkpatrick Insurance Agency

The following leased areas were staked, or re-staked:

Playland Park
Morgan-Olberg Drug
Central United Protestant Church - re-staked
Redeemer Lutheran Church - re-staked

Tract House J-708 - All field work is complete except backfill of tile field and septic tank. Final inspection is scheduled for April 7, 1950

New Hydrants - Design drawings and work orders were issued to the field. Work is being held pending excavation equipment.

Work Done on Streets and Storm Sewers:

An all out two-day patching program was launched using material direct from Hot Pre-mix Plant, however the plant has completed its work and is closed for several weeks.

Community Public Works Divisions

Miscellaneous (Contd)

Work done on grounds maintenance is as follows:

Some sand drifting is still being experienced even though considerable work has been done towards its control. Irrigation of blow areas will continue until ground cover has grown to the point where it will hold down the sand.

Problems of insect control on street trees has been discussed and preliminary plans are being made in the event an infected area shows up.

Riverside Park, and Marcus Whitman School ground will be considered routine maintenance until the construction of a new irrigation system is complete.

Work done on Irrigation is as follows:

No work was done during the month on maintenance problems, with the exception of scheduling of equipment when irrigation maintenance starts, in order to avoid misplacing equipment. It was felt that such matters as pipe size, pressure and areas involved should be carefully considered before equipment is taken into the field.

The following inspections and acceptances were made during the month:

Desert Inn Driveway
Parking lot north of Post Office
Sidewalk along west side of Post Office
Parking lots west of Bank and Mickey's Shoe Shop
Parking compound between Thrifty Drug and Andersons
Paving at Sewage Disposal Plant
Pavement at Spalding School
Parking compound at McMurray Road & Geo. Washington Way

Report on garage building is as follows:

During the month of March, three building permits were issued to the Community Housing Division. Field inspection for the location of garages has been made and field inspections of garages under construction were made.

OPERATION AND MAINTENANCE DIVISION
MAINTENANCE SECTION

Organization and Personnel

Number of employees on payroll:	EXEMPT	NON-EXEMPT	TOTAL
February 28, 1950	19	189	208
March 31, 1950	19	185	204

8.

Community Public Works Divisions

MAINTENANCE SECTION

Organization and Personnel (Contd)

Personnel changes made during the month:	EXEMPT	NON-EXEMPT
Transfers to Minor Construction		2
Transfer from Minor Construction		1
On loan to Minor Construction		1
On loan from Minor Construction		1
Terminations		1
Leave of Absence		2

Miscellaneous

A total of 48 vacant houses were renovated during March, 35 of these being conventional houses, and the remainder (13), prefab houses. These orders involved 44 complete interior paint jobs 1 partial paint job and miscellaneous repair and cleaning as needed to bring these houses up to the accepted standards. There are 33 outstanding renovation orders on hand at the close of the month.

The interior house painting program has continued in Division V and the South end of prefab area and has resulted in the completion of 26 conventional and 34 prefabs.

A total of 44 work orders for re-painting of walls, damaged by water leaks during winter months were completed.

Walls and ceiling of "The Mart" kitchen were painted during evening hours on a back charge basis, along with cleaning of exhaust fans and hoods and duct work.

Spray painting of fire hydrants is progressing as weather permits.

The interior of 649 Cottonwood was completely painted, this work being necessary to correct smoke damage caused by faulty furnace. The furnace had been back-drafting smoke into utility room and drawing this smoke through opening under air circulation fan and thence through ducts and into rooms.

Floors were sanded and finished in 18 houses, and spot painting was done in 63 houses this work varying from small areas to near complete rooms.

Major remodeling of Tract House J-708 was completed.

All work at 645 Cottonwood, which house was severly damaged by fire has been completed with exception of installation of multi-breaker service panels, which have not been received from vendor.

A sample installation of transite skirting around bottom of prefab was made at 909 Smith. It is intended that this will enhance the appearance and minimize freezing of water and sewer lines under the house.

Miscellaneous (Contd)

Carpentry labor necessary to prepare for shipment 106 railroad carloads and 81 truck loads of excess material and equipment was furnished to Purchasing and Stores Division.

Foundations of 7 precuts and 37 A&J Houses were jacked up and shimmed as necessary to level floors and repair work was performed on foundations of 27 prefabs.

Faulty concrete bath tubs were replaced with metal bath tubs in 28 locations. "Tyle-Bord" was installed around these 28 new tubs, and in addition was installed in 58 bathrooms where it was not necessary to replace tubs, making a total of 86 "Tyle-Bord" installations.

Overhaul of domestic well pump #4 was completed and work is now in process on #14 well. The annual overhaul of irrigation system pumps is about 50% complete.

The new illuminated destination signs and holders which are now in service on Village busses were designed and fabricated and installed by Maintenance Section during March.

Repair work on Pasco Warehouse fire doors is 95% complete, only minor adjustments and checking remaining to be done.

Annual re-padding and servicing of evaporative coolers is in process, work in dormitories being about 50% complete and 700 coolers about 10% complete.

An experimental installation of a combination of a radiant and circulating heating system has been made in one of the diesel busses which service the process areas and indications are that the system is very successful. In addition to fabrication and installation, this section also supplied some of the design information.

Installation of a main header and bubble-head irrigation system along Duportail Street was completed, and installation of a bubble-head system for the shelter belt near Cottonwood Avenue is approximately 50% complete.

Housing Division has accepted a suggestion from this Maintenance Section which will eliminate a paint problem over lavatories in A&J houses bathrooms. This suggestion was that a piece of tile-board be installed on wall over these lavatories (which do not have a rear splash guard) at same time that tile is installed in shower recess, thus eliminating two paint maintenance problems at one time.

A listing of miscellaneous work completed during March includes the replacement of 19 water heaters, 17 laundry trays, 16 kitchen sinks, 3 toilets, 4 lavatories, 14 prefab top and waste valves; repair or replacement of linoleum on 89 floors and 67 kitchen sink boards; repair of 12 screen doors, 249 roofs; repair and refinishing of 34 chairs, 23 dressers, 10 tables, 1 night stand, repair of 28 Kv chairs; upholstery of 1 daveno, 3 rockers and 14 chairs; the lining with celotex of 15 prefab utility rooms; replacement of 128 faulty prefab light fixtures; and the caulking, sealing of linoleum, and installation of more satisfactory linoleum edging, around 100 kitchen sinks; this last mentioned job being a preventive measure to extend life of the linoleum and plywood under linoleum.

Miscellaneous (Contd)

The Service Order Group completed a total of 2756 Service Orders during the month, 94% of this work being done for Housing, 3% for General 2% for Concessions, and 1% for Public Works. Service Order crew was decreased by 4 men.

Orders for oil and coal furnace repair dropped off to a point that it was possible to remove the mechanics assigned to this work from the Service Order group at the latter part of March. This work is now handled on an "as-needed" basis.

The following is a status report of Service Orders:

On hand at beginning of month	381 orders
Received during month	2577 orders
Completed during month	2756 orders
On hand at end of month	202 orders

UTILITIES SECTION

Organization and Personnel

	EXEMPT	NON-EXEMPT	TOTAL
Number of employees on payroll:			
February 28, 1950	9	56	65
March 31, 1950	9	56	65

Personnel changes made during the month:

Transfers to Power Division	2
Transfers from Power Division	2
Terminations (Formerly shown on leave)	1

Steam Facilities

The daily peak boiler loads necessitated keeping three boilers in service at the central steam plant. Some minor repairs were made to the coal elevating system. Boiler #2 was put in service and boiler #1 taken out of service to facilitate repairs to the boiler flow meter.

Central Steam Plant

Steam Generated	29,445 M. lbs.
Steam Sent Out	25,358 M. lbs.
Coal Consumed	4,530 M. lbs.

Domestic Water

The north open reservoir at 1182 area was drained and cleaned. Approximately 25 cu. yds. of sand were removed from this reservoir. This cleaning was necessitated by the rapid algea growth that started immediately after previous cleaning during the latter part of February. After the reservoir had been thoroughly cleaned, it was rinsed out with a strong dosing of copper sulphate. When reservoir was returned to service, chlorination of influent water for algea growth control was commenced.

Domestic Water (Contd)

Routine maintenance and overhaul work on wells and booster pumps in preparation for increasing water consumption is progressing satisfactorily. With some increase in consumption, it was necessary to operate two well pumps in the 3000 Area field during the latter part of the month. The water table in this field is rather low, but water to fill the recharge basin is expected to be available very soon.

Operation of the river pump to fill the recharge basin at Columbia Field was started March 29 1950.

The #2 elevated water storage tank was drained, cleaned and inspected. The inspection revealed that some pitting and corrosion was taking place in the top part of the tank where the water level fluctuates. The condition of the remainder of the tank was good.

Domestic Water System

	Well Production Million Gallons	Avg. Daily Production	Total Consumption Million Gallons	Avg. Daily Consumption
Richland	107.1720	3.4572	90.5128	2.9198
North Richland	1.1725	0.0378	21.5563	0.6954
Columbia Field	42.8432	1.3820		
300 Area			34.6863	1.1189
	151.1877	4.8770	146.7554	4.7341

Sewage System

Approximately 70,000 gallons of sludge has been drawn from the new digesters to the drying beds. This is the first finished sludge to be taken from the new digesters, and the tests indicate the sludge is thoroughly digested. It is quite free from offensive odor.

Work on Project C-302, Part III, at the Disposal Plant that is being done by Project forces is progressing very well. Several items have been completed, others are in progress.

Some emergency repairs were necessary on a check valve on a pump at the sewage lift station. The check valve seat had worn loose from valve body by continuous hammering when valve closed and was forced into valve body holding check open. Repairs were made by braising valve seat in position.

Sewerage

	Total Sewage Flow Million Gallons	Average Daily Flow Million G.P.D.	Average Rate Flow Gals.Per Min.
Plant 1	27.000	0.8710	605
Plant 2	43.400	1.4000	972
	70.400	2.2710	1577

Utilities (Contd)

Pasco Warehouse Area

An excavation of about 24" has been made around pilings at the river pumping station. Further inspection to determine the conditions of piling and necessity of repairs will be made very soon.

Irrigation Systems

Considerable cleanup work and repairs have been made to irrigation pumping stations in preparation for putting the systems in service.

LABOR SECTION

Organization and Personnel

	EXEMPT	NON-EXEMPT	TOTAL
Number of employees on payroll:			
February 28, 1950	9	99	108
March 31, 1950	9	118	127

Personnel changes made during the month:

New Employees	19
Transfers from Community Fire	5
Transfers to Community Housing	2
Transfers to Minor Construction	2
Leave of Absence	1

Miscellaneous

The garbage and refuse collection continued as usual with the residential trash collection Wednesday of each week. Fivemen used each Saturday on garbage and trash removal from Commercial Facilities and Stores. Two complete collections of garbage were made each week in residential area during March.

Fifty per cent of all Public Areas have been thoroughly cleaned prior to starting watering and mowing for the 1950 season.

All orchards are ready for discing and watering.

Preparation and maintenance work on the Village ball fields started during March.

Group of twelve men and one foreman used five working days on the preparation of the canal system.

During March shrubs and evergreens were moved from the Columbia Camp.

832 street trees were planted during the month. 484 of various types of shrubs and trees were planted in the Shelter Belt on the By-Pass Highway. 27 evergreens and 82 mixed shrubs were delivered to the Municipal Building, Patrol Headquarters, and the Public Health Building.

Community Public Works Divisions

Labor Section (Contd)

Miscellaneous (Contd)

The handling of Government and personal furniture continued during March. Nine lots of personal furniture were handled this month. The above group was used on Grounds Maintenance during their slack periods.

Approximately twenty work orders for excavation and backfill have been completed this month. The major excavation jobs included installation of sewer and water at Tract House L-928, the completion of sewer and water service to the new church at Thayer and Swift, excavation for water service to Chief Joseph Junior High School and excavation for water service at Carmichael Junior High. Several other small excavation and backfill jobs have also been completed.

Irrigation water will be started in the ditch Monday, April 3, but will only be run into the 3000 Area Well Field at present. Water to the town pumps cannot be furnished until the contractor completes the ditch change at Columbia High School. However water can be supplied to No. 3 Pump after the 3rd of April if it is desired.

Road and street maintenance has progressed favorably, but due to cold and damp weather the first of the month, patching did not get under way until last week. Use of Hot Mix from the contractor's plant two days helped considerably in getting the holes filled.

One blade operator has been on grounds maintenance all this month. Another blade operator has been on the ball diamonds part of the time. The project of grading at the Sewage Disposal Plant has been completed.

The new Elgin street broom was put into operation March 29, 1950 The broom is doing a satisfactory job of cleaning city gutters and as this work progresses, it is hoped to keep the streets in better condition.

Materials used this month:

Pre-mix on street maintenance	49 tons
Hot mix from contractor	36.3 tons
3/4 Minus crushed gravel	537 yds.
Sand used to shade sewer lines	8 yds.
Bitumuls	9 barrels
Pit run material on Work Orders	1990 yds.
Concrete on railroad crossing signs	6 yds.
Cross ties on parking lots	52 ties

Material to yard:

HX Bitumuls received	40 barrels

Equipment Tie-Up for repairs 744 hours

COMMUNITY COMMERCIAL FACILITIES DIVISION

March, 1950

ORGANIZATION AND PERSONNEL — MARCH

Number of employees on payroll

Beginning of month	15
End of month	15

COMMERCIAL FACILITIES:

Number of Commercial Facilities Employees:

February	1,021
March	1,011
Net decrease	10

The following routine items were processed:

Work Orders	41
Back Charges	16
Service Orders	36

CONTRACTS AND NEGOTIATIONS:

C. D. Joseph, of the Automatic Laundry Company, was authorized to sublet space in his new building in the Uptown Business District to Mrs. Gail Forsman and Mr. Joseph Kostiner for the establishment and operation of a dress shop, to be known as "Gail's".

Invitations to Submit Proposals were forwarded March 24, 1950 to prospective bidders on Building 85X, a structure approximately 26' x 23', located at 713 George Washington Way, Richland, Washington, formerly occupied by Villagers, Inc.

COMMERCIAL FACILITIES EXPANSION PROGRAM:

	February	March
1. Number of Government-owned Buildings	35	35
(a) Number of businesses operated by Prime Lessees	48	48
(b) Number of businesses operated by Sublessees	9	9
(c) Total businesses operating in Government-owned buildings	57	57
2. Number of Privately-owned Buildings	27	29
(a) Number of businesses operated by Prime Lessees	28	30
(b) Number of businesses operated by Sublessees	10	12
(c) Total businesses operating in Privately-owned buildings	38	42

	February	March
3. Total Number of businesses in operation	95	99
4. Privately-owned Buildings under construction	4	2
5. Ground leases awarded	3	0

The following Commercial Facilities opened for business this month:

Spudnut Shop opened for business March 4 in a portion of Hanson's Enterprises, Inc. building in the Uptown Business District.

The Bootery, a women and children's shoe store, opened for business March 8 in a portion of the Automatic Laundry Company Building in the Uptown Business District.

Diettrich's Market opened for business March 17 in a neighborhood district at the intersection of Duportail and Wright.

Gail's, a women's apparel shop, opened for business March 18 in a portion of the Automatic Laundry Company Building in the Uptown Business District.

National Bank of Commerce opened for business March 28 in its new building in the Uptown Business District.

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 Accessories
Barber Shop
Beverage Shop
Box Lunch
Business Machines
Confections
Electrical Contracting
Food Store
Infants' & Children's Wear
Investment Building
Karmelkorn Wagon
Luggage
Luggage Trailer Rentals
Meat Market
Men's Work Clothing
Mortuary
Photographic Studio
Piano Service
Poultry, Retail - Dressed
Printing Press
Record Shop
Restaurant
Restaurant (Drive-in)
Roller Skating Rink
Service Station
Shoe Repair
Sporting Goods Store
Tavern
Variety Store
Welding

COMMUNITY DIVISIONS

COMMUNITY HOUSING DIVISION

March, 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll	March
Beginning of month	40
End of month	41
Increase	1

RICHLAND HOUSING

Housing Utilization as of Month End

Houses Occupied by Family Groups	Conventional	Block	T	Pre-Cut	Ranch	Pre-Fab	Apt.	Tract	Total
Operations	2219	270	4	381	836	1143	57	41	4951
Commercial Facilities	96	6	1	25	74	59	1	4	266
Community Activities	10			1	7	3		2	23
Post Office	5				3	13		3	24
Government	101	34		13	37	24	3	4	216
Schools	40			6	11	49	1		107
Kellex Corporation	1	5		3	3				12
Atkinson-Jones	8	15		5	10	2	2		42
J. G. Turnbull	1	1		3	5	5	1		16
C. T. Main Co.	2			4	3	1	1		11
J. A. Terteling			5	1	2				8
Newberry Neon	3	1		1					5
Vernita Orchards								3	3
Urban-Smythe & Warren		1			1				2
Hanley Company							2		2
TOTAL HOUSES OCCUPIED	2486	333	10	443	992	1299	68	57	5688
Houses assigned - awaiting tenants	8			6	7	30	6	3	60
Houses assigned - (Leases written)	6			1	1	3			11
TOTAL HOUSES	2500	333	10	450	1000	1332	74	60	5759

1.

COMMUNITY HOUSING DIVISION

Housing Turnover During Month	Begin Month	Moved In	Moved Out	Month End	Difference
Conventional Type	2490	35	39	2486	Minus 4
Block Type	332	4	3	333	Plus 1
T Type	9	2	1	10	Plus 1
Precut Type	438	18	13	443	Plus 5
Ranch Type	983	36	27	992	Plus 9
Prefab Type	1310	39	50	1299	Minus 11
Apartments	71	4	7	68	Minus 3
Tract	57	1	1	57	None
Total	5690	139	141	5688	Minus 2

Dormitory Statistics

Dormitories		Occupants	Vacancies	Total Beds
Men - Occupied	13	516	0	516
Men - Unoccupied				
Women - Occupied	13	*460	**171	631
Women - Unoccupied	2			

Women's Dormitories occupied by:	
G. E. Office	1
Education	1
Apartments	1
	31

* This includes space of 4 beds in W-9 used for supply rooms and dormitory offices.
** This includes 100 beds in "Standby Condition" in W-17 and W-20.

GENERAL

Allocation Section Statistics

Total houses allocated to new tenants	24
Exchanged houses	27
Moves (within the village)	50
Total new leases signed	139
Turnovers	3
Houses sent to renovation	43
Houses assigned "As Is"	41
Terminations	49
Total cancellations	141
Applications Pending	261
Voluntary Terminations	27
R. O. F.	3
Transfers	2
Retirements	1
Moves off Project	14
Death of lessee	1
Discharge	1

The two bedroom prefab located at 523 Smith that burned in January was released for allocation on March 30.

TENANT RELATIONS

Processing of Service Orders, Work Orders and Service Charges

	Issued from February 28 to March 31, 1950	Incomplete March 31	Issued Previous Month
Service Orders	2577	202	3361
Work Orders	1114	2328	808
Service Charges	215	44	174

26 Conventional houses were painted on the interior by project forces as compared to 53 the previous month.

34 Prefabricated houses were painted on the interior as compared to 13 the previous month.

63 Kitchens and bathrooms were repaired and painted (spot painted) as compared to 14 the previous month.

18 Conventional houses had floors sanded and refinished.

7 Precuts were jacked up and shimmed as compared to 51 the previous month.

37 A & J houses were jacked up and shimmed as compared to 53 the previous month.

27 Prefab foundations were repaired and leveled as compared to 41 the previous month.

44 Work orders were completed on walls damaged by ice and water.

645 Cottonwood was completed (fire damage) with the exception of multi-breakers, which are on order.

649 Cottonwood was completely painted because of smoke damage caused by faulty furnace.

ITEMS OF INTEREST

	Total Outstanding	Total Outstanding Previous Month
Laundry Tubs	39	40
Bathtubs	180	132
Sink Linoleum	176	170
Bathroom Tileboard	223	288
Bathroom floor linoleum	110	183
Kitchen floor linoleum	114	32

3.

TENANT RELATIONS

Alteration Permits issued during the month of March totaled 112 as compared to 49 the previous month.

Automatic washers	13	Basement excavation	9
Change coal bin location	1	Relocate clothes posts	1
Construct outdoor fireplace	4	Installation of sidewalks	1
Water softener installation	4	Construction of fences	39
Install air conditioners	2	Back door in profab	2
Exchange range and refer	1	Install driveway	10
Install cooling pads (Ranch)	2	Construction of patio	2
Construction of tool sheds	4	Automatic dishwasher	2
Basement partition	2	Garbage disposal	1
Sprinkler system	1	Extra electrical wiring	2
Extra counters in kitchen	1	Glazing sunporch	1
Install linoleum on kitchen floor	1	Decrease size of coal bin	1
		Automatic clothes dryer	1
Retaining wall in basement	1	Remove broom closet (H)	1
Remove portion box over stairs	1	Refinish floors	1

1081 Inspections were made during the month of March, 1950. A breakdown of the inspections shows the following distribution:

Walls	134	Topsoil	126
Linoleum	90	Grass Seed	73
Bathrooms	69	Sidewalks	68
Floor boards	60	Shades	21
General house inspections	34	Leaking basements	327

DORMITORIES

The steam system overhaul in dormitories M-1 and M-2 was completed during the month. Pop valves in all dormitory boiler rooms were checked and repaired.

Floor sanding and sealing was completed in dormitory M-10.
Floor cleaning and waxing was completed in dormitory M-13.

Replacement of air conditioning pads and machine servicing is in process.

M.S. WAREHOUSE SUMMARY FOR MARCH
(Feb. 27 thru Mar.24,1950)

Feb. 24 TOTAL INV. $107,504.30
INVENTORY ITEMS AMOUNT $68,469.59

RECEIVED IN INVENTORY	CODE	AMOUNT
ON STORE ORDERS	____	$1,803.25
ON PURCHASE ORDERS	____	254.43
FROM EXCESS	____	____
FROM HOUSING (20-20)	____	379.13
FORM DORMS (21-20)	____	____

TOTAL RECEIPTS $2,436.81

INVENTORY DISBURSED		
TO EXCESS	____	____
TO MISC. CHG.	____	$ 432.08
FREE ISSUE	20-20	2,651.49
CASH ITEMS	20-20	30.53
DORM SUPPLIES	21-20	693.83
DORM LINENS	21-20	25.69
DORM SHADES & REFLECTORS	21-20	45.24
DORM FURNITURE	21-20	25.68
WHSE. SUPPLIES	20-20	69.93

TOTAL DISBURSED $3,968.47
INVENTORY ITEMS BALANCE $66,937.93
PLANT ITEMS AMOUNT $39,034.71

	CODE	AMOUNT
RECEIVED	20-20	$3,245.37
DISBURSED	20-20	1,885.29
DISBURSED TO WORK ORDERS	____	180.00

TOTAL DISBURSED $2,065.29

PLANT ITEMS BALANCE $40,214.79

GRAND TOTAL INVENTORY $107,152.72

	PIECES
DORM FURNITURE EX.	79
RANGES EXCHANGED	2
REFRIGERATORS EX.	5
PREFAB HEATERS EX.	

	PIECES
SENT TO MAINTENANCE	124
RECEIVED FROM MAINTENANCE	121

5.

1220533

COMMUNITY SAFETY DIVISION
March 1950

ORGANIZATION AND PERSONNEL

Number of employees on Payroll	March
Beginning of month	3
End of month	3

GENERAL

The Child Pedestrian and Bicycle Safety Program for April was presented to the Parent-Student Council Body by this office. They have accepted sponsorship for the entire program during April.

The Fire Prevention Survey for the School Board System was completed and forwarded to A.E.C. during this month. The Fire Survey for the other government-owned buildings in Richland which the General Electric Company is responsible for, is underway.

The Traffic Survey requested by A.E.C. has been initiated as of this date.

The Twenty-Four Sheet Highway Signs have been reconditioned and painted and are completed. Dedication will be made within the next two weeks by the Chamber of Commerce giving them to the Richland Safety Council.

The Spring Clean-Up Week was carried on in Richland from March 26th to April 1st. Considerable newspaper publicity was given to this campaign, at approximately one news release a day in local papers. The program was sponsored by the Chamber of Commerce and assisted by the Community Fire Prevention Division. The program had full support of the Public School System, which consisted of the Student Body cleaning up various areas of the schoolgrounds, commercial store windows decorated by the merchandising classes, depicting spring clean-up materials, publicity shots of the Chamber of Commerce President and Chairman, and a considerable number of spot announcements on local radio stations.

On March 31st, the Community Council had the first hearing on the garbage disposal ordinance.

Plans and Specifications were reviewed by this office for fire prevention and safety features for the proposed plans of the First Baptist Church, Playland, Inc., a commercial facility, and the Kirkpatrick store and office building.

Work was approved to loop water supply line which now is dead-ended at the north limits of the men's dormitories, into adjacent line one block west. This completes the loop in this area for proper fire protection

Cross walks at all of the schools are being painted at this date, to be in keeping with the plans of the Community Division with the Child-Pedestrian campaign for April.

During the month of March, Motor Manners was the Traffic Safety theme. Considerable campaigning was carried on in Richland. Six newspaper articles were run by

the press and publicized throughout the month by such men as the Judge of Local Court, Chief of Patrol, Supervisor of Public Safety, President of the Student Council Body. There were two radio broadcasts of Motor Manners, one by a local bus driver who had twelve years of accident free driving experience, and one traffic patrolman.

The Richland Safety Council met for their organizational meeting which consisted of election of officers and The Board of Directors. The council consists of a representation of the Community Fire, Patrol, and Safety Divisions, and Public Health. Mr. Bert L. Sellin, the President of the National Bank of Commerce was elected President of the Council. The following committees were appointed:

Traffic Committee, School and Child Committee, Home Committee, Fire Committee, Public Information Committee, and General Activities Committee. The Board of Directors consisted of the President of the School Board, City Manager, Assistant to the General Electric Works Manager, Pastor of the Catholic Church, Judge of the Local Court, President of the Seattle National Bank, President of the Chamber of Commerce, a Protestant Minister, and the Director of A.E.C. Safety, V. R. Holmquist.

This organization is planning to submit to the National Safety Council an application for a charter to the National Safety Council.

Richland was not listed by the governer's office in the recent state reports of city accident records and standings for the past month. A request was made to the Chief of Washington State Patrol for Richland to be considered with the other cities in Washington in the State contest. A confirmation was received from his office to the fact that Richland would be considered and would be entered in the listing of all other cities in the state. This automatically puts Richland in the position to compete with other cities in the State of Washington as an ordinary city in the State of Washington's Governer Safety Contest.

COMMUNITY FIRE PROTECTION DIVISION
MARCH, 1950

Organization and Personnel

Number of employees on payroll		March
Beginning of the month		128
Transfers to other divisions	20	
Terminations (ROF)	4	24
End of the month		104

	Richland	North Richland
Response to alarms	9	6
Fire Loss (Estimated)		
Hanford Works	0	$200.00
Personal	$150.00	$413.62
Investigations of minor fires and incidents	16	2
Safety meetings	12	4
Outside drills	10	16
Inside drills	49	26
Fire alarm boxes tested	179	74

Miscellaneous Fire Department Activities

Firefighting personnel changed from the forty hour work week to the two platoon (24 on - 24 off) schedule at 8:00 AM on March 20, 1950. The change makes possible a substantial reduction in full complement strength of 168 men under the forty hour week to 102 men under the two platoon system. Since replacements had not been employed for several months in anticipation of this change, only twenty-six men were affected. Twenty men were transferred to other divisions and four men were given ROF. Included in the 102 men are personnel for manning the pumper-aerial truck which went into service for the first time on March 20. Prior to March 20th, shift meetings were held in all stations to explain operational changes, schedules and working conditions under the two platoon system.

After a gasoline spill at the 1131 Garage area, Engine Company 15 was dispatched to stand by during the burning of the contaminated gasoline.

A group of nine boys, accompanied by two ladies, was conducted on a tour of No. 1 fire station.

Wooden lockers at Station 1 were remodeled for use under the two platoon system.

A movie on security at the Oak Ridge plant was exhibited for all North Richland personnel of the Fire Division.

1

Fire alarm and evacuation systems were tested in North Richland Barracks 234-B, 226-D, 104, 106, 116, 126, 134 and 136.

Truck B-9 was dispatched to stand by during controlled burning of grass around the North Richland Trailer Camp Office.

"Price of Freedom" movie shown at the Village Theatre was attended by thirty Richland and twelve North Richland employees.

Richland Fire Prevention

Fire Inspections:		Fire Extinguishers:	
700 Area Buildings	43	Inspected	958
1100 Area Buildings	129	Refilled	57
Commercial Facilities(Gov.owned)	42	Relocated	11
Schools, clubs and churches	33	Installed	24
Government Airport	6	Removed	16
Dormitories	31	Defective	5
Total	284	Lost-stolen	1

Demonstrations:

On March 21st, fire extinguisher demonstrations were conducted for two groups totaling thirty employees of the Classified Files section.

Investigations:

(1) On march 24th, an investigation of a smoking oil heater in Warehouse 1125-6 indicated a smoke pipe completely plugged with soot, apparently the result of using kerosene instead of fuel oil without proper adjustments to the heater. The matter was referred to Plant Fire and Safety Division which issued instructions to change back to proper oil for fuel.

(2) Investigated cigarette burns on the floor of Room 253, Building 760. Apparently sub-contractor employees were failing to use available ash trays. The matter was reported to the building custodian who agreed to our recommendation for immediate action on stopping the careless practice and reprimand of persons responsible.

Special Inspections:

(1) The residential basement at 1820 Davison, being used for a pre-school nursery for eighteen children, was visited at the tenant's request. The tenant was informed that the Community Fire Division had no authority to prevent the use of basements for this purpose, but that the responsibility rested with the tenant for the life safety involved. The hazard of furnace explosions, insufficient exits and possibility of fire on the main floor trapping basement occupants were explained in detail.

(2) The newly remodeled School Administration Building on Snow Avenue was thoroughly inspected prior to final acceptance of the job. Considerable damage was done to the existing ceiling, fire-stop walls and attic doors. These and other encountered hazards were reported to the Community Engineering Division.

Clean-Up Week Campaign:

Arrangements were made with the Greater Richland Chamber of Commerce to sponsor Clean-Up Week, March 26 to April 1 inclusive. A general chairman and three divisional chairmen directed the campaign. Merchants took an active role in the campaign as did schools, churches and civic organizations. Considerable newspaper and radio publicity was accorded the campaign. Response throughout the community was generally good.

National Fire Prevention Week Awards:

(1) A certificate was received from the National Fire Protection Association attesting Richland's winning first place in the State of Washington for its 1949 Fire Prevention Week Campaign.

(2) The United States Chamber of Commerce notified local Chamber of Commerce officials that Richland had won second place in the nation for cities of 20,000 to 50,000 population in its 1949 Fire Waste Contest with an honor certificate to be awarded at a later date.

Miscellaneous Fire Prevention Activities:

Kadlec Hospital administrator advises by letter that hazards reported during the month were being corrected with the exception of one which will be corrected when the new additions to the building are constructed in the near future.

The Superintendent of Schools responded to the report of numerous hazards encountered in the schools by advising that principals and the school maintenance engineer were instructed to make corrections as recommended.

Two leaking stand pipe fire hose valves in Dormitory M-14 were replaced as recommended by this office.

During a fire inspection of all 112 Desert Inn guest rooms, frayed lamp cords and wall receptacles were noted. The management agreed to have corrections made immediately.

Sewer gas detected in the music rooms in Carmichael Junior High School was referred to the Public Health Division.

A revised evacuation procedure for Kadlec Hospital was placed in effect March 17th.

Investigation indicated that safety procedures for servicing new type ditto machines with fluid cannot be accomplished. The Plant Safety Division was so notified.

In line with previous recommendations of this office on inadequacies of the Spalding Grade School alarm system, tests were conducted in the presence of an engineer who is preparing a cost study of required corrections.

Yard fire hose box at the rear of 703 Building was raised and placed on permanent footing in line with recommendations of this office.

Inspected operations of a sub-contractor engaged in soot removal from residential furnaces, smoke pipes and chimneys. No soot or ash was found at the completed locations.

Fire inspection records and details of the fire prevention program were reviewed by an engineer from the Washington Surveying and Rating Bureau now engaged in reviewing Richland's fire defenses as related to the community's insurance rating.

Letters of commendation were forwarded to supervision of buildings and areas where no visible fire hazards and good housekeeping were observed.

In lieu of a suggestion to remove the sprinkler system from Kadlec Hospital nursery, hospital authorities were assisted in selecting the location for a thermostatically operated signal device which warns of dangerous increases in temperatures.

At the request of a representative of the Midstate Amusement Corporation, constructing the new Uptown Theatre, plans of the building were checked with relation to types and locations of adequate fire extinguishers.

CMWight/jak
4/11/50.

COMMUNITY DIVISIONS

COMMUNITY PATROL

MARCH 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:	March
Beginning of month	84
End of month	84

GENERAL

On March 10, 1950, in the interest of economy, four Patrol vehicles assigned to Community Patrol were returned to the Transportation Division.

A fingerprint school conducted by the F.B.I. and sponsored by the Community Patrol Division was held at North Richland from March 13 through 17, 1950. All law enforcement agencies in this area sent representatives.

On March 22, 1950, Brownie Troop 45 of Richland was conducted on a tour of Patrol Headquarters.

On March 24, 1950, the Community Patrol Division was host to a meeting of the Yakima River Peace Officers Association held at the Desert Inn in Richland.

Civilian enforcement policies as regards Army personnel have been worked out with Army officials, and a cooperative arrangement between Military Police, Provost Marshal, and our own department has been reached.

During the month, 121 traffic violation reports were received which consisted mainly of Speeding, No Drivers License, Stop Sign Violation, and Illegal Parking. A total of 137 other reports were received which consisted mainly of Petit Larceny, Investigation, Vandalism, and Dog Complaints.

During the month, a total of 76 letters were received, consisting of 68 inquiries on arrests and 8 requests for assistance.

During the month, 18 prisoners were processed through the Richland Jail.

During the month, 19 gun registrations were taken by Community Patrol.

During the month, 177 bicycle registrations were taken by Community Patrol.

TRAFFIC

Traffic safety lectures were given to eleven plant and civic groups during the month. The movie film "The Careless Driver" was shown to each of the groups prior to the lecture.

Repainting of all crosswalks in the vicinity of the schools and in the business district was started during the latter part of March. All center lines of the main arterials, the curbs and parking stalls in the business district, and parking spaces in the new parking lots in the old business area are scheduled for painting in the near future.

TRAINING

Subjects covered in the lieutenant's training classes for the month of March were as follows:

Care of Equipment
Public Relations

Advance training for Community Patrol members at the small arms range for the period in field instruction was as follows:

Pistol 1½ hours

The 38 caliber revolver was used in controlled firing at the standard F.B.I. target at a distance of 7 yards. Scores were kept, but no qualifications were made.

ACTIVITIES AND SERVICES (RICHLAND)

	January	February	March
Check on absentees	10	2	3
Persons assisted *	184	189	205
Doors & windows found open	29	40	41
Lost children	5	4	29
Ambulance runs	26	34	32
Lost dogs reported	9	15	8
Dog, cat, loose stock complaints	43	116	58
Persons injured by dogs	3	4	6
Bank escorts & details	41	35	45
Fires investigated	28	26	22
Miscellaneous escorts	17	20	20
Complaints investigated	29	20	28
Natural deaths reported	2	1	2
Totals	426	506	509

ACTIVITIES AND SERVICES (NORTH RICHLAND)

Check on absentees	1	1	2
Persons assisted *	101	86	79
Doors & windows found open	65	122	40
Lost children	0	0	4
Ambulance runs	0	2	2
Lost dogs reported	0	0	0
Dog, cat, loose stock complaints	0	0	0
Persons injured by dogs	2	0	0
Bank escorts & details	21	25	25
Fires investigated	4	1	6
Miscellaneous escorts	7	6	18
Complaints investigated	0	1	1
Natural deaths reported	0	0	0
Totals	201	244	177

*Includes: Assisting other departments, assisting outside police agencies, assisting private persons, delivering emergency messages, etc.

COMMUNITY PATROL DIVISION
RICHLAND JUSTICE COURT CASES

MARCH 1950

VIOLATION	NO.OF CASES	NO.OF CONV.	NO.OF FORF.	CASES CON'T.	CASES PEND.	CASES DISM.	WARR. ISS.	SENT. JAIL	SENT. SUSP.	LIC. REV.	TOTAL FINES	TOTAL SUSP.	TOTAL BAIL
Drunken Driving	6	4		2				1		4 1	$285.00		
Reckless Driving	1										$72.50		
Negligent Driving *	4		3	1							$15.00	$7.50	
F.T.Y.R.O.W. while backing	2	2									$5.50		
Improper Passing	1	1									$18.50		
License Plates	3	3									$7.50		$12.50
F.T.Y.R.O.W.	2	1	1				1				$120.00	$12.50	$94.00
Speeding **	22	11	7	3				1			$12.50		
F.T.S.A.I.	2	1									$12.50		
F.T.Y.R.O.W.to Em. Veh.	1	1									$35.00	$5.00	$27.50
Stop Sign	13	6	5	1			1				$32.00		$10.50
Improper Parking	10	10									$43.00	$37.50	$15.00
No Driver's License ***	10	5	2	2			1						
Allowing animal with dangerous tend, to run at large	1					1					$27.50	$25.00	
Larceny by Check	1	1									$25.00		$12.50
Public Intoxication	3	2	1										
Third Degree Assault	1						1						
	83	48	19	9		1	4	2		5	$711.50	$87.50	$172.00

Cases proc, thru crt 83
Other cases inc, with above viol..... 8
Cases Pending 0
Cases originating in Feb., & tried in March..... 11

TOTAL CASES: 102

* 1 case hold for further consideration.
** 3 Driver's License cases included with this violation.
** 1 Driver's License, susp while driving, case included with this violation.
*** 2 License plates, cases included with this violation.

(continued on page two)

DISPOSITIONS AND EXPLANATIONS OF CASES INCLUDED IN PREVIOUS MONTHS

(4) Continued cases that originated and were included in February report and were tried in March

Negligent Driving	Case being held.
Driver's License	Fined $5.50
Stop Sign	Fined $5.50
F.T.S.A.I., after collision with unattended vehicle	Fined $12.50 - susp.

(5) Pending cases that originated and were included in February report and were tried in March

Reckless Driving	Fined $27.50 & Dr. Lic., susp for 30 days.
(2) Stop Signs	Fined $7.50
F.T.Y.R.O.W.	Fined $12.50
Negligent Driving	Holding Warrant.

(1) Warrant Issued on case that originated and was included in February report and was tried in March

Speeding	Holding Warrant

(1) Improper Disposal of Garbage, Trash and Rubbish case, originated in February, and tried in March. Fined $12.50 - susp.

COMMUNITY PATROL DIVISION
NORTH RICHLAND JUSTICE COURT CASES

MARCH - 1950

VIOLATION	NO.OF CASES	NO.OF CONV.	NO.OF FORF.	CASES CON'T.	CASES PEND.	CASES DISM.	WARR. ISS.	SENT. JAIL	SENT. SUSP.	LIC. REV.	TOTAL FINES	TOTAL SUSPI	TOTAL BAIL
Drunken Driving	1	1								1	$52.50		
Speeding	3	2			1						$35.00		
Stop Sign	14	7	4		2	1					$38.50		$22.00
License Plates **	1	1									$7.50	$7.50	
Improper Passing	1	1									$5.50		
Improper Parking	1						1						
Larceny by Check	1	1									$27.50	$25.00	
Vagrancy *	2	2									$12.50		
	24	15	4		3	1	1			1	$179.00	$32.50	$22.00

Cases proc thru court	24
Other cases included with above viol.	1
Cases pending	3
Cases orig in Feb, tried in March	1
	29

* 1 Sodomy case, charged changed to Vagrancy sent, to 6 mo's County Jail. Sent. deferred.
** 1 Drivor's License case included with this violation.

(1) Continued case that originated and was included in February report and was tried in March

Speeding ..... Fined $10.00

PATROL DIVISION - TRAFFIC CONTROL STATISTICS
March - 1950

MOTOR VEHICLE ACCIDENTS:

	Total Number		Fatalities		Major Injuries		Minor Injuries	
	Feb.	March	Feb.	March	Feb.	March	Feb.	March
Richland	18	13	0	0	0	0	2	2
North Richland	5	1	0	0	0	0	0	0
Totals	23	14	0	0	0	0	2	2

ACCIDENT CAUSES:

	Negligent Driving		Failure to Yield Right of Way		Reckless & Drunken Driving		Other Causes	
	Feb.	March	Feb.	March	Feb.	March	Feb.	March
Richland	2	3	6	3	0	2	10	5
North Richland	1	0	2	1	0	0	2	0
Totals	3	3	8	4	0	2	12	5

PLANT WARNING TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Parking		Imp. License		Def. Equipment		Other Violations		Totals	
	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March
Richland	0	0	1	0	72	91	26	6	2	0	0	0	101	97
North Rich.	0	0	0	0	44	154	1	2	9	8	0	0	54	164
Totals	0	0	1	0	116	245	27	8	11	8	0	0	155	261

TRAFFIC CHARGES AND COURT CITATION TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Drunken Dr.		Reckless Dr.		Right of Way V.		Neg. Dr.		Parking V.		Other V.		Totals	
	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March	Feb.	March
Richland	15	23	18	13	3	6	2	1	6	5	9	4	9	10	24	23	86	85
N. Rich.	3	3	9	15	0	1	0	0	1	0	0	0	0	1	9	5	22	25
Totals	18	26	27	28	3	7	2	1	7	5	9	4	9	11	33	28	108	110

TRAFFIC VOLUME: Average 24-hour Traffic Volume Count for week ending on 3-31-50, on George Washington Way at Yakima River Bridge - 9,562 Cars.

Note: Traffic Control Statistics show ORIGINAL CHARGES ONLY.

COMMUNITY PATROL DIVISION
RICHLAND CRIME REPORT
MARCH, 1950

Classification of Offenses	Offenses Known or Reported to Patrol	Offenses Unfounded	Actual Offenses February	Actual Offenses March	Offenses Cleared By Arrest	Offenses Cleared By Other Action	Perpetrators Involved
Assault	0	0	1	0	0	0	0
Burglary	0	0	3	0	0	0	0
Attempted Brk. & Entering	2	0	1	2	0	1	6 (a)
Larceny by Check	1	0	2	1	1	0	1 (b)
Larceny (Except Auto & Bike)							
Over $50.00	6	1	5	5	0	0	u
Under $50.00	15	1	23	14	0	20	9 (c)
Bike Theft	17	0	12	17	0	11	2 (d)
Dest. of Personal Property	3	0	1	3	0	0	u
Dest. of Government Property	1	0	2	1	0	0	u
Loss or Theft of Gov't. Prop	1	0	2	1	0	0	u
Investigation	7	0	3	7	0	3	4
Disturbance	2	0	3	2	0	2	2 (e)
Missing Persons	3	0	2	3	0	3	3 (f)
Offense Against Family & Child	4	0	4	4	0	4	4
Prowlers	3	0	2	3	0	0	u
Public Intoxication	3	0	1	3	3	0	3
Pickup for Outside Agency	1	0	0	1	1	C	1
Vandalism	5	0	3	5	0	0	0
Malicious Mischief	7	0	2	7	0	3	5 (g)
Indecent Exposure	1	0	0	1	0	1	1
Lewd Remarks	1	0	0	1	0	0	u
Illeg. Use of Regis. Cert	1	0	0	1	0	1	1 (h)
Illeg. Purchase of Beer	1	0	0	1	0	1	1 (i)
Molesting	0	0	1	0	0	0	0
TOTALS	85	2	73	83	5	50	43

(Continued on Page Two)

Page Two—COMMUNITY PATROL DIVISION—RICHLAND CRIME REPORT, MARCH, 1950

(a) 1 Case Perpetrated by 6 Juveniles, Ages 14, 15, 15, 15, 15, & 16.
(b) 1 Case " by 1 Juv. Age 20.
(c) 1 Case " by 1 Juv. Age 15.
1 Case " by 4 Juv. Ages 15, 15, 16, & 16.
18 Cases " by 4 Juv. Ages 15, 15, 16, & 16.
(d) 1 Case " by 1 Juv. Age 12.
(e) 1 Case " by 1 Juv. Age 5.
(f) 1 Case " by 2 Juv. Ages 7 & 8.
1 Case " by 1 Juv. Age 17.
1 Case " by 3 Juv. Ages 15, 15, & 16.
(g) 1 Case " by 1 Juv. Age 15.
1 Case " by 2 Juv. Ages 14 & 15.
1 Case " by 2 Juv. Ages 8 & 12.
(h) 1 Case " by 1 Juv. Age 18.
(i) 1 Case " by 1 Juv. Age 18.

u Represents Unknown.
No Colored Persons Involved.
Property Recovered for the Month $1,044.25 (11 Bikes)

COMMUNITY PATROL DIVISION
NORTH RICHLAND CRIME REPORT
MARCH, 1950

Classification of Offenses	Offenses Known or Reported to Patrol	Offenses Unfounded	Actual Offenses February	Actual Offenses March	Offenses Cleared By Arrest	Offenses Cleared By Other Action	Perpetrators Involved
Possible Attempt. Arson.....	0	0	1	0	0	0	0
Larceny by Check.....	1	0	0	1	1	0	1
Larceny (Except Auto & Bike) Under $50.00.....	4	0	1	4	0	0	u
Disturbance.....	1	0	0	1	0	1	1
Dest. of Gov't. Prop.....	1	0	0	1	0	0	u
Investigation.....	1	0	1	1	0	1	2
Missing Persons.....	1	0	0	1	0	1	1
Public Intoxication.....	3	0	1	3	3	0	3
Public Nuisance.....	2	0	0	2	2	0	2
Indecent Liberties.....	1	0	0	1	0	0	u
Sodomy.....	1*	0	0	1*	1	0	1
Pickup of Soldiers for Provost Marshal.....	2	0	0	2	0	2	8
TOTALS.....	18	0	4	18	7	5	19 x

*Reported as Sodomy but Reduced to Vagrancy in Superior Court. Juvenile Age 20.

x 1 Perp. was Colored.

COMMUNITY PATROL DIVISION
CRIME COMPARISON REPORT
MARCH, 1950

Number of offenses known to police per 25,000 inhabitants in cities of 25,000 inhabitants:

Class.	Wash. Oregon & Calif. Six Months (Jan-June 1949)	Wash. Oregon & Calif. One Month Average	Richland Six Months (Jan-June 1949)	North Richland Six Months (Jan-June 1949)	Richland February 1950	Richland March 1950	North Richland February 1950	North Richland March 1950
Murder	.60	.10	0	0	0	0	0	0
Robbery	15.80	2.63	0	1	0	0	0	0
Aggrav.Asslt.	10.15	1.69	4	16	1	0	0	0
Burglary	90.90	15.15	8	5	5	2	0	0
Larceny	254.22	42.37	181	97	29	36	1	4
Auto Theft	38.4	6.40	4	5	0	0	0	0

Number of offenses known to police per 25,000 inhabitants regardless of whether offenses occurred in cities or rural districts:

Class.	State of Washington Six Months (Jan-June 1949)	State of Washington One Month Average	Richland Six Months (Jan-June 1949)	North Richland Six Months (Jan-June 1949)	Richland February 1950	Richland March 1950	North Richland February 1950	North Richland March 1950
Murder	.79	.13	0	0	0	0	0	0
Robbery	11.25	1.87	0	1	0	0	0	0
Aggrav. Asslt.	3.82	.63	4	16	1	0	0	0
Burglary	74.35	12.39	8	5	5	2	0	0
Larceny	241.60	40.26	181	97	29	36	1	4
Auto Theft	38.05	6.34	4	5	0	0	0	0

The portion of offenses committed by persons under the age of 25 years, is shown by the following figures:

Class.	National Average Six Months (Jan-June 1949)	Richland Six Months (Jan-June 1949)	North Richland Six Months (Jan-June 1949)	Richland February 1950	Richland March 1950	North Richland February 1950	North Richland March 1950
Robbery	53.4	0	0	0	0	0	0
Burglary	59.9	1	0	0	1	0	0
Larceny	45.1	25	44	20	21	0	0
Auto Theft	67.8	3	0	0	0	0	0

Note: Statistics of Juvenile offenses throughout the United States were taken from the Uniform Crime Report published by the Federal Bureau of Investigation, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower age groups because of the practice of some jurisdictions not to fingerprint youthful offenders."

COMMUNITY DIVISIONS

COMMUNITY - ACTIVITIES DIVISION
March, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll

Beginning of month		12
Additions	0	
Terminations	0	
End of month		12

SCHOOLS

The following is a tabulation of full-time paid School District #400 personnel as of March 31, 1950:

Administration	6
Principals & Supervisors	16
Clerical	18
Teachers	245
Health Audiometer	1
Building Custodians	50
Cooks	36
Nursery School & Ex. Day Care	11
Bus Drivers	2
Farm Manager	1
	386

Bids for the Chief Joseph Junior High School were opened on Friday Evening, March 18. The new school will be a 750 pupil building and will include an auditorium, cafeteria, and library as well as 28 classrooms.

CLUBS AND ORGANIZATIONS

As of March 31, 1950, organization's personnel include:

American Legion	2
Coordinate Club	1
Youth Council	1
Boy Scouts	1
Camp Fire Girls	2
Hi-Spot Club	2
Red Cross	3
Castle Club	1
Post Office	44
Veterans Administration	2
Girl Scouts	2
Masonic Lodge	1
Justice of Peace	1
	63

-1-

Community - Activities Division

The annual election of the Community Concert Association Board was held during the week of March 6 - 12. The new Board met on March 10, to elect officers for the coming year. The membership campaign conducted during that week was sold out for the 1950-51 season. Artists selected for appearance during this coming season are as follows:

Byron Janis	Pianist	January Concert
Edwin Steffie	Baritone	March Concert
Mono Paullee	Mezzo-Soprano	March Concert
St. Louis Sinfonietta		April Concert

The Richland Hi-Spot Teen-Age Club held a benefit dance on March 18, The admission to the dance was at least one can of food per person. The proceeds were turned over to the 40 - & - 8 Committee of the American Legion for distribution to families living in Island View, Washington. The American Legion has a very extensive program for the handling of relief for needy families. The Red Cross is working in conjunction with the program.

The Indopendent Order of Foresters held a preliminary organization party in the Spalding Grade School cafeteria on the evening of March 18.

A "Kick-off Banquet" for the Benton County YWCA was held in the Central United Protestant Church on Thursday, March 24. This program started a drive for new members in the organization.

On March 27, the Richland Parent-Teachers Council sponsored the appearance of two lecturers, Dr. Harry Allen Overstreet and Bonaro Wilkinson Overstreet.

Twenty-three Work Orders and 16 Routine Work Orders were issued by the Community-Activities Division during the month of March.

"Love Rides the Rails" was presented by an independent group of players under the sponsorship of the Junior Chamber of Commerce on March 25, and March 28 through April 1. The production was put on for the benefit of the Junior Chamber debt incurred in the 1948 Atomic Frontier Days program. It is estimated that there was a profit of approximately $1,500.

The February minutes of the Recreation Advisory Committee were approved by the Atomic Energy Commission March 8, 1950. Organizations receiving approval are: American Society of Civil Engineers and H. W. Supervisor's Association.

On March 14, the Recreation Advisory Committee held their regular monthly meeting. The following organization was recommended for approval subject to proper security clearance: The Independent Order of Foresters, a social and fraternal organization. The revised charges for the use of public facilities when admission is charged, were recommended for approval. The minutes of this meeting were approved by the Atomic Energy Commission on March 27, 1950.

CHURCHES

The following is a tabulation of full-time paid church personnel, as of March 31, 1950:

	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
Foursquare Gospel	1	0	1
Mission Baptist	1	0	1
Mo. Synod Lutheran (Redeemer)	1	1	2
National Lutheran	1	2	3
Nazarene	1	0	1
Regular Baptist	1	0	1
United Protestant - North Richland	1	0	1
United Protestant - West Side	1	0	1
United Protestant - Southside	1	0	1
United Protestant - Northwest	1	0	1
	19	7	26

Reverend E. D. Giddens conducted his first service as pastor of the Richland Baptist Church on Sunday, March 5. Rev. Giddens replaced Reverend Zimmerman.

The former Foursquare Gospel pastor, Rev. Ostrum, was replaced during the month of March by Reverend Jane Sprague.

On March 19, the Church of Christ held their first service in their new sanctuary located at the corner of Thayer Drive and Swift Blvd.

Representatives of the Community - Engineering Section and the Activities Division inspected the old Protestant Church located at Hanford, on March 23. The Free Methodist Church requested that a study be made to determine if the building could be moved in to Richland for use as a church building. A report of the feasability of moving the church was submitted to the Free Methodist Church March 29. This report was prepared by the Engineering Section.

On Sunday, March 26, the Whitworth College Choir presented a sacred concert in the Central United Protestant Church.

The Church of Jesus Christ of the Latter Day Saints held their first service in their new church building located at the corner of Jadwin and Goethals Drive on March 5.

Community - Activities Division

The church construction program status is as follows:

CHURCH	DATE STARTED	ESTIMATED % COMPLETE	OCCUPANCY DATE
Nazarene Church	April 12, 1949	99%	11/30/49
Latter Day Saints	February 5, 1949	85%	3/5/50
Latter Day Saints (Reorganized)	August 22, 1949	17%	
U.P. Southside	November 5, 1948	99%	4/10/49
Richland Baptist	November 27, 1948	99%	4/17/49
Church of Christ	December 21, 1949	75%	3/19/50
Assembly of God	Awaiting start of construction		

COMMUNITY

On March 27, one 80' hutment and two 60' hutments were moved. The 80' hutment was moved to a location on the south side of Lee Blvd. next to the present school warehouse. The School District has permission to use this site and buildings for a two year period. The two 60' hutments were moved to the south end of town in the new club site area. They will be used by the Activities Division for storage and activities. These two Community-Activities Division hutments, which had been temporarily assigned to the School District, were located immediately west of Stevens Drive and directly across Stevens from the west gate of the 700 Area.

The Village Players transferred all their production equipment, previously stored in a tract house located immediately south of Memorial Softball Field, to North Richland Improvement Group house near North Richland. This storage is on a temporary agreement between the Players and the General Electric Co. North Richland Realty Division.

On March 31, the American Red Cross Drive had reached only 88 percent of its quota in the annual drive for funds.

Park Development

The revision of the Park Development Program for 1950 - 1955 has been completed and distributed.

RECREATION

The number and types of organizations presently served by the Community - Activities Division include:

Business and Professional Clubs	20
Churches & Church organizations	25
Civic organizations	4
Fraternal Organizations	21
Music & Art Associations	8
Recreation & Hobby groups	39

Schools & Parent Teachers Assoc.		13
Social Clubs & Organizations		11
Veteran & Military Organizations		12
Welfare		6
Youth	Boy Scouts	19
	Camp Fire Girls	36
	Girl Scouts	49
	Misc.	9
Miscellaneous		7
	Total	279

The Kite Flying Tournament, sponsored by the Recreation Section of the Community-Activities Division, was held at Columbia Playfield on March 24, 1950. Fifty boys and twenty-five girls participated. First, second, and third prizes were donated by local merchants for seven events.

The Little Baseball League, nationally affiliated, has been established by the Recreation Section and interested residents in Richland. Sponsors for four teams were secured by the Recreation Section. The teams will be fully uniformed and equipped by the sponsors. The Little League will be composed of six teams and the age limits established are 9 to 12 inclusive. Six teams with the age limits of 12 through 15 will also operate under the same league and will be sponsored by interested merchants. Officers were elected for the summer operated league. State and National meets are held with the U. S. Rubber Company bearing the expenses for the trip to the Nationals.

The Recreation Section of the Activities Division and the General Electric Co. Public Relations Division worked in conjunction on the publicity campaign for the Kite Contest held at the Columbia Playfield on March 25. Radio announcements, flyers to schools and merchants, newspaper articles and pictures, and skits at the various schools were part of the campaign. Kite building classes were conducted by the Richland Youth Council and the Junior Chamber of Commerce on March 11 and 13, in the Handcraft Room at the Community House.

The Tri-City Softball League preliminary meetings were attended by Recreation Section personnel. The League will work in conjunction with the Richland Softball Association. Four teams from Richland and two each from Pasco and Kennewick will compose the eight team league. The Recreation Section has drawn up the league schedule.

Seventeen people from the Tri-City area attended the Community-Activities Division Recreation Section sponsored Washington State Recreation Advisory Council meeting held in the Community House on March 23. Guest speakers were W. B. Pond and Mrs. Ruth Peeler of the Washington State Parks and Recreation Commission. Three persons from the Tri-City area were elected as members of a temporary Research, Study, and Development Committee.

Arrangements have been made for a community Easter Egg Hunt for children of 3 to 8 years of age on April 9. It will be financially sponsored by Villagers, Inc. under the direction of the Recreation Section. Girl Scouts will dye eggs on the night of April 7, at the Jefferson Grade School. Several prizes will be awarded to those children finding "lucky eggs."

Community - Activities Division

The Women's State Basketball Tournament was held March 17, 18, and 19, at Columbia High School under the co-direction of the Women's Amateur Basketball Association of Richland the Recreation Section. Spectator interest was good. Spokane won, with Richland placing second. Recreation Section personnel made arrangements for barracks, drew up schedule, and were in attendance to assist throughout the meet.

Six weeks instruction in Junior Archery was co-sponsored by the Roving Bowmen Archery Club and the Recreation Section. Attendance figures for the entire program, which ended April 1, were 130 boys and 19 girls, or a total of 149 receiving archery instruction. The School District cooperated with equipment and Roving Bowmen instruction.

Summary of the month's participation in the recreational activities sponsored by the Community-Activities Division is as follows:

	No. Sessions	No. Participants
Women's Sport Night	4	55
Co-Rec Sports	4	77
Men's Sports	4	123
Badminton & Ping Pong	5	82
Fencing Class	4	38
Junior Archery	4	149
Weight Lifting	9	152
	34	676

The Atomic Energy Commission approved the proposal to operate the Riverside Park Swimming Pool and Wading Pool from June 10, through September 4, 1950. The pools will be open six days each week from 12:00 noon to 7:15 PM.

D. H. Berst and R. E. Anderson attended the National Recreation Association Northwest Conference meeting in Yakima, Washington, March 29 - April 1.

Project C-356-R, Recreational Facilities - Equipment for Schools and Public Parks, was revised and resubmitted March 29, 1950.

MAJOR ACTIVITIES FOR THE MONTH

March 1 - 31	Red Cross Drive	Community
17, 18, 19	Women's State Basketball Tournament	Columbia Hi. Sch.
18	Hi-Spot Benefit Dance	Community House
18	Independent Order of Foresters Organization Mtg.	Spalding Gr. Sch.
24	YWCA Kick-off Banquet	U. P. Church
23	Washington State Advisory Council Meeting	Community House
25	Kids Kite Contest	Columbia Play-field
Mar. 25 - April 1	"Love Rides the Rails"	Carmichael Jr. Hi.
27	Lecturer - Dr. Overstreet	"
28	Whitworth Choir Concert	U. P. Church

GENERAL ELECTRIC COMPANY
HANFORD WORKS
COMMUNITY ACCOUNTING DIVISION

MONTHLY REPORT FOR MARCH - 1950

ORGANIZATION

Employees - Beginning of Month	26	Exempt	4	Male	8
Terminations or transfers	0	Non-Exempt	22	Female	18
Total - End of Month	26	Total	26	Total	26

A personnel reorganization was affected in the Cost Division to further improve the overall operation.

	March	February
Rents		
House Leases Processed		
New Leases	83	* 108
Modifications	1	4
Cancellations	85	126
Total Active House Leases	5,686	5,688

* Shown in error as 123 on February Report.

Dormitory		
New Assignments	131	81
Removals	89	66
Total Occupancy	984	942

Rental Revenue was as Follows:		
**Equipment	$ 39.33	$ 163.93
* House	254,373.96	254,382.15
* Dormitory	13,291.57	13,072.33
* Facilities	42,759.46	33,617.10
	$ 310,464.32	$ 301,235.51
Unoccupied Dormitory Revenue Loss	2,505.93	2,725.17
Unoccupied House Revenue Loss	2,417.69	2,739.74
Total Potential Revenue	$ 315,387.94	$ 306,700.42

* Includes utilities which are collected as a part of rental.

**February figure includes equipment temporarily leased to Northwestern Fuel Company during cold weather emergency.

An audit of the Rent Receivable ledger was performed by the A.E.C. during March to determine that the potential rental revenue was correct and that proper and maximum rental was recorded, and the internal control adequate. A favorable report was received indicating such to be the case.

1.

Seven facilities still have equipment on a rental basis.

	March	February
Telephone		
Number of Work Orders Handled	312	685
Number of Working Phones	4,072	3,890
Revenue Including Services	16,510.63	13,939.29

Fifty-four delinquent notices were mailed telephone subscribers whose accounts were 45 days old or older.

Miscellaneous		
Invoices prepared during month	272	277
*Revenue from Above Invoices	$12,189.32	$3,893.55
Dog License Fees Received	39.00	77.00

* Increase in dollar volume due largely to billing Northwestern Fuel for railroad car handling, and School District #400 for utilities furnished them July 1, 1949 to March 31, 1950.

The following building permits were issued during the month.

Lessee	Amount
B. F. Hall	2.00
F. L. Redman	2.00
G. S. Scheider	2.00
National Bank of Commerce	19.20
Dick and Jerry's Fine Foods	1.70
Total	26.90
Previously reported	5,397.61
Total to date	$5,424.51

No government owned equipment was sold during March.

Total amount sold to date $105,439.97

General

Fifty-two collection letters were written during the month resulting in the collection of nineteen accounts in the amount of $271.36.

ACCOUNTS PAYABLE

STATISTICS	March	February
Accounts Payable Vouchers Processed	218	140
Freight Bills Processed	11	11
Purchase Orders Received	56	52
Net Amount of Purchase Orders	$11,101	$5,762
Receiving Reports Received	77	61

STATISTICS (CONT.)

Total Net Amount Disbursed	$35,833	$48,779

A summary of active Community Subcontracts is shown below:

Subcontractor	Subcontract Number	Amount Awarded	Paid This Month	Total Paid	Amount Retained
Fredericksen, Dr. J. L.	-----	* 1,674.00	191.00	1,674.00	--0--
Richland Maintenance Co	-----	*77,897.66	7,041.27	77,897.66	--0--
West Coast Painters Co.	G-219	58,526.79	0	43,974.85	2,926.34
Holaday & Edworthy, Inc.	G-284	4,700.00	0	0	--0--
Pringle, R. A.	G-289	9,925.57	0	0	--0--
Curtis Middlebrook & Co.	G-290	10,800.00	0	3,600.00	--0--
Roof Service Inc.	G-291	12,590.00	0	0	--0--
		176,114.02	7,232.27	127,146.51	2,926.34

* Total amount of contract will be total of estimates as submitted.

The Community Divisions Obligations and Expenditure Report, Compilation of B & O Tax, and Report on Overtime meals was submitted for consolidation to the General Division.

The Community Division's estimate of Cash Receipts for March amounted to $88,500 and estimated cash disbursements were $54,900.

COST

Reports

The February Operating Report was completed and distributed on March 15, 1950.

The Comptroller's Appropriation Report for February was issued on March 16, 1950.

Budget

Operations

The Budget for fiscal year 1952 and the Revision of the fiscal year 1951 was completed for review by the Appropriations and Budget Committee. Budget estimates were received from all Community Divisions by March 3, 1950. In line with the AEC Community Meeting held in Washington, D. C., it was necessary to make several changes in the cost content of the various categories and several new categories were developed.

Construction

The Construction Budget for fiscal year 1951 and 1952 was prepared as instructed listing all items shown in the fiscal year 1950 and 1951 Mid-year Review. This budget was discussed with all Community Division Superintendents involved.

The submission included cost estimates for the final six months of fiscal year 1950 and all of fiscal year 1951 and fiscal year 1952.

Construction (Cont.)

Reason Sheets for new items or items showing a change in scope of work were also submitted.

This budget was submitted in preliminary form on March 27, and after review the Budget and Reason Sheets were re-worked and presented in final form on March 31. A Construction Budget Summary showing estimated costs to Projects from Other Community Divisions (Operating Budget) costs for Subcontract services and material was also presented at this time.

This Construction Budget discloses "Actual" costs through December 31, 1949. It is to be re-submitted on April 24, 1950 showing "Actual" costs through March 31, 1950, after having been reviewed by the A & B Committee.

Work Orders

A summary of service order statistics for the last two months is listed below:

Craft	Service Orders Feb.	Service Orders March	Total February	Total March
1. Plumbing	947	954	2,685.06	2,496.83
2. Electrical	2,556	1,922	6,488.88	4,746.04
3. Heat & Vent	921	352	2,739.07	1,383.38
4. Glazing	133	77	669.79	330.20
5. Lock & Key	390	367	1,425.12	1,015.55
6. Carpentry	650	372	1,776.88	888.05
9. Sheet Metal	8	4	62.92	24.33
	5,605	4,048	16,847.72	10,884.38

The new Work Order Forms were received March 24, 1950. These will be placed in use with the new Work Order Procedure July 1, 1950. Figures shown below show a sharp increase.

Statistics covering regular work orders:

	February	March	Net Change
Active Routine	419	421	/ 2
Active Normal	1,747	2,063	/ 316
	2,166	2,484	/ 318
Work Orders Received	1,634	2,241	/ 607
Work Orders Completed	1,324	1,923	/ 599
Work Orders Incompleted	/ 310	/ 318	/ 8

	GENERAL LEDGER No.	Amount Debit	Amount Credit
Second Class Invoices Received	85	$925,375.14 *	$264,270.59
Second Class Invoices Issued	25	29,135.20	12,214.58

* Includes charge from AEC for school financial assistance, $369,453.77.

DESIGN AND CONSTRUCTION DIVISIONS

MARCH 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	579
End of month	619*
Net increase	40

* Includes the following on loan to D & C:

From Instrument Division	7
From Health Instrument Division	1
From Kellex Corporation	8
From Fluor Corporation	12
Total on Loan to D & C	28
G. E. D & C Divisions Total Personnel	591

INVENTIONS OR DISCOVERIES

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 discoveries or inventions.

INVENTOR	TITLE
O. D. Seawell	Solid Control Rod of Low Cross Section Material

ADMINISTRATIVE SECTION

A central project file was organized during the month. When complete, this file will contain a complete set of work authorities, current budget data, pertinent correspondence, design criteria, contract documents, etc. All such data will be filed together by projects. Considerable work remains to bring these files into a completed condition.

A "scope book" containing the scope of work, AEC directives, work authorities, project proposals, and contracts was completed. This work included the necessary write-ups for 18 projects. Revisions are being issued as appropriate in order to maintain the "scope book" in a current condition.

The organization of the Chart Room was revamped during the month. The following were prepared and placed on display:

1. 4 charts dealing with A-J labor costs
2. 4 heavy equipment charts
3. 3 design status reports
4. Kellex force curves
5. 2 tentative A-J construction manpower charts

The following reports were compiled and issued:

1. AEC Monthly Progress Report for Construction Jobs
2. Monthly Plant Narrative Report for February
3. Monthly Report of contractor Employment
4. 3 issues of "Project Summary--Action Requirements"
5. 4 issues of "Weekly Force Report"
6. Monthly Force Forecast
7. Monthly Overtime Forecast
8. Monthly issue of "D & C Roster"
9. Monthly issue of "D & C Personnel Hiring, Removal and Transfer Report"
10. Monthly Force Report by Areas (for Employee and Community Relations Division)
11. Monthly Man Hours Report (for Safety Division)
12. Visitors Report (for Security Office)

Other activities include the following:

1. Personnel Histories:	
Previously completed (March 1)	185
Completed to date (March 31)	225
2. Job descriptions completed during month	12
3. Security Clearances Processed	
Requests for area badges	60
Area badge cancellations	44
Requests for access authorization	5
Requests for Material and Package Passes	180
4. D&C Payroll Additions, Terminations and Transfers	
Additions	38
Terminations	8
Transfers within D & C Divisions	20
Transfers out of D & C Divisions	2
5. Secret and Confidential Documents Processed	
Documents issued	1,836
Documents routed	1,320
6. Procedures Issued	
D & C Instructions issued	6
7. Forms	
Revised	17
New forms designed	1
8. Work Authorities	
Work authorities and D&C memoranda issued	22
9. Histories	
Drafts prepared	4
Histories issued	None

ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	26
End of month	26
Net increase	0

[redacted]

CONTRACT DIVISION (D&C)

I. SUMMARY

Because of the inability to negotiate fees with Sub and Sub-subcontractors, the Overall Plant Telephone Project (Part II), the Heat Transfer Test Unit Project and all miscellaneous work and services anticipated to be performed under CPFF are and have been, for approximately one month, at a standstill.

Negotiations with Kellex for the engineering work for the Waste Metal Recovery Project have progressed very satisfactorily. As of 3-31-50, the work has been scoped in a tentative modification, estimates have been agreed upon and AEC has been requested to determine a fee. It is expected to complete negotiations 4-1-50.

II. STATISTICAL AND GENERAL

Eighteen contract items were completed during the month. Fifty-two contract items remained open at the end of the month.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	26
End of month	26
Net increase	0

CONSTRUCTION SERVICES DIVISION (D&C)

I. SUMMARY

As of March 1, the responsibilities and personnel of the Inspection Section were transferred from the Construction Services Division to the Power and Mechanical Division.

During the month certain North Richland facilities were turned over to the Army for troop occupancy in connection with an Army maneuver scheduled for the period March 13 - April 30.

Specifically, Mess Hall No. 1, 10 barracks, Building 74 and a gasoline station have been assigned to the Army. General Electric is providing all utilities and maintenance for the facilities.

II. STATISTICAL AND GENERAL

North Richland Construction Camp
(Period covered: February 25, 1950 to March 27, 1950 inclusive)

Beginning of Month	End of Month	Net Change
2601	3074	+ 473

[redacted]

Camp Population

(Barracks	490)
(Trailers	1977)
(Houses	607)

Barracks in Use

14 wings one-story male barracks
2 wings one-story female barracks

Trailer Lots

Occupied - 707
(Three trailer bathhouses were re-opened making a total of 34 presently in use)

Houses

Of the 201 houses available in North Richland Camp, 25 were vacant at the end of the month. Eighteen (18) houses were assigned during the month and 12 vacated.

Maintenance

The Construction Contractor's maintenance force at the end of the month totaled 53.

Work Order Control

Number brought forward 2-25-50	49
Issued during March	121
Completed during March	95
Voided during March	2
Balance carried forward 3-27-50	73

Maintenance work necessary to de-winterize the two south wings of North Richland Hospital was completed and the Industrial Medical Division servicing the Construction Contractor started operations in Nortb Richland on March 15, 1950. This service had previously been provided at Kadlec Hospital.

Maintenance work necessary to prepare Mess Hall No. 1 and Barracks 104, 106, 114, 116, 124, 126, 134 and 136 for occupancy by Army personnel was completed and these facilities were occupied by Army personnel on March 13, 1950.

Steam Generating Plant

The following is a resume of the operation of the Steam Generating Plant from February 25 through March 27, 1950:

Steam generated, M Pounds	25,722
Oil consumed, gallons	10,579
Coal consumed, tons	1,688
Boiler efficiency, average percent	78.83
Steam cost per M Pounds	.858

Commercial Facilities

There were 18 commercial facilities operating at the close of the month.

From the information available at this time, the trend of business is continuing upward.

Community Activities

During the month the interest displayed by the residents continued to increase. This function has increased to such an extent that it is deemed necessary to obtain an employee and assign him to these specific duties. There were 55 church meetings and 23 other gatherings held in the community during the month.

Camp Columbia

The dismantling and disposal of Camp Columbia continued through the month, and is not as yet completed. The Community Division removed numerous shrubs and flowers for transplanting and employees were offered the opportunity of obtaining any of the remaining plants.

Office Services

The fenced enclosure of the 3000 Administration Area was established as a controlled area and receptionists were employed and placed at the building entrances. The east or vehicle gate is manned 24 hours per day, 7 days a week by Security Patrol.

The Office Service groups located in the 700 Building were consolidated into one common location which has effected a more efficient operation.

The pricing of furniture and office equipment inventory was completed and the valuation of this inventory for the Design and Construction Divisions and Subcontractors on plant sites was determined to be $597,617.48.

Services performed during the month by this section included the following:

Ditto Masters Processed	3,463	Copies	107,818
Stenciles Processed	2,406	Copies	181,975
Mail Handled (Pieces)	182,427		
Mail Registered (Pieces)	79		
Teletypes Sent and Received	730		
Telegrams Sent and Received	639		
Orders Issued for Stationery	123		
Stationery Issued (Requests)	1,268		
Phone Installations Requested	47		
Phone Moves Requested	87		
Office Furniture Moved (Pieces)	326		
P.I.T. Process	14		
Special Messenger Runs	126		

[redacted]

Office Machines Delivered Repair Shop	12
Service Calls	560
Work Orders Issued	16
Requisitions Approved	15
Reports Prepared	12

Security Administration

A summary of activities is as follows:

Visitor passes issued	158
Badge number changes	419
Lost badges	1
New hires (contractors)	1,225
Terminations (contractors)	274
Number of Subcontractor and Vendor payroll as of March 29, 1950	3,111
"FP" Clearances requested	268
Received this month	371
"Q" Clearances requested	1,124
Received this month	731
"P" Clearances requested	97
Visitor Clearances requested	41
Total Clearances requested	1,530
Total Clearances received	1,102

	IN				OUT		
Area Badges Authorized:	A	V.O.D.	B	T	A	V.O.D.	B
100 F Operation	0	0	0	1	0	2	0
200 W Operation	0	16	0	70	0	2	0
100 DR Construction	787	0	6	19	64	0	0
100 DR Limited	185	0	0	0	0	0	0
*Redox (HJ-1)	33	0	0	0	0	0	0

* Now established as an open Construction Area.

Major Construction Equipment

Equipment assigned as of March 29:

Atkinson and Jones	909
Design and Construction Divisions	114

Safety Report

Construction Injuries	C.P.F.F. Contractors	Lump Sum Subcontractors
Major Injuries	1	0
Sub-Major Injuries	8	1
Minor Injuries	135	6

No motor vehicle accidents have been reported. One fire occurred in Hand's Drug Store with damage of $413.62. A grease fire in range also occurred in Mess Hall No. 1 (operated by Army personnel), with no resulting damage reported.

[redacted]

Labor Relations

1. A temporary slow-up in construction work progress was effected by lack of plumbers on the project.

2. A new addendum to the Hanford Works Agreement was negotiated, covering Steamfitters and Plumbers, on March 2 and signed on March 13. Despite the Agreement the Union refused to furnish plumbers to the job because of 1948 travel time. A final meeting was held on the night of March 24 and an agreement was reached on March 25. Plumbers reported to work March 27, 1950.

3. Two meetings were held relative to proposed salary rate range changes for subcontractor superintendents. From agreements developed verbally during the meetings, an early settlement of the proposal is expected.

4. Rate Classifications for International Business Machines Supervision were submitted. The proposed classifications were considered, surveys conducted, and recommendations submitted to AEC.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	115
End of month	129
Net increase	14

SEPARATIONS DIVISION (D&C)

DESIGN

Redox Production Plant

On March 15, 1950, the over-all design, procurement and construction status of the Redox Production Plant was reviewed by members of the Project Group for the Nucleonics Department Management and the Managers of the Technical, Manufacturing, and Design and Construction Divisions. In summary, the review presented the important factors contributing to schedule delays and the action already taken or being taken on these factors.

To date, one comment has been received by this Project Group concerning the project proposal submitted during February; that comment reflected the recent decision to eliminate the transfer of funds from this project to Project C-295 for the extension of electrical lines to the Redox Production Plant Area.

The Kellex report for March on their portion of the work has not been received. The scheduled percentage completion is 46 per cent. The expected completion is 44 per cent. All scope drawings have been either approved or transmitted to the Atomic Energy Commission for approval. As of March 25, Kellex had submitted 452 drawings for approval, of which 192 had been approved, against 373 scheduled. It is expected that the difference will be decreased by about 50 at the end of

the month since the scope drawings and many of the basic construction drawings have been approved and detail drawings are beginning to flow. Requisitions received totalled 149; requisitions transmitted to Procurement totalled 107. The number of specifications to be prepared by Kellex is 20, of which 14 have been approved. It is expected that 56 purchase orders will be placed by the end of this month.

During the month a crew of Kellex design engineers revised the General Arrangement Scope Drawings to be in accord with outstanding revision requests, workability features and Kellex initiated revisions to routings and line sizes. The latter included changes relayed directly from New York to the Kellex personnel at Richland. Reflected changes to detail drawings, particularly piping through concrete and kick plates, are being made by Kellex as rapidly as possible. Overtime has been requested by Kellex and approved in order to reduce to a minimum the resulting delay. Certain beneficial results will accrue from the above-described action; such as, more rapid approval of scope and basic construction drawings and a reduction in total number of piping drawings to be made.

Kellex is currently behind schedule in drawings started and they are making every effort to correct the situation.

Auxiliary facilities and utility connections being designed by General Electric are in the construction design phase. Scope work is 90 per cent complete and construction design is 14 per cent; the over-all percentage completion (exclusive of Tank Farm) is approximately 33 per cent against 32 per cent scheduled. The figure reported last month included the Tank Farm which is being reported separately this month.

Redox Waste Disposal Facilities (Tank Farm)

Design is 98 per cent complete (balance represents possible field alterations) and Invitations to Bid have been submitted to a list of prospective contractors.

234-5 Building Program

After reviewing the possibility of doing the testing of R.M. Line Equipment in Richland, it was recommended that the assembly and testing scheduled for Schenectady be carried out since it would extend the time and increase the total cost if done at Hanford.

A completely revised cost estimate, including the authorized changes, was submitted to Hanford by Schenectady. The estimate for the entire project was revised to include the changes in their estimate and to summarize the costs to March 1, 1950.

The remaining work to be done by GE&CL will be closely supervised in order to prevent unnecessary costs. In order to cut the cost, the present program is being reviewed by Hanford personnel to see if certain features can be eliminated without impairing the quality or operational functions of the project and their recommendations will be submitted to Schenectady.

One representative from the "S" Division and one from the Design Division were in Schenectady March 20 to 24 and discussed ventilation, CO Detector, BPFs, Electrical Cubicle Locations, Drafting Practices, Barrier, and Schedules. Several savings may result from these discussions.

A representative from the Electrical Division, Hanford Works, was in Schenectady to study Task X design and related problems.

The following work orders were issued in March: Construction of Air Lock on Roof Door, Completion of H.I. Room 161, Fabrication of Quenching Tank, and Erecting of Press.

Rala Facility

GE&CL design on the electrolytic cell has proceeded to the point at which drafting can begin. GE&CL has been provided with the necessary information to permit the location of piping in the cell layout. Test work to date indicates that platinum plating over stainless steel will not be practical and that either pure platinum or platinum-plated gold should be used for the electrodes and the cell liner. Through this contact, information has been obtained on the effects of our levels of radiation on wire insulation and gasket materials, which is invaluable for other portions of our design.

Information on the effect of levels of radiation on gasket materials, which approach the levels of radiation with which Rala is concerned, has caused a reappraisal of the gasket choices for Rala equipment. This review is now in progress.

Separations Committee approval of scope prints has been obtained for all of the 221-T Building except for Cell TB and associated equipment and structures necessary for sample carrier and cone cask handling.

Sampling device mock-up tests have indicated that the sampler tip under investigation is practical and sampler design has proceeded to the detailed development of the sample cups and carriers. However, the sizes of the samples desired are not yet firm. Final design cannot be completed until the sample size requirements of the Analytical Group are established and the effect of these sizes on sample carrier design evaluated.

A test program for tantalum compression fittings is being set up since the use of these fittings appears to be the only practical way to assemble the small tantalum equipment.

Design work connected with temporary construction facilities is essentially complete.

Design of the 272-E mock-up facilities is approved. Steel details for Cell TA will be complete for issue to the field within the next two weeks. The design has been based on the reuse of steel from mock-up cells which were dismantled at the end of the first Hanford construction.

The scope of mechanical design work for the 291-T fan addition is approved.

Prints for the scope presentation of the 222-T laboratory addition are in the comment and justification stage. This design is proceeding on the basis that an outside firm may do the construction.

A composite schedule for design, procurement, and construction of the 221-T, 291-T, and 272-E facilities and a tentative schedule for work release on this part of the Rala project has been issued.

Detailed design of Cell 5 equipment, piping, and instrumentation is nearly complete. Electrical design is well under way.

Detailed design of Cell TA equipment is nearly complete; piping and instrumentation design is under way.

Test work leading to necessary modification of remote electrical connectors for power supply to the electrolytic cell has been initiated.

Waste Metal Recovery

Phase I - First Installation for Removal of Underground Waste

Preliminary scoping work by General Electric has been completed and transmitted to Kellex for their information. Further progress on this phase awaits completion of current fee negotiations with Kellex.

Phase II - Installation of Removal Equipment at Remaining Cascades

The status of Phase II is the same as that of Phase I.

Phase III - Pipe Line From 200-E to 200-W

Preparation of scope material for this phase was started on March 20 by the Power and Mechanical Division. Work has not yet reached the point where an accurate appraisal of progress can be made.

Phase IV - Conversion of U Area Buildings to TBP Process

The preparation of scope material for this phase is approximately 8 per cent behind the desired schedule. This lag is attributed mainly to a lack of drafting manpower. In spite of the recent loan of two draftsmen from Kellex, there are presently on this job only seven draftsmen, or approximately half the desired number.

A revised cost estimate for Phase IV was made for purposes of architect-engineer fee determination.

Phase V - Stripping of U Area Buildings

A cost estimate for this phase of the work has been prepared so that construction money for this work may be requested before submittal of the project proposal.

Metal Sweetening and Conversion Facilities

Three men on loan from the Fluor Corporation have been assigned to work on this program when their clearances come through.

Process design on special equipment for this project has been started by the Process Design staff organization.

Redox Analytical and Plant Assistance Laboratory

The architect-engineer reports design at approximately 91 per cent complete as of March 31, 1950.

All construction drawings and specifications with the exception of cubicle details and ventilation and "Fume Stack" specifications have been issued for construction. These ventilation specification stencils are being reviewed by General Electric engineers.

The building equipment list and a part of the special designed equipment assembly drawings which were forwarded to the Commission on February 20, 1950, were returned approved March 15, 1950. The remaining equipment assembly drawings have been approved by General Electric engineers and will be forwarded to the Commission immediately.

Requisitioning of special designed equipment is expected to start during April.

Redox Laboratory Waste Disposal Facilities

Project proposal information including preliminary design and cost estimates will be submitted to the Separations Division by April 7, 1950.

Health Instrument Control and Development Laboratory

The architect-engineer reports design at approximately 80 per cent complete as of March 31, 1950. The scheduled design completion date for this building of April 15, 1950, will not be met. A revised design schedule is being prepared by the architect-engineer.

CONSTRUCTION

Redox Production Plant

In order that men and equipment might be utilized to best advantage, excavation for this facility was begun on a small scale on March 27, 1950. This will not materially change the construction schedule.

Construction of temporary construction facilities in the Redox Area is approximately 75 per cent complete as of March 31, 1950.

Rala Facility

Essentially all of the work orders for the clean-up and temporary construction work in the 200-W Area have been issued and work is under way.

Salvaging of equipment from the 200 "U" Area is under way and will be completed by the end of the current month.

272-E mock-up installation clean-up has been completed and foundation work started. Cell 5 vessel mock-up structures are being fabricated.

Procurement for Rala is proceeding. Actual construction work on the 221-T facilities will be initiated as soon as authorization is received.

Redox Analytical and Plant Assistance Laboratory

Excavation for this facility was begun on March 2, 1950, and is essentially completed. First concrete was poured on March 17, 1950. Approximately 300 cubic yards of concrete have been placed to March 31, 1950.

Temporary facilities for this project are being constructed and used in conjunction with those for the Redox Production Plant.

Redox Laboratory Waste Disposal

Estimated date for start of construction of this facility by a lump sum subcontractor is June 1, 1950.

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	84
End of month	103
Net increase	19

POWER AND MECHANICAL DIVISION (D&C)

GENERAL

Construction progress through March on all projects improved considerably over the accomplishments made during the previous month.

Most of the small Village projects which were materially delayed through the winter months were physically completed during this period, including field engineering data with final quantities in the hands of the subcontractor for acceptance.

Construction work on the UP-NP railroad connection proceeded in faster tempo with a reported 80 per cent physical completion. Work on the Yakima River bridge has been stepped up with the sub-subcontractors working two shifts (5:30 a.m. to 9:30 p.m.).

As of April 1, the Drafting, Reproduction, and Estimating and Planning Sections of this division were assigned to the newly created Engineering Services Division.

The General Engineering Section, which consists of 29 engineers (including two on loan), spent 52 per cent of their time on work for other divisions and 48 per cent on Power and Mechanical Division work.

Progress on the DR Water Works has been quite satisfactory except for the pipe fitting work. The estimate of physical completion for the month ending March 31 is 13.5 per cent as compared with 3 per cent indicated in our last report. Approximately 13,000 cubic yards of concrete were placed during the month, or a total of 15,000 cubic yards to date.

During the month, a work order was issued to the Minor Construction Division to cover construction work that must be done by General Electric forces in the modification of Building 115-D gas system. Separation of the construction work for the 115-D gas system between Atkinson-Jones and General Electric was made because of "special work permit" work.

Contract C-285 with Chas. T. Main, Inc., of Boston, Massachusetts, was approved, and as of the close of the month, 11 draftsmen were on the boards to alleviate the peak load requirements of the Drafting Section.

A brief note concerning the status of the active construction projects follows:

C-185, Railroad Connection South of Richland: This project is 80 per cent complete with work stepped up on the Yakima River bridge to two-shift operation.

C-203, C-232, C-233, C-234, C-288-A, C-288-B, C-288-C, C-288-D: These projects are 100 per cent physically complete and final quantities are in the hands of the subcontractor for their acceptance.

C-352, Jadwin Avenue and Vicinity Street Construction and Improvements: Field layout work started on March 27, 1950. No actual construction work has started to date.

C-204-B, Additions and Alterations to Kadlec Hospital and Medical Arts Building: It was agreed that this division would do final design work for this project in order to have this work under contract by July 1, 1950. For the present, design work will be concentrated on outside site and utility work and the additions to the Medical-Dental Building.

C-289, Additional Laundry Facilities, 200 West: Bids for the construction of this project are to be opened April 6.

C-328, Lee Boulevard Improvements from Wellsian Way to Wright Avenue: Property unitization and construction completion notice will be issued the first week in April.

C-353, Richland Water Supply: Collection of detailed information for use of the architect-engineer is now in progress.

MC-964, Records Depository: Project proposal in the hands of the Atomic Energy Commission as of December 28, 1949.

GET-14, Radiochemistry Building: Project proposal and estimate for design were submitted to the Technical Divisions on March 30. Criteria and scope of design work are also completed.

GET-15, Radiometallurgy Building: Project proposal due on April 11.

GET-16, Plot Plan and Outside Utilities: General agreement was reached on the location and scope of various buildings and utilities. Preliminary construction estimate is in process of preparation.

NOTE: On the above three projects, the qualifications of six architectural firms are now being reviewed and a recommendation will be made as to the selection of one of these firms to do the final design work.

C-342, DR Water Works: Total physical completion as of March 31 has been estimated by our field engineers as 13.5 per cent. Progress through the month, although good, has been retarded because of no pipe fitters on the job. It was necessary to "box off" four wall sleeves, under drains, and piping, which will affect progress this month. Lack of pipe fitting work in the clear well area will materially affect the starting date of the erection of the 3 million gallon steel tanks.

A work order was issued March 31 to Minor Construction Division to cover SWP work on the modification of Building 115-D gas system. The estimated cost of this work is $114,000. The balance of the construction work outside the hazard area will be accomplished by Atkinson-Jones forces.

Security requirements in the construction area were approved during the month. The construction area fence now permits construction workers to work in the area without challenge through a badge house gate. Those employees required to work in the operating area will be cleared through a small TC badge house.

Atkinson-Jones and their subs have approximately 1400 men on the site (three-shift basis). Total manual and non-manual charged to DR for March average 1750 people.

Design progress as of March 31 is 80 per cent.

All M & E items, except miscellaneous, are now on order with purchasing and delivery dates appearing satisfactory with few exceptions.

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	199
End of month	200
Net increase	1

REACTOR DIVISION

GENERAL

1. Tapered Bore Gun Barrel

A full scale assembly was manufactured and will be tested in the "D" reactor. It will be installed on approximately April 4. All arrangements have been completed for procuring and analyzing the test data.

2. Test Laboratory

Approval was obtained to convert a section of the 189-D Building into a test laboratory. It is planned to perform in this laboratory all indoor development tests which do not require special reactor facilities. This laboratory will be completed on approximately June 1, 1950.

3. Heat Transfer Tests

Approval was obtained from the AEC to have the heat transfer construction work performed on a CPFF contract which could be negotiated and approved in approximately 8 weeks less than that required for a lump sum contract. The necessary contractual arrangements were completed to the satisfaction of the D & C Divisions, and are now awaiting AEC approval. It is hoped that construction work will start on approximately April 10.

4. Control Rods

Analyses

Preliminary results contained in HDC-1688 indicate that gas cooling of gadolinium stainless steel control rods appears to be feasible.

Design

Study layouts have been completed and design layouts are on the way of a control rod assembly which includes an inverted thimble that also serves as a pneumatic cylinder for decelerating the rods. A piston which fits inside this cylinder is attached to the upper end of the control rod.

5. Ball 3-X System

Design

The design and manufacture of the test assembly was completed. Sample boron glass balls have been received for engineering approval.

Tests

The stacking of the graphite at the White Bluffs Tower for the ball 3-X and control rod tests was started. It is estimated that the 3-X tests will be completed July 15, 1950.

6. Shielding

Design

The design of the test crates to be used for mass pouring tests was completed. Work was completed on test requests for the irradiation and physical testing of several structural and shielding concretes.

The Battelle Memorial Institute has reviewed a program, outlined by the Reactor Division, to obtain basic design data on both M.O. and Portland concrete with heavy aggregate.

7. Moderator

The graphite key test program has been completed and a report will be issued April 3, 1950. Preliminary reports indicate that round keys are much stronger than the square key design.

Pile experiments have been planned and test equipment is being designed to obtain graphite oxidation data.

8. Water System

The remaining requisitions for the recirculating test equipment were placed this month. The electrical work has progressed as far as possible and will be complete when the final equipment and instruments are installed. The stainless steel piping is available and will be installed on the next shut-down.

A study was initiated to determine the pressure loss in the water systems of present reactors. This is the first step in preparing an over-all design study for a water system for "G". This study will be used as a basis for an evaluation of tentative pumping power, generating and prime mover equipment.

9. Metal Handling

The design layout of the charging machine was reviewed and is now being revised. All detail drawings are scheduled to be corrected and issued on approximately April 21. The test set-up for the complete assembly, including full length process tubes and gun barrels, is in the design stage.

10. Special Process Tubes

The study layouts were approved and work has been started on the design layouts of the process tubes associated equipment and charging machine.

11. Heat Transfer Tests

GE&CL's drawings of the thermal test unit were received and reviewed. Comments and general approval of the drawings were given on March 10, 1950. Process and Service Piping Arrangement Drawings were approved after minor changes were made to add flexibility to the system. The work on fabricating Full Scale and Short Length process tubes prior to having them coated was temporarily held up pending development of suitable pressure tap connectors.

12. Process Tube Materials

Aluminum Alloys

Results of corrosion tests of aluminum alloys in standard process water for five months now indicate that only aluminum alloy 61S with 72S cladding possibly will serve as a substitute for 2S aluminum as process tubing. This alloy is the only one to which 72S remains anodic up to 90° C. Several

[redacted] DECLASSIFIED

possible cladding alloys containing more than the one per cent zinc in 72S will be prepared and tested to determine whether a simple cladding alloy exists for these aluminum alloys.

Test pile checks of the reactivity losses of the aluminum alloys being corrosion tested showed none of them to offer serious reactivity loss in the 105 reactors compared to 2S aluminum.

Zirconium

870 grams of low-hafnium zirconium crystal bar was received from the Foote Mineral Company. These bars were sent to Battelle for rolling into strip for corrosion testing.

At a meeting of the Zirconium Board (New York Operations Office) held early in March, it was recommended that facilities for low-hafnium zirconium be increased immediately to provide 1000 pounds of crystal bar per month. Further, it was recommended that "facilities be established immediately to produce 50,000 pounds per year of crystal bar starting October 1." Although this material is to be used exclusively in the Argonne-Westinghouse reactor, it is indicative of the fact that large scale production of reactor quality zirconium is probably assured and that it is feasible to consider the use of zirconium for Hanford reactors.

13. Control Rod Alloys

Sample of stainless steel-boron alloys containing up to 1.34% boron were received from Schenectady and are being checked chemically. Alloys containing up to 1.2% boron were hot worked satisfactorily, though with increasing difficulty, as the boron content was increased to this amount. An alloy containing 1.34% cracked severely on the first attempt to work it.

A corrosion test of a pure titanium microtensile specimen in carbon dioxide at 1200° F was started. After one week's exposure, the specimen showed only a slight amount of oxidation.

The Research Laboratory reported that they have not yet succeeded in preparing a master alloy of gadolinium oxide dissolved in iron for use in preparing the proposed stainless steel-gadolinium alloys.

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	42
End of month	41
Net decrease	1

[redacted]

[redacted]

DECLASSIFIED

PROJECT & RELATED PERSONNEL - MARCH 1950

	2-28-50		3-31-50	
GOVERNMENT EMPLOYEES				
Civilian Personnel - Atomic Energy Comm.	339		346	
Civilian Personnel - G. A. O.	8		8	
Total		347		354
RICHLAND VILLAGE PERSONNEL				
Commercial Facilities (Includes No. Richland)	1021		1011	
Organizations, Clubs, Etc.,	70		63	
Schools	387		386	
Churches	26		26	
Total		1504		1486
CONSTRUCTION SUB-CONTRACTORS				
Atkinson & Jones	1660		2402	
Newberry Neon	137		210	
Urban, Smyth, & Warren Co.,	15		131	
Hanley & Co.	4		46	
Kellex Corp.,	403		409	
J. A. Terteling & Son	52		72	
J. A. Troxell	12		12	
Charles T. Main Inc.,	135		117	
No. Electric Mfg. Co.,	2		2	
Graham Anderson, Probst & White Inc., & J. Gordon Turnbull	22		14	
McCorkle Const. Co.,	24		21	
Curtis Sand & Gravel	12		-	
Fisher Puget Sound Painter	3		-	
Bergman & Lampson	27		33	
Consolidated Western Steel	17		-	
Fluor Corp.	-		12	
Booz, Allen & Hamilton	-		3	
E. F. Hauserman	-		6	
Holaday & Edworthy	-		4	
Singmaster & Breyer	-		1	
Mathews Bros.	-		6	
Total		2525		3501
GENERAL ELECTRIC PERSONNEL		7464		7565
GRAND TOTAL		11837		12906

[redacted]