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NO. 1 OF 6 SERIES A

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KIDMK-4

RHTG # 98,212

BOX #

TSC/RCA/
fep

4 October 1946.

Subject: Quarterly Review of Operating Budgets for Research Division.

MEMORANDUM to Mr. H. L. Browne.

1. In compliance with letter KIDMK-4 dated 4 December 1946, Subject: Submission of Operating Budgets, a quarterly review of operating budgets, for projects under the jurisdiction of the Research Division, as of 1 October 1946 is submitted. For the most part this budget review follows closely the budget review submitted 1 July 1946. Some changes have been made due to modifications of program and actual operating costs incurred during the past three months.

	Construction 7/1/46 - 6/30/47	Operations 7/1/46 12/31/46	Operations 1/1/47 6/30/47
Battelle Memorial Institute ✓ (W-7405-eng-92)		$ 55,800	$ [redacted]
Iowa State College ✓ (W-7405-eng-82)		350,000	350,000
Monsanto Chemical Company ✓ (C.L.) (W-35-058-eng-71)	$20,166,000	5,401,250	6,585,580
Construction Directives Issued (J. A. Jones & Holabird&Root)	942,962		
Massachusetts Institute of Technology (W-7405-eng-175)	75,500	205,119	205,119
University of California ✓ (W-7405-eng-48)	1,021,448	2,355,625	2,491,875
Construction Directives Issued	733,052		

DECLASSIFICATION AUTHORIZED
ROY ANDERSON, ANALYSAS
Name (ADD) - Organization
9-13-94
Date

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DECLASSIFICATION RECOMMENDED
Name (ADC) - Organization
8/31/94
Date

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928K

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Subject: Quarterly Review of Operating Budgets for Research Division.

	Construction	Operations	
	7/1/46 - 6/30/47	7/ 1/46 12/31/46	1/ 1/47 6/30/47
University of Chicago (Argonne) (W-31-109-eng-38)	$ 5,000,000	$4,000,000	$3,600,000
Construction Directives Issued	38,870		
Vitro-ean Instrument Co., Development and Service (W-31-109-eng-49)		75,000	75,000
Vitro-ean Instrument Co., Tube Production (W-31-109-eng-64)		15,000	15,000
National Bureau of Standards		162,500	162,500
Total	27,977,832	12,620,294	13,540,874
Total Operations		$26,161,168	
Total Research Budget			$54,139,000

... figures previously submitted is as follows:

a. Battelle Memorial Institute - the operating budget estimate is slightly decreased from that previously submitted for the period 7/1/46 to 12/31/46 as actual costs for July and August were lower than anticipated. The budget for the period 1/1/46 to 6/30/47 represents an increase over the budget previously submitted. This is due to the contemplated expansion of the beryllium program.

b. Iowa State College - the operating budget remains the same as reported previously and the breakdown to thorium production and Research is still $280,000 and $420,000 respectively.

c. Monsanto Chemical Company (C.L.) - the operating budget for both periods of the fiscal year is increased over that previously submitted due to increased activities by the Research and Development Division and the start of operation of the Training School. The revised construction budget estimate is composed of the following items:

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Subject: Quarterly Review of Operating Budgets for Research Division.

Permanent Construction:

Health Physics Building	$ 140,000
Radioisotope Building	3,000,000
Heterogeneous Pile	10,000,000
Power Pile	2,500,000
Betatron Unit	900,000
Radium-Beryllium Building	50,000
Power Plant Addition	1,150,000
Central Substation	200,000
Water Filtration Plant	350,000
Sewage Disposal System	300,000
Relocation of Water Lines, Roads, and Fences	40,000
Chain Link Fence	90,000
Solvent, Acid and Dry Storage Building	75,000
Proposed Research Center (Design Only)	500,000
Site Plan	65,000
Total	$18,960,000
Temporary Construction Proposed	1,206,000
Total	$20,166,000

Construction Directives Issued:

Contractor	Project	Amount
J. A. Jones	Directive CL-C-1 & Modification No. 1. (Addition to Temporary Facilities)	500,699
J. A. Jones	Directive CL-C-2 & Modification No. 1. (New Office Building and Addition to Core Removing Annex of 105 Building)	247,067
J. A. Jones	Directive CL-C-4 & Modification No. 1. (Training Building)	177,256
J. A. Jones	Directive CL-C-5 (Construction of Off Gas Line from Bldg. 706D)	7,900

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Subject: Quarterly Review of Operating Budgets for Research Division.

Contractor	Project	Amount
J. A. Jones	Directive CL-C-6 (Construction of Aircraft. Obstruction lights on Stacks)	3,000
Holabird & Root	Directive CL-C-3 (Design of Radioisotope Bldg.)	7,500
	Total	$ 942,962
	Total All Construction	$21,108,962

d. Massachusetts Institute of Technology - the operating budget remains the same as previously reported except that the item of moving expense previously reported as operating cost has been placed in the construction category. The construction item of $75,500 is composed of the following:

Directive MSA-C-1-Relocation of metallurgic[illegible] laboratory	$ 55,700
Directive MSA-C-2-Additional Ventilation	7,800
No directive issued - Purchase and installation of extrusion press	12,000
Total	$ 75,500

e. University of California - the operating budget is substantially increased from that previously submitted and is based on a continuation of research activities at their present rate throughout the balance of the fiscal year. A breakdown of estimated expenditures by sub-projects is as follows:

Project 48 (Nuclear Studies - Dr. E. O. Lawrence)	$ 4,435,000
Project 48A I (Biological - Dr. Hamilton)	88,750
Project 48A II (Biological - Dr. John Lawrence)	88,750
Project 48A III (Special Cross Roads Operations)	50,000

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Subject: Quarterly Review of Operating Budgets for Research Division.

Project 45B (Chemical - Dr. Latimer	$ 165,000	
Project 45C (Biological - Dr. Stone)	25,000	
Total	$ 4,847,500	

The construction estimate is composed of the following items:

Proposed Construction:

Linear Accelerator	$ 1,[redacted]	
Erection of Barracks		
Total	$ 1,021,448	

Construction Directives Issued:

Directive Calif.-C-1 Construction of Synchrotron Bldg.	$ 61,052	
Directive Calif.-C-2 Relocation of 4" Magnet	70,000	
Directive Calif.-C-3 Construction of Synchrotron	500,000	
Directive Calif.-C-4 Construction of Office Bldg.	60,000	
Directive Calif.-C-5 Remodeling of 184" Guard House and Relocation of Central Switch Guard	2,000	
Letter Col. Nichols to Dr. Latimer, 2 May 1946, Equipment Chemistry Annex	40,000	
Total	$ 733,052	
Total All Construction		$ 1,754,500

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Subject: Quarterly Review of Operating Budgets for Research Division.

f. University of Chicago - the operating budget remains the same as previously submitted. No estimate has been included to cover the cost of acquisition of land for the proposed new site. Present information indicates that the site will be secured on an extended lease arrangement. However, in the event purchase becomes necessary it is estimated that an expenditure of $1, 000,000 to $1,500,000 will be required. The only change in the construction budget is the addition of the following active construction projects:

Directive Chi-C-1 Restoration of Eckhart Hall	$	9,550
Directive Chi-M-1 Painting Rooms of Chem. Annex		2,220
Alterations to Museum of Science		27,100
Total	$	38,870
Total All Construction		$ 5,038,870

g. Westerman Instrument Company - Since the last budget review the work at this location has been divided into two contracts. Although the present budget indicates an overall decrease in expenditures for [illegible] month periods the increase due to the present program of close cooperation with, and procurement for, the Navy has been taken into consideration. Due to the many uncertainties the last budget estimate was submitted in an amount appreciably in excess of known requirements.

h. National Bureau of Standards - the operating budget is substantially reduced from that submitted previously. Many items of the originally proposed program were eliminated and the remaining work was placed on a priority basis in order that the present estimated budget would not be exceeded.

3. Budget reviews for the following project, some of which were previously covered by this Division, will be submitted by the offices indicated:

a. Monsanto Chemical Company (Dayton) - Operations have recently been transferred to the Operations Division and the budget review will be submitted by that office.

b. Columbia University - the budget for the work being

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Subject: Quarterly Review of Operating Budgets for Research Division.

performed by Dr. Fiallis will be submitted by the Medical Section and that for the work under Dr. Dunning will be submitted by the Madison Square Area.

c. General Electric Company - the budget for this installation will be submitted by the Schenectady Area.

d. Brookhaven National Laboratory - the budget for this installation will be submitted by the Madison Square Area.

e. University of Rochester - the budget from this installation will be submitted by the Medical Section.

f. University of Washington - the budget for this installation will also be submitted by the Medical Section.

T. S. CHAPMAN,
Chief, Operations Branch,
Research Division.

Distribution:
Copies 1 and 2 - Addressee
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Copy 5 - Dr. Chapman
Copy 6 - Res. Div. Reader's File

1113529

This document consists of 3 pages.
Copy 1 of 6 copies. Series A.

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ARMY SERVICE FORCES
UNITED STATES ENGINEER OFFICE
MANHATTAN DISTRICT
OAK RIDGE, TENNESSEE

IN REPLY REFER TO: EIDMK-70
AE 2306 UC
no-w-7405-eng-48
K111

RHTG # 99 214
BOX #

17 July 1946

Subject: University of California Radiation Laboratory Budget 1946 - 1947.

To: The District Engineer, Manhattan District, P.O. Box E, Oak Ridge, Tennessee. (Attn: T.S. Chapman, Operation Officer, Research Division.)

1. Following discussions with Professor E.O. Lawrence, Mr. Kenneth Priestley and Lt. Col. E.B. Kelly, the following comments and recommendations are submitted relative to the approval of allocations from main Project 48 to sub-projects 48A, 48B and 48C:

a. At the present time, there is no allocation to either 48A, 48B or 48C and thus the Contractor is placed in an embarrassing situation of continuing a research program which they feel has been approved by General Nichols and Colonel Warren.

b. I have outlined to Dr. Lawrence the position of the District in the support of pure cancer research and he agrees that the District cannot support such work. It is not Dr. Lawrence's intention to ask for District support of academic biological research except where it has a direct relationship to the District's program.

c. It is my recommendation that the following allocations be made from Contract W7405-eng-48:

(1) 48A - $177,500.00
(2) 48B - 165,000.00
(3) 48C - 20,000.00

DECLASSIFICATION RECOMMENDED
Robert B. Budnitz Analysas
Name (ADC) - Organization
8/31/94
Date

2. It is recommended that a statement relative to the support of academic research be included in the letter of allocation to the California Area Engineer. This statement should be similar to the one made to the University of Rochester and should be so worded that the District agrees to support the three sub-projects during an interim period of perhaps three months. At that time, the Contractor should have furnished the District with a step-by-step program. This program should then be approved by the Medical Section.

3. I am inclosing a draft of a letter to be signed by Colonel Kirkpatrick similar to the one dated 21 June 1945 in which the allocation was made for the last fiscal year.

DECLASSIFICATION AUTHORIZED
ROY ANDERSON, ANALYSAS
Name (ADD) - Organization
9-13-94
Date

Paul W. McDaniel

PAUL W. McDANIEL,
Chief, Technical Branch,
Research Division.

Incls.:
1. CAE ltr dated 6/24/46 w/incl.
2. Ltr to AE dtd 7/17

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1113530

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THIS DOCUMENT CONSISTS OF 9 PAGE (S)
3 OF 3 COPIES, SERIES 3

SECURITY SURVEY REPORT
MANHATTAN ~~DISTRICT~~

Area Engineer or Operations Officer: California Area — Date of Survey: 20 - 25 June 1946.

Facility: University of California

Location: Radiation Laboratory, (Street) Berkeley, (City) California (State)

Rating of Importance: B (A, B, C, or D) — Facility Security Agent: Lt. George B. Daniels, Area Security Officer.

Engineer Contract No(s): W-7405-eng-48, W-7405-eng-36.

Highest Classification of Contract, Work, or Material: Top Secret

Composite Rating for Sabotage & Espionage Protection: Poor (Poor, Fair, Good, Excellent)

Previous Survey and Rating: 12 May 1945 (Date) Fair. (Rating)

Description of Premises and Vicinity

Work of interest to the District is being performed by personnel of the Radiation Laboratory in the 184 Inch Area, which is a 12 acre fenced area containing several buildings located on a hill east of the University campus, and, in Donner Laboratory, Crocker Laboratory, Old Radiation Laboratory and Gilman Hall. The latter are buildings containing mostly offices and laboratories and are located on the campus. All buildings are the property of the University.

DECLASSIFICATION AUTHORIZED
ROY ANDERSON, ANALYSAS
Name (ADD) - Organization
9-13-94
Date

DECLASSIFICATION RECOMMENDED
Robert B Budd Analysas
Name (ADC) - Organization
8/31/94
Date

RHTG #99208
BOX #

Outline of Manhattan District Interest

184 INCH AREA

Building No. 4 - Research by Drs. G. T. Seaberg and I. Pearlman on transuranic elements, and on analytical methods for uranium. Development of production methods for thin metal foils for linear accelerator program. Classified photography laboratory.

Building No. 6 - Construction of 184 inch FM Cyclotron and separation of isotopes of various elements by XC and XA Calutrons.

Building No. 10 - Experimental construction of linear accelerator, design of Harvard-Rochester Cyclotron and heavy parts machining for accelerators.

Building No. 8 - Offices of Radiation Laboratory, Information Division and key research personnel, offices and drafting rooms of Patent Section, accelerator drafting department, vault for storage of all reports covering Radiation Laboratory activity.

DISTRIBUTION: Area Engineer
District Security Officer
Other

(Continued on attached sheet)

Submitted by MAX F. WELCH,
~~SECRET~~ Inspector, Plant Protection.

1113531

Outline of Manhattan District Interest (Con't.) 20 - 25 June 1946.

Experimental work on vacuum pumps.

Building No. 7 - Radiation Laboratory and Area Engineer supply and procurement offices, machine shops and electronic maintenance shops.

General - Various other buildings contain machine shops, salvage operations, welding shops, wood working shops, etc. The new Synchrotron Area is an extension of the 184 Inch Area and foundation work is now underway for buildings which will be erected.

DONNER LABORATORY

Radiation Laboratory general administrative and accounting offices, private offices of Dr. E. O. Lawrence, Director of the Radiation Laboratory, California Area Engineer Offices, California Area Security Office and Dr. John Lawrence's OSRD medical program offices and laboratory facilities.

GILMAN HALL

(2nd. floor) Private offices of Dr. W. M. Lattimer. (3rd. floor) Dr. Lattimer's group which is engaged in research on the Chemistry of Plutonium and it's compounds, development of the Chelation-extraction process for extracting Plutonium from Uranium, preparation of refractories and studies of thermo-dynamics. (Basement) Pilot Plant operations by Drs. H. H. Crandall and J. R. Thomas for the Chelation-extraction process.

OLD RADIATION LABORATORY

Research with the 37 inch FM Cyclotron to determine the design, construction and operation of the 184 inch FM Cyclotron now being built in the 184 Inch Area. Offices of Dr. Earl Miller are located here but his main research is conducted at the University of California Hospital in San Francisco. Also, various other offices and laboratories located in this building.

CROCKER LABORATORY

The 60 inch Cyclotron is located here, with which samples of various radio-active materials are produced for theoretical research. Also, laboratories for the treatment of patients and for research on the metabolism of ordinary and transuranic elements.

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SABOTAGE AND ESPIONAGE PROTECTION

COMPOSITE RATING Poor

A. Physical Protection

Fencing & Gates	Poor
Doors	Poor
Window Screens	Poor
Partition Walls	Poor
Protective Lighting	Poor
Burglar Alarm	None
Skylights, Manholes, etc.	Poor
Restricted Areas	Poor
Vital Equipment	Poor
Power, Fuel, & Water Supplies	Poor
RATING	Poor

B. Guard Force

Total Strength	18
On MD Work	18
First Shift	6
Second Shift	6
Third Shift	4
Physical Qualifications	Fair
Equipment	Fair
Training	Fair
Supervision	Fair
Efficiency	Poor
Location of Posts	Poor
Patrol Coverage	Poor
Restricted Areas	Poor
Communications	Fair
RATING	Poor

C. Identification

EMPLOYEES	
Badge (photo-number)	Good
Pass (photo-number)	Good
Personal Recognition	Fair
Special Identification For Restricted Areas	Poor
Enforcement	Poor
VEHICLES	
Truck Register	Good
Drivers Identified	Fair
Contents Inspected	Fair
Escort	Fair
RATING	Fair

D. Visitor Control

CASUAL VISITORS	
Visitor Register	Fair
Identification	Fair
Badge or Pass System	Fair
Escort	Fair
CLASSIFIED VISITORS	
Visitor Register	Fair
Identification	Good
Badge or Pass System	Good
Escort	Fair
MD COMPLIANCE	
Clearance	Fair
Reports	Fair
RATING	Fair

E. Personnel Clearance

Total Employees	600
On MD Work	600
On Classified MD Work	600
Company Clearance Date	-
EMPLOYER INVESTIGATION	
Application Form	DNA
Check Previous Employers	DNA
Check Personal References	DNA
Check Credit Company	DNA
MD COMPLIANCE	
Submission of Forms (PHS, PSQ, Data Cards, Alien Questionnaire)	Good
Proof of Citizenship	Good
Interim Clearance Procedure	Fair
RATING	Fair

F. Shipment Security

Shipment by common carrier	Good
Shipment by Government Vehicle	Good
Shipment by Courier	Good
Other	DNA
Safety Precautions	Good
Records - Receipts	Good
RATING	Good

G. Storage of Classified Materials

Location	Poor
Physical Protection	Poor
Guarding	Fair
Inventory	Fair
RATING	Poor

H. Safeguarding Military Information

Management's Knowledge of Manhattan District Requirements	Fair
Interest Displayed by Management	Poor
Familiarity of Employees with Manhattan District Requirements	Fair
Use of Secrecy Agreements and Security Interviews	Good
Continuing Educational Program	Fair
Storage Facilities for Classified Documents and Usage	Fair
Preparation, Handling, and Transmittal of Classified Documents	Fair
Accounting Practices (receipts, records, inventories)	Fair
Practices for Destroying Classified Materials	Good
Action taken re losses, violations, and loose talk	Good
Control of Project Publicity	Fair
RATING	Fair

NOTE: Each item should be rated Poor, Fair, Good, Excellent, None or DNA (Does not apply)

~~SECRET~~

1113533

OMMENTS & RECOMMENDATIONS:

Physical Protection and Guard Force will be discussed for each location of interest to the District at the Radiation Laboratory. Since the other phases of security are common to all locations, they will be discussed for the Radiation Laboratory as a whole.

PHYSICAL PROTECTION

184 Inch Area - This area is inclosed by a generally good chain link fence topped with barbed wire. However, trees and undergrowth immediately outside the fence in many places would make it difficult to detect the approach of a person seeking to gain unauthorized access. In addition, trees close to the fence line could be readily used for assistance in scaling the fence. Authorized access to the area is limited to the main entrance gate where identification is checked by a guard. Protective lighting is very ineffective. Many of the light fixtures along the west and south fences are the old dim-out shielded type used during the war and, being fastened to the fence about three feet from the ground, afford little or no protective lighting at night. The standard light fixtures on other sections of the perimeter fence are focused directly on the fence and would reveal the presence of a guard patrolling at night since they light up a considerable area inside the fence. Most buildings within this area are not locked at night. Access could be readily gained to those which are locked. Offices and other areas within the buildings, where classified material is present, are locked but entrance to same would be a simple matter. The concrete vault in Building No. 8, containing a large volume of classified reports, correspondence, prints, drawings, etc., relating to District activity, has only a light wood panel door which is not equipped with a lock. There are two windows in the vault large enough for a man to crawl thru and they are protected only by a light metal grill. Building No. 4 is intended to be a restricted area with access limited to those having special coding on their badges, but entrances to the building are not locked and anyone already inside the general area can also enter these premises. Personnel working in the building are instructed to challenge all strangers who enter the premises but this was not done at the time of this survey. Building No. 6, where the 184 Inch Cyclotron and XB and XA Calutrons are located, is never locked, but a few maintenance personnel are on duty most of the time at night. Classified and highly important unclassified equipment and materials are always present in this building. It would be difficult to detect unauthorized persons in this building during the night, due to numerous places available for concealment.

Donner Laboratory - There is no restriction of access to this building during the daytime. However, project personnel are instructed to place all classified material in locked repositories when offices or laboratory rooms are unattended. Since the entire building is used for work of interest to the District, traffic in and out of the building could be confined to project personnel and authorized visitors. This could be accomplished, as was done until recent months, by restricting access to a single entrance and having either a receptionist or guard check identification and clear visitors. Physical protection at night is limited to locking all entrances to the building and locking all doors and windows in the individual offices and laboratory rooms. None of the windows in the building are screened. Protective lighting is afforded by lights in the hallways at night. A considerable number of the personnel working in the building have keys to unlock the front entrance. The-

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OMMENTS & RECOMMENDATIONS:

authorized access to the building and to offices, where material classified as high as TOP SECRET is stored in locked filing cabinets and safes, could be gained without difficulty during night hours.

GILMAN HALL

This building has no protective fencing or window screening and protective lighting is provided by lights in the hallways at night. All regular entrances to the building are reported to be locked at night.

At the time of this survey, the Secret Chelation - extraction process pilot plant in two small partitioned areas of a basement room of the building was found to be practically without protection. Unauthorized entrance could be gained to the room with little difficulty thru a glass panel double door in the basement hallway, thru doors opening from two adjacent rooms, thru a large hole in the ceiling, or thru several unprotected windows on the ground level. A tank, where hot uranium slugs are dissolved, is located in one partitioned area. The partition walls were found to be mostly of flimsy celotex construction, and the locked door presented an ineffective barrier since a piece of celotex was poorly affixed to the upper part of the door, and could readily be pried off to permit reaching inside to open the lock. In addition, a large unscreened window, in the outer wall of the building at ground level directly over the dissolving tank was found open wide enough for a man to crawl thru. The other partitioned area contains the extraction process equipment and laboratory facilities. While this partition is of substantial masonry construction, doors at both ends of same have unprotected glass panels. Furthermore, several unscreened windows at ground level along the outer wall open directly into this area. Hot uranium slugs of secret classification in lead containers are kept on the floor in the main part of the room without special protection. Drs. Crandall and Thomas stated they are usually in this area during the daytime but keep the doors locked if they are not present. At the time of this survey, doors and windows were locked and the premises were being left unattended at night. Unauthorized access could have been gained readily and arrangements were made for full time guarding of the premises during night hours, at least until adequate physical protection was provided.

The third floor of this building is designated as a Restricted area devoted to work of interest to the District. Both stairways leading to this floor are partitioned off and entrance doors in the partitions are kept locked at all times. However, practically all personnel working in the area (25 or 30) have keys to unlock the doors, and the partitions are of thin plywood, insufficient in height to be much of an obstacle to an intruder. The elevator entrance to the third floor is kept padlocked, except when being used by project personnel. Windows have no protective screening and several of them leading into office and laboratory rooms could be entered easily during night hours by a person gaining access to the roof of the building. Protective lighting is afforded by hall lights during the night hours.

The offices of Dr. W. M. Lattimer, on the second floor of the building where classified documents relating to project activity are used and stored, is protected by a locked glass panel door at night. Unauthorized access could be readily gained during night hours to all parts of this building where classified information and work of interest to the District are present.

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COMMENTS & RECOMMENDATIONS:

OLD RADIATION LABORATORY AND CROCKER LABORATORY

These buildings, which are about 50 feet apart with an alley-way between, are inclosed by a chain link fence. However, large gates at each end of the alley-way are never closed and the fence serves no useful purpose. Access to the Old Radiation Laboratory is unrestricted during the daytime, except for the room where the 37 inch Cyclotron is located. Employees in this room are instructed to stop persons entering and check their identification, unless they are recognized as being regular Radiation Laboratory employees having authority to enter. Access to the Crocker Laboratory, where the 60 inch Cyclotron is located, is supervised during the daytime by a receptionist stationed at the only unlocked entrance to the building. The receptionist is instructed to admit only persons having proper Radiation Laboratory identification and authorized visitors. Most personnel are admitted upon recognition, however, and identification is checked only when the individual seeking access is unknown to the receptionist.

Physical protection for both of these buildings at night is limited to locking all entrances and windows.

Doors to some offices and laboratory rooms within the buildings, where classified material is kept in locked files, are reported to also be locked at night. Unauthorized access to either building could be gained without difficulty during night hours. Windows, which have no protective screening, and some locked doors are located in inconspicuous places where an intruder would risk little chance of being observed.

GUARD FORCE

Generally, the guard force at the Radiation Laboratory does not have sufficient personnel to adequately guard the various locations of security interest to the District. In order for existing physical protection at the several locations involved to be effective, particularly during night hours, a guard force more than double the size of the present force would probably be necessary. Training and supervision of the guard force is only fair and efficiency of the guards is correspondingly low. While all guards are armed, they need training in the use and handling of firearms and range practice. The present small number of guard posts and patrols does not provide a satisfactory degree of security.

184 Inch Area. This area has guard protection at all times. There are usually about four guards on each shift. Occasionally, five guards are on duty during one or the other night shift. Two guards patrol the buildings and surrounding grounds at all times. However, they are concerned primarily with watching for fires and could not be depended on to prevent unauthorized access to the numerous buildings in the area or apprehend an intruder. To be more specific, it is believed that an individual could, with remote likelihood of being detected, climb over the perimeter fence at night, gain access to practically any building in the area, have all the time necessary for committing highly destructive sabotage or gaining access to repositories containing classified information and make his exit from the premises.

1113536

COMMENTS & RECOMMENDATIONS:

Donner Laboratory. Guard protection is afforded this building only between 5 P.M. and 8 A.M. during which time guards enter the building and walk thru the hallways checking office and laboratory room doors to see that they are locked. The guards have keys to the building entrances only and do not enter locked rooms when making their tours. Any person who had gained entrance to a room containing classified material, without revealing his presence by a damaged or broken window or lock etc., would not likely be discovered by a guard. While sabotage is not an important factor in considering security for this location, espionage could be very effective since there is always a considerable volume of confidential and secret material in files and safes in most offices and usually a few TOP SECRET documents in some of the offices.

Gilman Hall. At the time of this survey guard protection similar to that described for Donner Laboratory, was being provided for the Restricted Area on the third floor of this building. Since considerable secret material is always present in the laboratory and office rooms at this location, such guard protection would appear to be inadequate. Guards had not been instructed to visit the Secret Chelation-extraction process Pilot Plant in the basement room or Dr. Latchaw's office on the second floor, where classified material is stored. Due to the poor physical protection afforded the basement room, it was requested that a guard be assigned to duty in this room from 5 P.M. each day until 8 A.M. the following morning. Radiation Laboratory officials complied with this request and agreed to provide adequate physical protection for the room at the earliest possible date.

Old Radiation Laboratory and Crocker Laboratory. Guard protection similar to that for Donner Laboratory is provided for both these buildings. However, the guard, who makes the checks at Donner Laboratory and Gilman Hall is stationed in the alleyway between the Old Radiation Laboratory and Crocker Laboratory when he is not at the other buildings. Since considerable time elapses between guard tours of the various buildings, and since the guard makes no inspection of the majority of rooms containing classified material or important equipment, very little protection for these areas is provided. Unauthorized access could be gained to either building with little likelihood of discovery and attempts at either espionage or sabotage could be very successful. Proper guard coverage of the buildings would greatly assist in reducing the present exposure.

IDENTIFICATION

A photo badge and photo pass identification system is used by the Radiation Laboratory and is generally satisfactory. However, the time that new employees must use temporary number badges (sometimes two or three weeks) before getting their permanent photo badges, should be reduced. Not all employees of the Radiation Laboratory are authorized to have access to all areas of security interest to the District, but since badges are not properly checked at entrances to inner Restricted Areas (such as the Chemistry Building in the 184 Inch Area) any employee can gain admittance. Employees in such areas are instructed to challenge persons without the proper badge but this gives little assurance that unauthorized entry would be discovered. Personnel must show badges or photo-identification cards when entering some areas, but

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COMMENTS & RECOMMENDATIONS:

wearing of badges after admittance is not common practice. As a result, neither the guards not other personnel can readily detect a person who may have gained unauthorized entry. Identification is not checked for admittance to Donner Laboratory or the Old Radiation Laboratory. Lack of enforcement of the identification system greatly reduces its effectiveness. This weakness, together with poor physical protection and guarding, seriously exposes highly classified project information as well as classified and important equipment and materials.

VISITOR CONTROL

The California Area Security Officer directly supervises the visitor control system at the Radiation Laboratory and normally approves visits to the various areas of interest to the District in advance. Requests for visitor clearance are, as a rule, submitted to the Area Security Officer, who if the visit is approved, issues the necessary visitor pass and badge. However, some high ranking officials of the Radiation Laboratory have the privilege of escorting visitors thru the various areas and notifying the Security Officer afterwards. These officials are supplied with signed passes, which they can fill in, and badges. Compliance with the District visitor permit system is lax. The use of identification badges for visitors is not always enforced and visitors are not always escorted in a proper manner. Admission of visitors is controlled by employees of the Radiation Laboratory at all locations of security interest to the District except the 184 Inch Area. At the latter, guards check identification and issue a special supplementary visitor badge. Since employees can admit visitors at the other locations there can be little assurance that unauthorized persons will not gain access to areas where classified information and work are exposed.

[redacted]

New Radiation Laboratory employees are processed thru the Personnel Section where the necessary forms etc. are prepared. Investigations of new employees are handled by the California Area Security Officer, who grants or refuses clearance. The time required to complete personnel investigations varies from about 15 to 45 days. In many cases interim clearance is immediately granted for non-technical employees, who will not be assigned to classified work and will not be given classified information in connection with their duties. However, such employees usually have access to many areas where classified work and information are present and where sabotage and espionage would be especially effective. This is also true in the case of many technical and other employees, although it is not intended that they will be assigned to classified work and given classified information until final clearance is granted. Since new employees are normally given permanent type photo-identification badges soon after entering on duty, there is no means for guards or other personnel to readily distinguish them.

SHIPMENT SECURITY

Security for shipments of classified materials to and from the Radiation Laboratory appears to meet District requirements. Since the majority of classified [redacted] ments are supervised directly by the California Area Security Office, that office can exercise generally good control over this phase of security.

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COMMENTS & RECOMMENDATIONS:

STORAGE OF CLASSIFIED MATERIALS

The poor rating for this section is partly due to poor physical protection and guarding. While suitable repositories are used for storing classified materials in most cases, many of the repositories are located in areas to which unauthorized access can be gained with little difficulty at night. Since guard protection for most of these areas is poor, an intruder would be required to take little risk of being detected while breaking into a repository or obtaining material being processed in laboratory equipment. Since inventories of classified material are infrequent, losses by theft might not be discovered for a considerable time.

SAFEGUARDING MILITARY INFORMATION

Comments for Storage of Classified Materials are also applicable in this section. While it is believed that Radiation Laboratory [redacted] generally familiar with most of the Director's requirements for safeguarding information, there appears to be a definite lack of interest and cooperation on their part in complying with same. The prevailing attitude is that much of the information possessed by the Radiation Laboratory and present work relating to Director activity, although still classified, is now unimportant and should be declassified. Therefore, good security is no longer necessary. The indicated desire of Radiation Laboratory officials is to return to their pre-war status of free enterprise in research with financial assistance from but little or no supervision by the Manhattan District. As a result, there is little interest in security education.

Classified documents are stored in locked safes and filing cabinets at practically all locations of interest to the District. [redacted] repositories containing highly classified material located in [redacted] and the lack of suitable physical and guard protection, use of these repositories affords only a minimum of security. Good examples are the large storage vault in Building No. 6 in the 184 Inch Area, as previously described, and Donner Laboratory, where TOP SECRET material is kept in locked, but otherwise poorly protected safes and file cabinets.

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NO. 2 OF 3 COPIES, SERIES B

EIDMI-5

RHTG # 99,210
BOX #

5 August 1946.

Subject: University of California Radiation Laboratory.

MEMORANDUM to Colonel E. E. Kirkpatrick, Deputy District Engineer.

1. The Security and Technical Divisions have made surveys of the facilities and conduct of the work of the University of California under Contract No. W-7405-eng-48. Recommendations for the security classification for each type of work carried out and proposals for correcting the existing deficiencies are hereby submitted for approval. Copies of the Security and Technical survey reports are attached hereto for information. Attached also is a draft of a letter to be signed by Colonel K.D. Nichols to the California Area Engineer to rectify the deficiencies noted in the survey.

2. After a technical review of the work of the University of California, the Research Division makes the following recommendations:

a. It is recommended that the work directed by Professor E.O. Lawrence of the University of California Radiation Laboratory have the following classification:

(1) The work done in the 184" Area under the direction of Professor Seaborg in the chemistry of heavy elements should be classified Secret.

(2) The work carried out in the 184" Area on the XC and XA Magnets in the stable isotope separation and Y-12 research programs should be classified Secret. It is proposed to move the XC Magnet and its cubicle to a classified Area and to dismantle the XA Magnet and its cubicle.

(3) The work on the construction and operation of the instruments known as the 184" cyclotron, the linear accelerator in the 184" Area, the synchrotron in the 184" Area, and the 37" cyclotron in the Old Radiation Laboratory Building should be classified Restricted.

(4) The incidental work in the 184" Area not directly connected with the chemistry group, the magnetic research program or the stable isotope separation program should be classified as Restricted.

DECLASSIFICATION AUTHORIZED
ROY ANDERSON, ANALYSAS
Name (ADD) - Organization
9-13-94
Date

DECLASSIFICATION RECOMMENDED
Robert B. Burchell Analysas
Name (ADC) - Organization
8/31/94
Date

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Subject: University of California Radiation Laboratory (Cont'd).

(5) The Donner Laboratory on the main campus houses the Area Engineer and his staff, the Director of the Radiation Laboratory and his staff and is used in the conduct and administration of Secret work.

b. The work carried out on the chemistry of plutonium by Dr. Wendell Lattimer in Gilman Hall under Project 48B should be classified Secret. The work of Dr. Brewer on the thermodynamics of ordinary materials carried out in Gilman Hall under Project 48B should be classified as Confidential.

c. The general work carried out by Dr. J. G. Hamilton in the Crocker Laboratory under Project 48A should be classified Secret. The specific activities of the 60" cyclotron group should be classified Restricted.

d. The work carried out under the direction of Dr. R. S. Stone at the University of California Hospital at San Francisco under Project 48C should be classified Restricted.

3. Following the survey of the University of California facilities by the Security Division, a general rating of poor was given to the security at the site. In order to correct the deficiencies noted, in view of the above recommendations, the Security Division submits the following proposals for approval:

a. By fence relocation, divide the 184" Area into an Inner Secret Area and a General Restricted Area.

(1) It is proposed that the Inner Area, including the Chemistry Building, classified files, and XC and XA Magnets with cubicles (relocated), be protected by excellent fencing, lighting and guarding, and that admission be limited by an enforced identification system to authorized employees and visitors with prior approval of the Area Engineer.

(2) It is proposed that no major change be made in security within the General Area except that the classified vault be equipped with combination lock door and adequate window protection.

b. In Gilman Hall an overall strengthening of the security program is needed. Excellent physical protection and constant guarding should be provided for the hot laboratory in the basement, and a suitable central vault or safe should be provided for classified documents.

c. In Crocker Laboratory, the office of Dr. Hamilton should receive more thorough guard protection. During operating periods, better control of casual visitors is recommended for the 60" cyclotron area.

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Subject: University of California Radiation Laboratory (Cont'd).

d. Treat the entire Donner Laboratory Building as a Secret Area. By the use of a receptionist and an identification system restrict admission to employees and authorized or escorted visitors.

e. The Security Division is satisfied with the security conditions of the work of Dr. R. S. Stone under Project 46C.

A. V. PETERSON,
Director, Research Division.

3 Incls.:
1. ~~Memo to Distr Engr dtd 29 July '46 w/Incls.~~ Copy
2. Technical Survey Rpt.
3. Drft ltr to Calif. Area Engineer.

DAVID P. SHAW,
Lt. Colonel, Corps of Engineers,
District Security Officer.

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Report of Technical Survey of University of California

I. Introduction.

In an effort to coordinate the activities of the Research Division, the California Area Engineer, and the University of California, Dr. Paul W. McDaniel of the Technical Branch visited the University of California campus July 16 - 21, 1946 and carried out a technical survey of the facilities and activities of the Area Engineer and of the contractor. Several specific problems were discussed but the main purpose of the visit was one of inspection and survey and no attempts were made at the time to correct any deficiencies noted. It is to be pointed out that excellent relationships exist between the Area Engineer and the contractor, and that every courtesy and assistance was given to the inspector during his visit by all personnel at the site.

RHTG #99,211

BOX #

II. Facilities.

The facilities shown to the inspector as being those furnished by the contractor for use under the contract consisted of four buildings on the main campus at Berkeley, the so-called 184" Area on the hill overlooking the campus and certain rooms in the University of California Hospital in San Francisco. The four buildings on the main campus are: Donner Laboratory, Crocker Laboratory, Old Radiation Laboratory, and Gilman Hall.

A. Donner Laboratory - Donner Laboratory houses the Area Engineer and his staff, the Director of the Radiation Laboratory and his staff, and in addition a few chemical laboratories are used by the Project. No restrictions are in effect with regard to visitor control and access is easily obtained to both the Area Engineer and the Laboratory Director's Offices. Although there are no physical barriers, it was noted during the five days that the inspector was at Berkeley, no unauthorized personnel visited these offices. Classified technical reports are kept in this building but there appears to be adequate space in combination safes for storage of these documents.

Space in this building is quite limited and the presence of the Area Engineer in the building overcrowds the facilities. The Area Engineer's office itself is very much overcrowded and as a result there is a great deal of confusion.

Recommendations

1. It is recommended that space be provided for the Area Engineer's Office at some other place on the site. Perhaps the 184" Area could be used for this purpose.

B. Crocker Laboratory - Crocker Laboratory houses the 60" cyclotron and the facilities belonging to Project 4A4 under the direction of Dr. J. G. Hamilton. The 60" cyclotron is the property of the University of California, although it is probable that some of the [redacted]

DECLASSIFICATION AUTHORIZED
ROY ANDERSON, ANALYSAS
Name (ADD) - Organization
9-13-94
Date

Robt B Burdell Analysas
Name (ADC) - Organization
8/31/94
Date

[redacted]

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therewith was installed at government expense. Bombardments in the cyclotron for Project research are carried out on a contract basis for which a charge of thirty-five dollars are make for each microampere hours bombardment. The inspecting officer spent one afternoon watching these operations and he feels that this is a reasonable cost.

Dr. Hamilton's Group have several small rooms in this building in which animal experiments are conducted. These rooms are in excellent condition from the technical and safety standpoints. Technical reports are maintained in Dr. Hamilton's Office in a combination safe. It is understood that Dr. John Lawrence's work will be done on Project 48h, but I was unable to speak with anyone who knew anything about Dr. Lawrence's work.

Recommendations

1. It is recommended that the 60" cyclotron activities be classified as Restricted and that the remainder of Project 48h be Secret.

2. It is recommended that the wire fence surrounding the Crocker Laboratory be removed as it has no useful purpose at the present time and is an eye sore on the university campus.

3. It is recommended that the control of visitors to the Crocker Laboratory be somewhat more strict than at present.

4. It is recommended that daily security checks be made over the classified reports and information contained in the building.

5. It is recommended that Dr. John Lawrence submit his program for consideration of the Medical Section.

6. Old Radiation Laboratory - The Old Radiation Laboratory houses the 37" cyclotron, a few shops, and some office space. It is a wooden building across an alley from the Crocker Laboratory and is surrounded by an unguarded wire fence, entrance through which may be obtained unchallenged. The 37" cyclotron is being modified as a frequency modulated cyclotron as a mock-up for the 184" cyclotron on the hill. The 37" cyclotron will soon be dismantled. The inspector was informed that no technical classified reports were kept in this building.

Recommendations

1. It is recommended that the wire fence surrounding the Old Radiation Laboratory be torn down as it forms no useful purpose.

2. It is recommended that no classified reports be kept in the Old Radiation Laboratory Building. In this event, all of this work could be classified as Restricted.

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D. Gilman Hall - Gilman Hall houses the work carried out under Project 488 directed by Dr. Wendell Latimer, and the normal business of the Department of Chemistry. The Project facilities are located in the basement and on the third floor of the building. Hot slugs from the Clinton Pile are dumped from their containers through an open window into a dissolving tank in the basement. Fumes from the dissolving slugs are carried away through a sheet metal pipe to an old fume hood for exhaust through the top of the building. After the slugs are dissolved, the solution is transferred to a corner of the basement which has been modified as a hot laboratory. Exhaust from this part of the basement is through a fan into the air of a walkway at the rear of the building. The solution is stirred with various extracting agents for the study of the extraction of plutonium from the uranium slugs. Dr. Latimer about a year ago requested that the District authorize the construction of a hot laboratory for his use in the plutonium extraction studies. This request was turned down initially, resubmitted by Dr. Latimer and finally approved recently for construction in the 184" Area. No actual work has started in the construction of this building. Dr. Latimer has a sincere feeling the extraction process which he is working on is of great importance and can eventually be used to replace the bismuth phosphate process now used at Hanford. Therefore, he has started the experiments in the basement of Gilman Hall in order to demonstrate the feasibility of the operation, in spite of the health hazards involved and in spite of extremely limited space. In my opinion, Dr. Latimer and his group are to be commended for the conduct of this work and every effort should be made by the District to insure that their work is given our full support.

The third floor of the building is isolated from the rest of the building by a thin plywood partition constructed across the stairway. Entrance into the area is obtained by use of keys provided the personnel on the project. Across the hall on the third floor from the project facilities, four regular graduate students are carrying out their research work. Two of these graduate students are former project employees, but two have no connection with the project. Dr. Brewer carries out his work on thermodynamics in his regular university laboratory and no security is maintained over the apparatus.

Recommendations

1. It is recommended that Dr. Latimer's work retain a Secret classification.

2. It is recommended that all classified technical reports be maintained in a central vault in this building, probably in Dr. Latimer's office. Daily security check should be made by project employees relative to classified project information.

3. As an emergency measure it is recommended that Dr. Lattimer's work in the basement be permitted to continue even though the health hazards involved and the security regulations are weak. Every effort should be made, however, to discontinue plutonium chemistry in Gilman Hall and for such work to be transferred to the Chemistry Building in the 184" Area.

4. In general the security is so poor in this building that definite recommendations cannot be given. Every effort should be made to improve the situation without hindering the progress of the research.

5. 184" Area - The 184"-Area, situated on a hill overlooking the main university campus, includes most of the radiation laboratory facilities. It is surrounded by wire fence and official entrance can be obtained only through a guard gate. The 184" cyclotron, constructed by the Rockefeller Foundation Fund, is contained in the main building on the area. The cyclotron is nearing completion and should be in operation within 2 or 3 months. Also in the building are the 37 and 24 magnets which were used in the research work for the Y-12 plant. The 24 magnet is not in use at present and the cubicle is kept locked. The 37 magnets are being used in the isotope separations program and entry into the cubicle may be obtained quite easily by any of the personnel on the hill. This magnet and the control cubicle is District property, is highly classified, and will soon be in the way when the 184" cyclotron is operating.

The Information and Publications Section has offices in the basement of a wooden building to the west of the 184" Building. A specially constructed concrete vault is provided for reports, drawings, and other classified documents. This vault does not have a combination door, but rather a makeshift wooden and masonite one is provided. The Chemistry Building in which Dr. Seaborg's Group is working has a wire fence around it, but entry can be obtained to the building without challenge.

Recommendations

1. It is recommended that all of the physics research, construction, and instruments in the 184" Area have a Restricted classification.

2. It is recommended that the chemical research by Dr. Seaborg's Group have a Secret classification.

3. It is recommended that the existing security for the general area be strengthened somewhat, especially at night. It appears that the entire area should be, as at present, a Restricted entry area.

4. It is recommended that the 37 magnet and its cubicle be removed from the 184" building and transferred to the Carpenter Shop Building near the Chemistry Building. This is necessary due to the relationship of the 37 magnet to Y-12 to the fact that Dr. Seaborg's work on the heavy elements is still highly classified.

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F. University of California Hospital - The University of California Hospital at San Francisco houses Project 420 under the direction of Dr. R. S. Stone. In this project, whole body irradiations are carried out on patients in the normal course of their hospital treatment. From the District standpoint, it is desirous that additional studies be made on humans who have received whole body irradiations, therefore, the expense of Project 420 is concerned with additional studies on these patients which would not be normally carried out in the course of treatment. These studies include blood counts of the patients continued over a period of several weeks following irradiations. At the present time a lot of the work involves the writing of the Project Handbook. The question of District support of cancer research was discussed with Dr. R. S. Stone and it is my opinion that Dr. Stone does not desire to carry out any cancer research with Manhattan Engineer District funds.

Recommendations

1. It is recommended that all of the work carried out by Dr. R. S. Stone on Project 420 be classified as Restricted.

2. It is recommended that no security be provided at the University of California Hospital except that a combination safe be maintained for the safekeeping of classified project literature.

PAUL W. McDANIEL,
Acting Chief, Technical Branch,
Research Division.