RECEIVED
CF H & S
MAY 24 1965
5/25

PHILLIPS PETROLEUM COMPANY
Atomic Energy Division
Idaho Falls, Idaho

721409

May 19, 1965

TAN Health Physics Progress
Report for April, 1965
Cord-26-65A

REPOSITORY INEL
COLLECTION SNAPTRAN
BOX No. P-24724 RSR# P-2133
TAN MONTHLY REPORTS FOR 1965
FOLDER H.P. PROGRESS REPORT FOR 4/65

Mr. J. W. McCaslin
O F F I C E

The monthly report of TAN Health Physics Section for April, 1965, is as follows:

PM-2A

Work continued on the PM-2A this month requiring a number of entries into the "Hot Shop." The radiation exposure from this operation has been reduced considerably as the remote tests do not require such close human contact.

TAN 607 REMOTE RADIATION MONITORS

All of the existing TAN 607 remote area monitors were re-calibrated this past month. These RAM's are old Jordan RAMs I, II and III systems which the instrument group has done an excellent job of keeping in repair.

Design Engineering completed the specification for the new RAM system for inside the Hot Shop and these are out for formal bid. This system will allow us to retire the present Jordan system now located in the shop.

RPSSA

Considerable effort has gone into surveying excess material in the RPSSA this past period. Approximately 65,000 lbs of contaminated no-value material was sent to the burial ground.

RML SHUTDOWN

The second RML shutdown for this year began 4-23-65. The first entry after initial remote decontamination efforts showed radiation readings of 25 r/hr of gamma at 2 feet with a 10 to 1 beta to gamma ratio. Radiation readings at the end of April had been reduced to approximately 2 to 1 beta gamma ratios with the approximate working time for a one day dose of 3 minutes.

Cells such as the RML in which extremely high level contamination is generated present serious exposure problems during all entries unless remote decontamination is possible. Serious consideration of "the ease of decontamination" should be factored in the design of any device (such as the false floor) and equipment used in the cell.

1156210

The double containment principle used at LASL for particularly high risk jobs might prove to be a useful concept for such jobs in the RML.

DECON FACILITIES

Our through-put of materials in the decon facility with the resultant savings in replacement costs and operating time has continued to be high through the first third of this year. This production has not been without cost and our radiation exposure for the first 16 weeks is 2165 and 2520 penetrating radiation for the two decon men respectively. At this exposure rate we cannot operate the decontamination facilities much past August of this year and remain under the 5 rem per year limit.

We have taken steps to have the HP's help in the decon operations where a small job such as hooking the crane onto a hot cask would involve considerable exposure. However, with the nature of the Hot Cell work at TAN and with only three HP technicians the extra exposure credits available from the HP's is not large.

We have also taken steps to do low level decontamination work in the adjacent chemical cleaning room to get the men away from the background radiation from the eroded floor in the decon room. The addition of the new stainless steel floor will reduce this exposure source considerably.

With the projected work load for the facility and with the comparatively high returns on investments for decon labor it seems prudent that we should keep the facility operating at near capacity. This can be done with the addition of a third decon man. The additional exposure credit available from the additional man will allow us to maintain our current operation level.

STEP

The modified SNAPTRAN-2 reactor vessel has been received from AI. Installation of reactor components are being made to prepare the reactor for the scheduled destructive test.

A series of two coupled impulse tests were completed and preparations were made for high temperature two drum step tests. A number of step transients were performed with a maximum core fuel hot spot temperature of approximately 1440° F.

Maximum radioactive contamination detected following reactor operation during this period indicated < 200 d/m/100 cm^2 on the majority of reactor components. Reactor parts plated with gold smeared a maximum of 1500 d/m/100 cm^2 which was caused by activation of the gold.

Air samples taken in and around the reactor thermol box showed no beryllium was being released at these temperatures.

GENERAL

A detailed evaluation of the SNAPTRAN 2/10A-2 grid was made to furnish information for the PERT diagram of the destructive test.

A set of polymerization dosimeters were exposed to radiation from the TAN Co-60 source to determine if their response range might be useful in measuring the doses from the destructive test. Apparently the shipping and handling was a bit too much for these dosimeters and we obtained a wide range of dose measurements which were not interconsistive. Because of this wide variability of the response to gamma rays and the lack of knowledge of their response to neutrons, it was decided that these dosimeters would not be used.

A low level scintillation counter which approaches 4π geometry has been assembled for use on the SNAPTRAN grid samples and for the LOFT grid samples. The system was fabricated from various left over components from the ANP project.

PERSONNEL

Earl L. Goven, Health Physics Technical Assistant, reported to work at the TAN Health Physics Section on April 29, 1965.

SUMMARY OF ROUTINE WORK

Smears	850
Direct reading dosimeters issued	10
Body fluid samples	
Routine	26
Special	0
Liquid samples	
Waste water	0
Radioactive shipments	
Off-site	10
On-site	28
Burial ground	8
Laundry	15
Safe work permits	36
Beryllium analysis	0
Safety Meetings	1
Excess exposure requests	0
Whole body analysis	4
Green Tags	50

MAN HOUR TABULATION

Decontamination Manhour Tabulation

Regular assigned hours	304	Time charged to work request listed	296
Overtime	36	Time charged to clothing issue room work	36
	340	UAB	8
			340

1156212

EXEMPT	NONEXEMPT	TOTAL	EXEMPT	NONEXEMPT	TOTAL
	Scheduled Hours			Actual Hours Worked	
720	1408	2128	663½	1495	2158½
	Overtime			Absences	
7½	188½	196	S - 0	32	32
			SF - 8	21½	29½
			V - 56	48	104
	TOTAL	2324		TOTAL	2324

OLCordes:dc

cc: J. P. Lyon
M. H. Bartz
R. G. Anderson
F. L. Bentzen
J. R. Fielding
O. M. Hauge
R. E. Hayden
R. K. Ingram
D. K. Jensen
R. B. Johns
B. C. Laney
D. R. Mousseau
R. S. Peterson
N. G. Reece
D. G. Reid
A. L. Smith
J. F. Sommers
L. P. Terch
T. R. Wilson
TAN Health Physicists
O. L. Cordes
File