

November 29, 2001

12-03-01P02:21 RCVD

CDC/NIOSH Docket Officer
Robert A. Taft Laboratories, M/S C34
4676 Columbia Parkway
Cincinnati, Ohio 45226

RE: PROPOSED RULEMAKING ON PROBABILITY OF CAUSATION

Employee: Glenn A. Clayton NIOSH TRACKING #: 444
File No.:
Survivor: Dorothy Clayton

In making a determination on the probability of causation, please take into account the following information, IF you intend to take any information given you by the Department of Energy (DOE) as true and accurate information.

My husband worked at the Nevada Test Site over 29 years. For the first 13 years, he was involved in the tunnel nuclear blasts at the Nevada Test Site. As Leader, Re-Entry Team, it was his job to go inside the tunnel, shortly after every blast, to assess damage and recover necessary data relative to the nuclear test.

Glenn retired from the Nevada Test Site in 1987. In 1992 he got his first of six different types of cancer.

In 1992, Lung cancer - treated with radiation and chemotherapy.
In 1993, Tumor in his head - surgically removed.
In 1993, Severe skin cancer on his neck - surgically removed and skin grafted.
In 1994, Bladder cancer - bladder removed.
In 1995, Severe skin cancer on his right ear - surgically removed and skin grafted.
In 1996, Tumor in his head - surgically removed.
In 1997, Another brain tumor was found. Surgery not possible due to poor health.
In 1998, Lung cancer - chemotherapy.

Glenn died on June 5, 1999. The lung cancers and the tumors in his head were all DIFFERENT types of cancer.

A few months before his death, Glenn dictated a ten-page work history, detailing many things he was involved with during his work in the tunnels. Also, during that period of time Glenn and I tried unsuccessfully for several months to get his radiation exposure records from the Las Vegas/DOE office. After his death, I asked our Nevada U.S. Senator Harry Reid to help me get Glenn's records from Bechtel/DOE. As a result, I was given 1,370 pages of de-classified records detailing Glenn's job and radiation exposure, mostly from his 13 years as Leader, Re-entry Team. These records show that the Radiation Exposure History prepared by the DOE and mailed to employees/claimants is incorrect.

In the de-classified records, there are copies of film badge cards, nasal swab tests, and urine sample tests, showing radiation contamination that WAS NOT included in the Radiation Exposure History.

There is also a memo written by the Radiological Safety Chief recommending that Glenn be transferred from his present job assignment to another job where his radiation exposure would be eliminated entirely. Not only was he NOT transferred, but also he was kept in the same job for another 11 years, and continued to be over-exposed to that deadly, cancer-causing radiation.

My comments for the proposed rulemaking on probability of causation would be as follows:

1. Make sure that ALL tests results for each employee are obtained from the DOE, and compared with the Radiation Exposure History, to ensure that ALL radiation exposure is counted.
2. If those records are unavailable from the DOE, benefit of the doubt should be given to claimant IF the employee worked in a radiation contaminated area for a certain number of days, then contracted cancer.
3. Any memo's written by the Radiological Safety Chief, recommending employee be removed from one job and placed in another job because of radiation over-exposure, or any other recommendations made by the Rad-Safe Chief which were not followed by the contractor, should be taken into consideration. It was the job of the Radiological Safety Chief to monitor radiation exposure on workers and make proper recommendations. Failure to comply with those recommendations could result in the employee's death.

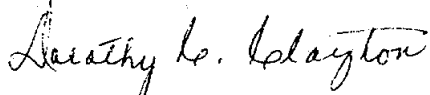
NOTE: AEC Standard Operating Procedures (NTSO-0524), Radiological Safety, which were used during the NTS tunnel nuclear blasts, states:

- 044, 3(a) Quarterly Dose. Shall not exceed 3 rems (gamma + neutron).
 - (b) Yearly Dose. Shall not exceed 5 rems (whole body gamma + neutron) except as noted below.
 - (c) Exceptions
 - (1).....
 - (2) The Test Manager is authorized to approve an increase in the exposure, and in NO CASE will more than 12 rems per year be authorized.
4. If an employee was directed to work on a job, and went over the 12 rems (as Glenn was) that deadly radiation over-exposure should be considered cancer causing and life threatening.

I am enclosing a few of the de-classified records showing radiation readings were NOT included in the Radiation Exposure History. Also, I have included a copy of the AEC Standard Operating Procedures, Radiological Safety (NTSO-0524).

There is more evidence in the 1,370 pages of de-classified records, showing gross negligence and poor radiation monitoring on Glenn. I would be happy to provide you with anything else that would help in your proposed rulemaking.

Very sincerely,



Dorothy C. Clayton
P.O. Box 16
Dickson, TN 37056
615 740-1292
319-2781

GLENN A. CLAYTON

File :

The following information was taken from 1,370 pages of previously classified Atomic Energy Commission (AEC) documents that I received from the Department of Energy (DOE) several months ago. This represents just a small portion of the blatant and deliberate deadly radiation over-exposure to my husband, and discrepancies found in the DOE Radiation Exposure History.

1959

Pg's.3-5 Radiation Exposure History shows total radiation dosage **12,130 mrem this year.**

Page 574 Memo dated 9/4/59, request to raise radiation limits for Glenn from 5,000 mrem to 12,000 mrem.

AEC Standard Operating Procedures, NTSO-0524;044 Radiation Protection Guidelines, Section 3(2) states: "The Test Manager is authorized to approve an increase in the exposure, and **IN NO CASE, will more than 12,000 mrem per year be authorized**".

NOTE: Copy of AEC Standard Operation Procedures enclosed.

Pg. 575 Radiation Safety Chief's memo dated 10/13/59, says, "It would be my recommendation that Mr. Clayton be transferred from his present work assignment (as Leader, Re-Entry Team) to an area where his exposure possibilities would be removed entirely."

NOTE: Glenn not only was **not transferred**, but he was kept in the same job for eleven (11) more years.

Pg's. 692-696 Urine samples taken from 10/19/59 to 12/22/59, clearly shows that Glenn was still working in the same job and continued to be contaminated by deadly radiation exposure which is **not included** in the total mrem's listed in the DOE Radiation Exposure History.

Pg. 685 Shows tritium contamination for **one day**, 8/31/59, was 9,900 mrem. November and December tritium contamination omitted from report.

Pg's.259,270 Tests show definite tritium contamination November and December.
271 This tritium contamination dosage is not included in the DOE Radiation Exposure History.

CONTAINS PRIVACY ACT INFORMATION
UNITED STATES DEPARTMENT OF ENERGY
NEVADA FIELD OFFICE
P.O. BOX 98518
LAS VEGAS, NEVADA 89193-8518
RADIATION EXPOSURE HISTORY

NV-185
(08/98)

US/DOE
NV

To: Dorothy C. Clayton
 146 Codyerin Drive
 Henderson, NV 89014

PAGE 1 OF 3

PRIVACY ACT OF 1974

The information requested on this form is authorized by 5 U.S.C. 301. The Department of Energy Systems of Records is DOE-35. The radiological support contractor maintains nuclear testing related personnel radiation exposure records for Nevada Test Site operations, Pacific testing, off-site testing projects, and other locations as requested. These records indicate that the individual listed below was assigned doses or dose commitments as shown. This is a summary of exposure from DOE/NV records only and is not to be construed as a complete lifetime exposure history. One rem = 1000 mrem.

NTS NO: 018533

1. NAME CLAYTON, GLENN AARON		2. IDENTIFICATION NO.		3. DATE OF BIRTH 08-26-24		
DOSE FROM EXTERNAL SOURCES						
4. EXPOSURE PERIOD (AND LOCATION)	5. WHOLE-BODY GAMMA MREM	6. WHOLE-BODY NEUTRON MREM		7. SKIN OF THE WHOLE-BODY MREM	8. OTHER BODY PART	
		THERMAL	OTHER		BODY PART	MREM
1958	2680					
1959	2030					
1960	115					
1961	1965					
1962	1955					
1963	240					
1964	0					
1965	265					
1966	780	0		420		
1967	1485	0		2745		
(CONTINENT)						
9. CURRENT YEAR TO DATE						
10. CURRENT CALENDAR QUARTER TO DATE						
DOSE OR DOSE COMMITMENT FROM INTERNAL SOURCES						
11. EXPOSURE PERIOD OR DATE EXPOSURE COMMENCED	12. SOURCE RADIONUCLIDES	13. BODY PART		14. MREM		
TOTAL WHOLE BODY* DOSE**						
DURING EXPOSURE PERIODS ABOVE	*OR BLOOD-FORMING ORGANS, GONADS, OR LENS OF THE EYE	**FROM EXTERNAL SOURCES AND WHOLE-BODY INTERNAL SOURCES			15. MREM	

16. COMMENTS: SEE PAGE 2

This report is furnished to you under the provisions of the Department of Energy regulations in 10 C.F.R. 835, entitled, Environmental Protection, Safety and Health Protection and Reporting Requirements. You should preserve this report for future reference. If we can provide further information, please contact the reporting official indicated below.

PREPARED FOR THE NEVADA FIELD OFFICE, DOE:

Signed Martha E. DeMarre Date 03-06-00
 Title Martha E. DeMarre, Health Physicist

DOSIMETRY RESEARCH PROJECT
 BECHTEL NEVADA
 P.O. Box 98521

CONTAINS PRIVACY ACT INFORMATION

CONTAINS PRIVACY ACT INFORMATION

UNITED STATES DEPARTMENT OF ENERGY

NEVADA FIELD OFFICE

P.O. BOX 98518

LAS VEGAS, NEVADA 89193-8518

RADIATION EXPOSURE HISTORY

NV-185
(08/88)

US/DOE
NV

To: Dorothy C. Clayton
146 Codyerin Drive
Henderson, NV 89014

PAGE 2 OF 3

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NTS NO: 018533

1. NAME CLAYTON, GLENN AARON		2. IDENTIFICATION NO.		3. DATE OF BIRTH 08-26-24		
DOSE FROM EXTERNAL SOURCES						
4. EXPOSURE PERIOD (AND LOCATION)	5. WHOLE-BODY GAMMA MREM	6. WHOLE-BODY NEUTRON MREM		7. SKIN OF THE WHOLE-BODY MREM	8. OTHER BODY PART	
		THERMAL	OTHER		BODY PART	MREM
1968	385	0		2315		
1969	0	0		0		
1970	530	0		170		
1971	50	0		95		
1972-1986	0	0		0		
1987	0			0		
1989-1990	0			0		
(CONTINENT)						
9. CURRENT YEAR TO DATE						
10. CURRENT CALENDAR QUARTER TO DATE						
DOSE OR DOSE COMMITMENT FROM INTERNAL SOURCES						
11. EXPOSURE PERIOD OR DATE EXPOSURE COMMENCED	12. SOURCE RADIONUCLIDES		13. BODY PART		14. MREM	
SEE PAGE 3			WHOLE-BODY		14645	
TOTAL WHOLE BODY* DOSE**						
DURING EXPOSURE PERIODS ABOVE	*OR BLOOD-FORMING ORGANS, GONADS, OR LENS OF THE EYE		**FROM EXTERNAL SOURCES AND WHOLE-BODY INTERNAL SOURCES		15. MREM	
					27125	

16. COMMENTS: We have no records for CLAYTON, GLENN AARON, for the years 1945-1957, 1988, or 1991-2000. The above person was monitored for internally deposited radionuclides with resulting doses noted above. Monitoring was by urine samples for tritium, plutonium-239, gamma emitters, and gross fission products; by whole body counts for gamma emitters; and by nasal swipes for alpha and beta emitters.

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PREPARED FOR THE NEVADA FIELD OFFICE, DOE:

Signed Martha E. DeMarre Date 03-06-00
Title Martha E. DeMarre, Health Physicist

DOSIMETRY RESEARCH PROJECT
BECHTEL NEVADA
P.O. Box 98521

CONTAINS PRIVACY ACT INFORMATION

UNITED STATES DEPARTMENT OF ENERGY

NEVADA FIELD OFFICE

P.O. BOX 98518

LAS VEGAS, NEVADA 89193-8518

RADIATION EXPOSURE HISTORY

NV-185
(08/98)

US/DOE
NV

To: Dorothy C. Clayton
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PAGE 3 OF 3

PRIVACY ACT OF 1974

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NTS NO: 018533

1. NAME CLAYTON, GLENN AARON	2. IDENTIFICATION NO.	3. DATE OF BIRTH 08-26-24	
DOSE OR DOSE COMMITMENT FROM INTERNAL SOURCES			
11. EXPOSURE PERIOD OR DATE EXPOSURE COMMENCED	12. SOURCE RADIONUCLIDES	13. BODY PART	14. MREM BODY PART WHOLE BODY
1959	TRITIUM	WHOLE BODY	10100
1960	TRITIUM	WHOLE BODY	615
1961	TRITIUM	WHOLE BODY	3670
1962	TRITIUM	WHOLE BODY	260
<hr/>		<hr/>	<hr/>
TOTAL		CEDE/WHOLE BODY	14645

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PREPARED FOR THE NEVADA FIELD OFFICE, DOE:

Signed *ME DeMarre* Date 03-06-00
 Title Martha E. DeMarre, Health Physicist

DOSIMETRY RESEARCH PROJECT
BECHTEL NEVADA
P.O. Box 98521

PRIVACY ACT MATERIAL REMOVED

Personal Radiation Exposures

September 4, 1959
RTS-3246-RMr. W. W. Allaire
DirectorNevada Operations Division
U. S. Atomic Energy Commission
Albuquerque Operations Office
P. O. Box 5600
Albuquerque, New Mexico

Gentlemen:

It is requested that the individuals listed below be authorized to receive a cumulative occupational radiation exposure of up to 12 rem per person for the current calendar year. This request is made in accordance with SCP-NTO-3502-044(c).

<u>Name</u>	<u>Annual Exposure (rem)</u>		<u>Age (years)</u>
	<u>1/50</u>	<u>1/20*</u>	
Cishton, Glenn A.	2.000	8.300	35

PRIVACY ACT MATERIAL REMOVED

- * Exposure to date surmated with internal exposure extrapolated to infinity.
- ** Extension to 0 rem for 1/20 for only due to his age.

All persons listed are presently employed by RSCo and all their total occupational radiation history has been accumulated with RSCo. For this reason there is no occupational exposure earlier than shown by the above tabulation. These facts are documented in our dosimetry records.

PRIVACY ACT MATERIAL REMOVED

October 13, 1959

James R. Crockett

William S. Johnson

Personnel Radiation Exposures

The following is a list of significant radiation exposures which have accumulated this year through September for the individuals shown. It is recommended that the appropriate supervision be provided with this information to guide their future actions when work in radiation areas is involved.

While nobody can give complete assurance that these people will not exceed the permissible level of 12 rem for 1959, our exposure history for September indicates that the work areas are well controlled. Except in the case of Glen Clayton, there is enough left in the bank to cover these employees short of some untoward incident. It would be my recommendation that Mr. Clayton be transferred from his present work assignment to an area where his exposure possibilities would be removed entirely.

<u>Name</u>	<u>Organization Number</u>	<u>Accumulated Dose (Rem) External and Internal 1959 to Date (10/1/59)</u>
Clayton, G.	57-07	11.9

PRIVACY ACT MATERIAL REMOVED

ORIGINAL SIGNED BY
WILLIAM S. JOHNSON

William S. Johnson

WSJ:ja
cc: F. W. Wilcox

PRIVACY ACT MATERIAL REMOVED

PRIVACY ACT MATERIAL REMOVED

LABORATORY DATA - URGENT

DATE OF ASSAY

0000632

10/19/59

NAME AND IDENTIFICATION NO.	Date of Collection	Volume (A)	Assay for	Count (B)	Standard (C)	Net Count (D) / μ	Factor (E)	net (B/C-D) E A
-----------------------------	--------------------	------------	-----------	-----------	--------------	-----------------------	------------	--------------------

PRIVACY ACT MATERIAL REMOVED

PRIVACY ACT MATERIAL REMOVED

#4	#5525- Chayton, G.	10/13	1	M	8.0	1	0.7	2.6	18.7 μ / μ
----	-----------------------	-------	---	---	-----	---	-----	-----	--------------------

PRIVACY ACT MATERIAL REMOVED

DATA YEAR: 1959
 BOX NO.: 62
 PAGE NO.: 33

RE 3441

SIGNED:

Ken F. Wait

APPROVED:

[Signature]

DATA YEAR: 1959
 BOX NO.: 62
 PAGE NO.: 48-33

LABORATORY DATA - URINE
 0000693
 DATE OF ASSAY 10/21/59
 PRIVACY ACT MATERIAL REMOVED

NAME AND IDENTIFICATION NO.	Date of Collection	Volume (A)	Assay No.	CREATININE (B)	Minutes (C)	Blank (D)	Factor (E)	µg/l (B/C D) E A
-----------------------------	--------------------	------------	-----------	----------------	-------------	-----------	------------	------------------

PRIVACY ACT MATERIAL REMOVED

#3	- 5511 Rayton, G.	10/13	1	41	16	1	12	2.6	< 2
----	----------------------	-------	---	----	----	---	----	-----	-----

RE 261

PRIVACY ACT MATERIAL REMOVED

SIGNED: [Signature]
 APPROVED: _____

PRIVACY ACT MATERIAL REMOVED

DATE OF ASSAY 12/3/59

NAME AND IDENTIFICATION NO.	Date of Collection	Volume l (A)	Assay for	Counts M.V. (B)	Minutes (C)	Exp. Corr. M.V. (D)	Factor (E)	µCi (B/C D/E A)
<u>8-5675 11</u>								
CLAYTON L.	11/17/59	1	M	3.1	1	1.5	2.6	6240/1

PRIVACY ACT MATERIAL REMOVED

DATA YEAR:	<u>1959</u>				
BOX NO.:	<u>62</u>				
PAGE NO.:	<u>78-33</u>				

RE 3441

PRIVACY ACT MATERIAL REMOVED

SIGNED: [Signature]
 APPROVED: [Signature]

11/30/59

NAME AND IDENTIFICATION NO.	Date of Collection	Volume (A)	Assay for	Counts (B)	Detector (C)	Bkg C/M (D)	Factor (E)	ppm (B/C-D) E A
-----------------------------	--------------------	------------	-----------	------------	--------------	-------------	------------	--------------------

PRIVACY ACT MATERIAL REMOVED

PRIVACY ACT MATERIAL REMOVED

#3	CLAYTON GREEN		6	16	1	07	2.6	< 2 MC/1
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DATA YEAR: 1959

BOX NO.: 62

PAGE NO.: 75-33

RE 3641

PRIVACY ACT MATERIAL REMOVED

SIGNED: _____

APPROVED: Eric L. George

PRIVACY ACT MATERIAL REMOVED

DATE OF ASSAY 12/29/59

NAME AND IDENTIFICATION NO.	Date of Collection	Volume (A)	Assay (B)	Count (C)	Exposure (D)	Factor (E)	µCi (B/C D) E A	
AS811 CLAYNE, GLEN	12/24/59	1	M	1.2	1	0.8	2.3	<2mc/l

PRIVACY ACT MATERIAL REMOVED

DATA YEAR: 1959
 BOX NO.: 62
 PAGE NO.: 92-33

PRIVACY ACT MATERIAL REMOVED

SIGNED

APPROVED

Eric L. Geiger

DATA YEAR: 1959
BOX NO.: 62
PAGE NO.: H-11

PRIVACY ACT MATERIAL REMOVED

NAME	DATE	TIME	DAY	MONTH	YEAR	ROOM	REMARKS
CLAYTON JOE	4-21-59	7	0	14	8	25	2200
CLAYTON GLENN	4-21-59	7	0	14	8	25	.60
CLAYTON GLENN	4-21-59	7	0	14	8	25	.53
CLAYTON GLENN	4-21-59	7	0	14	8	25	.47
CLAYTON GLENN	4-21-59	7	0	14	8	25	.68
CLAYTON GLENN A	4-21-59	7	0	14	8	25	.36
CLAYTON G	4-21-59	7	0	14	8	25	.14
CLAYTON G	4-21-59	7	0	14	8	25	.68
CLAYTON G	4-21-59	7	0	14	8	25	.16

19105

Tacticum

PRIVACY ACT MATERIAL REMOVED

BIO ASSAY READING SHEET
 DATE: 07/14/59
 TIME: 10:15 AM
 012

BIO LAST NAME	FIRST	MIDDLE	SUF	KEY	LAB	AREA	BOA	C DATE	A DATE	SAMPLE TYPE	TYPE	FRAME	OR	CON	UNIT
GLD NUM	GLD LAST NAME	FIRST	MIDDLE	SUF	AREA	BOA	C DATE	A DATE	FOLDER	PAGE	RELU	FRAME	OR	CON	UNIT
										MIDDLE	SUF				
000052	CLAYTON, GLENN				U12BEC		62	07/18/59		NASAL SWIPE	BETA	59		300	D/M
000053	CLAYTON, GLENN				U12BEC		62	07/15/59		NASAL SWIPE	BETA	59		450	D/M
000054	CLAYTON, GLENN				U12BEC		62	07/28/59		NASAL SWIPE	BETA	59		120	D/M
000055	CLAYTON, GLENN				U12BEC		62	08/14/59		NASAL SWIPE	BETA	59		300	D/M
000056	CLAYTON, GLENN				U12BEC		62	08/01/59		NASAL SWIPE	BETA	59		480	D/M
000057	CLAYTON, GLENN				U12BEC		62	06/24/59		NASAL SWIPE	BETA	59		60	D/M
000058	CLAYTON, GLENN				U12B		62	06/17/59		NASAL SWIPE	BETA	59		0	D/M
000059	CLAYTON, GLENN				U12B		62	06/19/59		NASAL SWIPE	BETA	59		90	D/M
000060	CLAYTON, GLENN				U12BEC		62	07/02/59		NASAL SWIPE	BETA	59		30	D/M
000061	CLAYTON, GLENN						62	09/25/59		NASAL SWIPE	BETA	59		90	D/M
000062	CLAYTON, GLENN						62	09/26/59		NASAL SWIPE	ALPHA	59		1	D/M
	CLAYTON, GLENN						62	11/23/59		NASAL SWIPE					

0000250

0000270

FACTORY DATA

Country

(B)

PRIVACY ACT MATERIAL REMOVED

BEST COPY AVAILABLE

SIGNED

APPROVED

[Handwritten signature]
[Handwritten signature]

959
162
3-33

REFERENCE: ELECTRICAL & ENGINEERING CO., INC. BIO ASSAY DEAD FILE
 DATE NUM NO 07-14
 828-100
 TIME HOUR 10:15
 MIN
 SEC

LAST NAME	FIRST	MIDDLE	SUF	REC	LAB	C DATE	A DATE	SAMPLE TYPE	ANALYSIS TYPE	UNIT
				AREA	BOX	FOLDER	PAGE	REEL	FRAME	TR
				DLO NUM	DLO LAST NAME	FIRST	MIDDLE	SUF		
CLAYTON, GLENN				000064	5811	12/22/59	12/22/59	URINE	003-H	300
						62	33	92	59	C/M
CLAYTON, GLENN A.				000001	6050	03/28/60	/	URINE	MINT	0
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000002		02/16/62	/	SWIPE	59	
						62	5	29		
CLAYTON, GLENN A.				000003	5825	01/06/60	/	URINE	MINT	0
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000004	7098	05/11/60	/	URINE	MINT	8
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000005	5898	02/02/60	/	URINE	MINT	11
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000006	5866	01/18/60	/	URINE	MINT	8
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000007	5962	02/24/60	/	URINE	MINT	12
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000008	5930	02/15/60	/	URINE	MINT	15
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000009	6014	03/15/60	/	URINE	MINT	13
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000010	5996	03/02/60	/	URINE	MINT	13
						66A	12	14	60	MICCI/L
CLAYTON, GLENN A.				000011	7032	04/28/60	/	URINE	MINT	11
						66A	12	14	60	MICCI/L

0000271

1960

Pg's.449-450 Only seven (7) film badges accounted for. AEC Standard Operating Procedures, NTSO-0524, Section 045(a), states, "...These film badges will be attached and worn with security badge and will be exchanged EACH MONTH."

NOTE: When film badge cards are missing, true radiation exposure is not counted, and drastically reduces the radiation exposure readings. I asked the DOE/Las Vegas Office personnel for copies of the missing film badge cards, but my request was denied. The reason given by the DOE personnel, "there is no cost effective way to get these records." Copy of AEC Standard Operating Procedures enclosed.

Pg's. 815 Memo from Floyd W. Wilson, Radiological Safety Division, states (radiation) "...doses are derived from film badges.."

DATE RUN -03:16:00

TIME RUN -07:17:46

SELECTION OPTIONS. NAME: CLAYTON

GL

SSN, MIL, or NTS NO

BATCH SEQ NO.

FILM BADGE NO:

UNDEF NO

FROM TO YR: 1960 - 1960

LAST NAME-----FIRST-----MIDDLE--SUF	BATCH SEQ	FRAME REEL	ORG NO	ORG NAME-----	REMARKS-----
CLAYTON GLENN A	19600936200	12289 03			

ID-1	ASGN NO-	ASGN CD-	ISS DT-19600218	PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-	LOC CD-	AREA CD-	BATCH NO-	DOSE CD-	BETA-
	RANK-	ISS YR- 1960	CALIB-	DAMAGE CD-	DENSITY-	THERMAL-
				FILM BADGE- 932320		OTHER-

LAST NAME-----FIRST-----MIDDLE--SUF	BATCH SEQ	FRAME REEL	ORG NO	ORG NAME-----	REMARKS-----
CLAYTON GLENN A	19600936210	12291 03	0030	REECO	51-12

ID-1	ASGN NO-	ASGN CD-	ISS DT-19600328	PROC DT-	IND-	GAMMA- 000065
SSN, MIL, or NTS	UNDEF NO-	LOC CD-	AREA CD-	BATCH NO-0104	DOSE CD-	BETA-
	RANK-	ISS YR- 1960	CALIB-	DAMAGE CD-	DENSITY-	THERMAL-
				FILM BADGE- 937192		OTHER-

LAST NAME-----FIRST-----MIDDLE--SUF	BATCH SEQ	FRAME REEL	ORG NO	ORG NAME-----	REMARKS-----
CLAYTON GLENN A	19600936215	12292 03	0030	REECO	51-12

ID-1	ASGN NO-	ASGN CD-	ISS DT-19600624	PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-	LOC CD-	AREA CD-	BATCH NO-	DOSE CD-	BETA-
	RANK-	ISS YR- 1960	CALIB-	DAMAGE CD-	DENSITY-	THERMAL-
				FILM BADGE- 945411		OTHER-

LAST NAME-----FIRST-----MIDDLE--SUF	BATCH SEQ	FRAME REEL	ORG NO	ORG NAME-----	REMARKS-----
CLAYTON GLENN A	19600936205	12290 03			

ID-1	ASGN NO-	ASGN CD-	ISS DT-19600725	PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-	LOC CD-	AREA CD-	BATCH NO-0193	DOSE CD-	BETA-
	RANK-	ISS YR- 1960	CALIB-	DAMAGE CD-	DENSITY-	THERMAL-
				FILM BADGE- 950577		OTHER-

LAST NAME-----FIRST-----MIDDLE--SUF	BATCH SEQ	FRAME REEL	ORG NO	ORG NAME-----	REMARKS-----
CLAYTON GLENN A	19600936220	12293 03	0030	REECO	51-12 (DUPL CARD)

ID-1	ASGN NO-	ASGN CD-	ISS DT-19600725	PROC DT-	IND-	GAMMA-
SSN, MIL, or NTS	UNDEF NO-	LOC CD-	AREA CD-	BATCH NO-	DOSE CD-	BETA-
	RANK-	ISS YR- 1960	CALIB-	DAMAGE CD-	DENSITY-	THERMAL-
				FILM BADGE- 950577		OTHER-

DATE RUN -03/16/00

TIME RUN -07.17.46

SELECTION OPTIONS: NAME: CLAYTON

GL

SSN/MILNO/NTSNO:

BATCH SEQ NO:

FILM BADGE NO:

UNDEF NO:

FROM/TO YR: 1960 - 1960

LAST NAME	FIRST	MIDDLE	SUF	BATCH SEQ	FRAME	REEL	ORG NO	ORG NAME	REMARKS
CLAYTON	GLENN	A		19600267160	02931	02	0030	REECO	51-12
ID-1	ASGN NO-			ASGN CD-	ISS DT-19600901		PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-			LOC CD-	AREA CD-		BATCH NO-	DOSE CD-	BETA-
	RANK-			ISS YR- 1960	CALIB-		DAMAGE CD-	DENSITY-	THERMAL-
							FILM BADGE- 955646		OTHER-

LAST NAME	FIRST	MIDDLE	SUF	BATCH SEQ	FRAME	REEL	ORG NO	ORG NAME	REMARKS
CLAYTON	GLENN	A		19600315225	07145	02	0030	REECO	51-12
ID-1	ASGN NO-			ASGN CD-	ISS DT-19600927		PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-			LOC CD-	AREA CD-		BATCH NO-	DOSE CD-	BETA-
	RANK-			ISS YR- 1960	CALIB-		DAMAGE CD-	DENSITY-	THERMAL-
							FILM BADGE- 961512		OTHER-

LAST NAME	FIRST	MIDDLE	SUF	BATCH SEQ	FRAME	REEL	ORG NO	ORG NAME	REMARKS
CLAYTON	GLENN	A		19600417135	12076	02	0030	REECO	51-1
ID-1	ASGN NO-			ASGN CD-	ISS DT-19601026		PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-			LOC CD-	AREA CD-		BATCH NO-	DOSE CD-	BETA-
	RANK-			ISS YR- 1960	CALIB-		DAMAGE CD-	DENSITY-	THERMAL-
							FILM BADGE- 967023		OTHER-

LAST NAME	FIRST	MIDDLE	SUF	BATCH SEQ	FRAME	REEL	ORG NO	ORG NAME	REMARKS
CLAYTON	GLENN	A		19600492180	15735	02	0030	REECO	
ID-1	ASGN NO-			ASGN CD-	ISS DT-19601205		PROC DT-	IND-	GAMMA- 000000
SSN, MIL, or NTS	UNDEF NO-			LOC CD-	AREA CD-		BATCH NO-	DOSE CD-	BETA-
	RANK-			ISS YR- 1960	CALIB-		DAMAGE CD-	DENSITY-	THERMAL-
							FILM BADGE- 971406		OTHER-

TOTAL RECORDS PRINTED: 9

***** END REPORT HDDR-85602-01 *****

REYNOLDS ELECTRICAL & ENGINEERING COMPANY, INC.
RADIOLOGICAL SAFETY DIVISION

MEMORANDUM

TO: Distribution
FROM: Floyd W. Wilcox
SUBJECT: Nevada Test Site Personnel Radiation Exposure Report

Transmitted herewith is your copy of the subject report. The indicated doses are derived from film badges processed during the period January 1, 1961 through NOV 10 1961.

The doses in "This Day Mrem" column were received during the last week of the reporting period.

Please note that the organization code numbers are the same codes used by our NTS Security Force.

Reports will list only those individuals who received a detectable radiation exposure during 1961.


Floyd W. Wilcox

FWW:vm

Encl. 1

Distribution:

Director, Operational Safety Division, AEC - ALO (2)

Director, Support Division, AEC - CFO - LV (2)

Reynolds Electrical & Engineering Co., Inc. (2)

NTS Prime Contractors & User Agencies (appropriate sections only) (2)

1961

Pg's.30-33 Teletype message from REECo to AEC requests maximum radiation exposure dosage be raised from 5,000 mrem this year to 12,000 mrem this year. The Teletype states, "**This is considered necessary if we are to meet test schedules and is highly desirable from an economic standpoint.**"

CHENA nuclear event was detonated 10/10/61. Glenn was instructed to direct his crew from outside the tunnel. He was not allowed to work inside the tunnel because of being over his radiation exposure limit for the quarter. However, in the same quarter, on 12/22/61, the FEATHER nuclear event was detonated. Glenn was instructed to work inside that tunnel, which was highly contaminated with deadly radiation.

Location: Records Center CR40
Collection: 8-9-2-204
Folder: 729.3

0000030

INCOMING

Hazards ~~CONFIDENTIAL~~

TVX NR C-43 2821252

FM REYNOLDS ELEC & ENGR CO LAS VEGAS NEV
TO JAMES E REEVES/USAEC OFO ALBUQUERQUE NMEX
INFO MILTON REX/USAEC OFO LAS VEGAS NEV
JAMES OLSEN/LRL MERCURY NEV

DR WM OGLE/LASL LOS ALAMOS NMEX

BRIG GEN A W BETTS/USAEC DNA WASHDC

AEC BRNC

BT

~~THIS DATE~~
~~affairs~~
~~the United~~
~~of the asp~~
~~U.S.C., Se~~
~~mission or~~
~~anner to~~
~~prohibited~~

need stamp for downgrading kind of 25/80

893
DIR B9D2
129.31
635
K-REECO
2300

~~CONFIDENTIAL - DEFENSE INFO~~

SUBJECT - IMPACT ON TUNNEL ACTIVITIES DUE TO RADIATION CEILINGS
REF LETTERS CMM J R CROCKETT TO JAMES E REEVES CMM DATED NOV 17, 1961
AND C S MAUPIN TO JAMES E REEVES CMM DATED NOVEMBER 15, 1961
YOUR INSTRUCTIONS THAT MAXIMUM OF 3R PER QUARTER MUST BE OBSERVED
HAS FORCED A 75 PERCENT SHUTDOWN OF TUNNEL B ACTIVITIES DUE TO
INSUFFICIENT NUMBER OF UNDERGROUND PERSONNEL WITH LITTLE OR NO RADIATION
EXPOSURE FOR THIS QUARTER PD ALL AVAILABLE NEW HIRES ARE BEING UTILIZED
IN "E" TUNNEL COMPLEX PD WE UNDERSTAND THAT YOU CAN NOW AUTHORIZE UP TO
12R PER YEAR FOR OPERATIONAL NECESSITY BUT ONLY 3R PER QUARTER COMPARED
WITH PREVIOUS LIMITS OF 5R PER YEAR AND 3R PER QUARTER PD

COPIED/DOE
LANL RC

~~CONFIDENTIAL~~ A1

Classification changed to Unclassified
by authority of the U.S. E.A.D.L. DOG
For E. M. Sandoval 8/25/80
(Person authorizing change in classification) (Date)
By M. R. Bramlett
(Signature of person making the change, and date) 8/26/80



CONFIRMED TO BE UNCLASSIFIED
BY AUTHORITY OF DOE/OC
Carl Wilson 7/12/83

~~CONFIDENTIAL~~

PAGE TWO NR C-43

UNLESS MAXIMUM QUARTERLY ALLOWANCE IS INCREASED CMH THE FOLLOWING WILL RESULT CLM

1. EVENT IN B.08 WILL BE APPRECIABLY DELAYED PD
2. FUTURE TUNNEL EVENTS WILL LIKELY BE DELAYED PD NATURE OF DELAY INDETERMINATE AT THIS TIME AND DEPENDENT ON PROBLEM WHICH MIGHT BE ENCOUNTERED PD
3. ACCIDENT POTENTIAL GREATLY INCREASED DUE TO INABILITY TO WORK NEW OR GREEN HIRES ALONG WITH EXPERIENCED MINERS IN TUNNELS HAVING RADIATION LEVELS PD
4. WE MAY BE FORCED TO RETAIN LARGE NUMBERS OF UNDERGROUND PERSONNEL ON THE PAYROLL IN A NON-PRODUCTIVE CAPACITY AWAITING EXPIRATION OF MAXIMUM ALLOWABLE DOSAGE PERIOD OR OPENING OF NEW UNDERGROUND FACILITIES PD THE LATTER REQUIRES CMH IN MOST INSTANCES CMH A FOUR TO SIX WEEK PERIOD FROM TIME OF NEW TUNNEL AUTHORIZATION TO TIME OF FULL UTILIZATION OF MINERS PD

~~WE URGENTLY REQUEST THAT APPROXIMATELY 30 KEY PERSONNEL NOW WORKING IN "B" TUNNEL CMH ALL OF WHOM HAVE EXCEEDED OR ARE ABOUT TO EXCEED 3R FOR THE QUARTER CMH BE ALLOWED TO CONTINUE WORKING IN "B" TUNNEL PD THIS IS CONSIDERED NECESSARY IF WE ARE TO MEET TEST SCHEDULES AND IS HIGHLY DESIRABLE FROM AN ECONOMIC STANDPOINT AS WELL AS THE MORALE OF THIS GROUP OF MEN AND SAFETY OF OTHER WORKMEN PD~~

~~CONFIDENTIAL~~

COPIED/DOE
LANL RC

PAGE THREE NR C-43

~~CONFIDENTIAL~~

WE FURTHER REQUEST THAT THE QUARTERLY MAXIMUM ALLOWABLE DOSAGE BE INCREASED TO AT LEAST 5R WITH THE TOTAL OF 12R PER YEAR PD THESE DOSAGES COULD BE AT THE DESCRETION OF THE TEST MANAGER TO FULFILL OPERATIONAL NEEDS AND SPOT REQUIREMENTS PD LIST OF 30 MEN NOW WORKING IN "B" TUNNEL WITH EXPOSURES FOR THE QUARTER AND YEAR SHOWN BELOW PD WE ESTIMATE MAXIMUM EXPOSURE TO THE PEOPLE TO BE 300 MR PER WEEK FOR THE NEXT 3 TO 4 WEEKS PD

NAME	QUARTERLY	YEARLY
BLEN CLAYTON	3,950	4,675

~~CONFIDENTIAL~~

COPIED/DOE
LANL RC

3 | 4
C

1962

Pg's.3-5
Pg. 495

Radiation Exposure History shows **1,955 mrem this year.** (*See 1959*)
Film badge card #291242, dated 11/29/62 shows **3,712 mrem this year.**

Pg's. 877,
879, 881

Glenn gave urine samples which was to be tested from radiation contamination of tritium, gross fission product, uranium and plutonium. On these three (3) pages, at least 79 times in the REMARKS section, is noted, "NOT ENOUGH SAMPLE FOR TEST or SPILLED SAMPLE".

NOTE: These critical tests were never taken! If Glenn was exposed to any of this deadly radiation, it went undetected.

266286

IDENTIFICATION NUMBER NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

5: IDENTIFICATION NUMBER 3553

6: NAME CLAYTON GLEN A

7: EMPLOYING ORGANIZATION OR HOME BASE SU

8: ISSUE DATE 10-1-62

9: RADIATION

IBM 3017

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

276504

IDENTIFICATION NUMBER NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

5: IDENTIFICATION NUMBER 112B

6: NAME CLAYTON

7: EMPLOYING ORGANIZATION OR HOME BASE SU

8: ISSUE DATE 10-31-62

9: RADIATION

IBM 3017

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

291242

IDENTIFICATION NUMBER NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER

PROCESS DATE THIS DAY WHEN THIS QUARTER WHEN YEAR

5: IDENTIFICATION NUMBER 18533

6: NAME CLAYTON GLEN A

7: EMPLOYING ORGANIZATION OR HOME BASE SU

8: ISSUE DATE 29 NOV 1962

9: RADIATION AREA #12

IBM 3017

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

QUANT. CLT'D	ENTRD BY	CLT'D BY	ANALYSIS REQ'D	REMARKS
-	-	-	Act. + G.F.P.	U-12-E not enough for G.F.
-	-	-	-	U-12-B
-	-	-	-	-
-	-	-	-	U-12-E not enough for G.F.
-	-	-	-	-
-	-	-	-	-
-	-	-	Act.	-
-	-	-	Act.	U-12-B not enough for G.F.
-	-	-	Act. G.F.	U-12-E
-	-	-	-	-
-	-	-	Act.	U-12-B
-	-	-	Act. & G.F.	U-12-B
-	-	-	Act.	U-12-B
-	-	-	-	U-12-E
-	-	-	Act. + G.F.	- NOT ENOUGH FOR G.F.
-	-	-	Act.	U-12-B
-	-	-	Act. & G.F.	U-12-E NOT ENOUGH FOR G.F.
-	-	-	-	" " "
-	-	-	-	" " "
-	-	-	-	-
-	-	-	-	NOT ENOUGH FOR G.F.
-	-	-	Act.	U-12-B
-	-	-	Act. + G.F.	U-12-E NOT ENOUGH FOR G.F.
-	-	-	Act.	U-12-B
-	-	-	-	-
-	-	-	Act. & G.F.	U-12-E NOT ENOUGH FOR G.F.
-	-	-	-	-
-	-	-	Act.	U-12-B
-	-	-	-	U-12-E
-	-	-	Act. + G.F.	U-12-E NOT ENOUGH FOR G.F.
-	-	-	-	-
-	-	-	-	NOT ENOUGH FOR G.F.
-	-	-	-	" " "
-	-	-	Act.	U-12-B
-	-	-	-	-

QUANTITY
CLT'D

ENTERED
BY

CLT'D
BY

ANALYSIS
REQUIRED

REMARKS

0000879

QUANTITY CLT'D	ENTERED BY	CLT'D BY	ANALYSIS REQUIRED	REMARKS
			Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act + G.F.	U-12-E NOT ENOUGH FOR G.F.P.
	"		Act. + C.F.	U-12-E
	"		Act. + G.F.	U-12-E NOT ENOUGH FOR G.F.P.
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		Act.	U-12-E
	"		ACT.	
	"		ACT	
	"		Act	U-3AG
	"		Act.	U3AG
	"		Act.	U-3-AG
	"		Act.	U-3-AG
	"		U, PU, ACT.	U-3AD
	"		U, PU, ACT.	U-3AD
	"		ACT.	U-12-E
	"		ACT.	U-12-E
	"		ACT	U-12-E
	"		ACT.	U-12-E
	"		ACT.	U-12-E
	"		ACT, G.F.	U-12-E not enough for G.F.
	"		ACT.	
	"		ACT	

QUANT. CTNO	ENTERED BY	CT'D BY	ANALYSIS REGR'D	REMARKS
			Act.	U-12-B
			Act.	U 9 H, G. Z.
	✓		Act.	U 9 H. GZ
	✓		Act.	U 9 H GZ
	✓		Act.	U 9 H. GZ
			Act.	U 9 G - 2
			ACT	U-12-B
	✓		ACT, G.F.	U-12-B composite with 2010 for G.F.
	✓		ACT, G.F.	U-12-B not enough for G.F.
	✓		ACT, G.F.	U-12-B preceded by 601: for G.F.
	✓		ACT	U-12-B spilled 31
	✓		ACT, G.F.	U-12-B composite with 2010 for G.F.
	✓		ACT, G.F.	U-12-B composite with 2010 for G.F.
	✓		ACT.	U-12-B } composite for
	✓		ACT, G.F.	U-12-B }
	✓		ACT, G.F.	U-12-B composite with 2010 for G.F.
	✓		ACT, G	0040
	✓		ACT, G.F.	U-12-B not enough for
	✓		ACT, G.F.	U-12-B
	✓		ACT, G.F.	U-12-B spilled 55
	✓		ACT, G.F.	U-12-B composite with 2010 for G.F.
	✓		ACT, G.F.	U-12-B not enough for G.F.
	✓		ACT, G.F.	U-12-B
	✓		ACT.	U-12-B
	✓		ACT.	U-12-B
	✓		ACT.	U-12-B
	✓		ACT.	U-12-B
	✓		ACT, G.F.	U-12-E 29+00 MAIN DRIFT
	✓		ACT, G.F.	U-12-E CIDRIFT 02+00
	✓		ACT, G.F.	U-12-B not enough for G.F.
	✓		ACT, G.F.	U-12-B
	✓		ACT, G.F.	U-12-B not enough for G.F.

BEST COPY AVAILABLE

1963

Pg's.3-5
Pg 504

Radiation Exposure History shows only **240 mrem this year.** (See 1959)
Film badge card #412808, dated 8/29/63, shows **4,611 mrem this year.**

387331

IDENTIFICATION NUMBER: 39960

NAME: CLAYTON, JERRY A

EMPLOYING ORGANIZATION OR HOME BASE: 50

ISSUE DATE: 6/7/63

Issued By *RL*

RADIATION 5
6
7
8
9

ATOMIC ELECTRICAL

39960

IDENTIFICATION NUMBER: 18533

NAME: Clayton, Glenn A

EMPLOYING ORGANIZATION OR HOME BASE: 50

ISSUE DATE: JUL 2 1963

PLDG III

RADIATION 5
6
7
8
9

ATOMIC ELECTRICAL

412808

IDENTIFICATION NUMBER: 000000

NAME: [Blank]

EMPLOYING ORGANIZATION OR HOME BASE: [Blank]

ISSUE DATE: 8-29-63

Issued By *C.L.H.*

RADIATION 5
6
7
8
9

ATOMIC ELECTRICAL

1964

Pg's.3-5
Pg. 512

Radiation Exposure History shows **0 mrem this year.** (*See 1959*)
Film badge card #567472, date stamped 5/28/64, shows **5,675 mrem this year.**

000000 6000

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: OCT 29 1964

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: OCT 29 1964

587473

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: MAY 2 1964

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: MAY 2 1964

000000 6153

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: DEC 7 1964

Issued By _____

IDENTIFICATION NUMBER: 18533
 NAME: CLAYTON
 EMPLOYING ORGANIZATION OR HOME BASE: GLENN A
 ISSUE DATE: DEC 7 1964

1965

Pg's.3-5
Pg. 520

Radiation Exposure History shows **265 mrem this year.** (*See 1959*)
Film badge card #747923, dated 4/1/65, shows **6,486 mrem this year.**

726170 000520
NAME S GAMMA THIS DAY NEUTRON THIS DAY WREN THIS YEAR
IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER PROCESS DATE THIS DAY AREA THIS QUARTER THIS YEAR
MAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
ISSUE
RADIATION 5 6 7 8 9
MAR 6 1965 50
IDENTIFICATION NUMBER 18533
NAME CLAYTON GLENN A
EMPLOYING ORGANIZATION OR HOME BASE 50
ISSUE DATE

18533 6 000000 6609
IDENTIFICATION NUMBER NAME S GAMMA THIS DAY NEUTRON THIS DAY WREN THIS YEAR
IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER PROCESS DATE THIS DAY AREA THIS QUARTER THIS YEAR
MAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
ISSUE
RADIATION 5 6 7 8 9
Issued By [Signature] 777208
IDENTIFICATION NUMBER 18533
NAME CLAYTON GLENN A
EMPLOYING ORGANIZATION OR HOME BASE 50
ISSUE DATE 6-28-65

747923 130 7-50
IDENTIFICATION NUMBER NAME S GAMMA THIS DAY NEUTRON THIS DAY WREN THIS YEAR
IDENTIFICATION NUMBER INITIALS NAME ORGANIZATION NUMBER PROCESS DATE THIS DAY AREA THIS QUARTER THIS YEAR
MAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
ISSUE
RADIATION 5 6 7 8 9
APR 6 1965
IDENTIFICATION NUMBER 18533
NAME CLAYTON GLENN A
EMPLOYING ORGANIZATION OR HOME BASE 50
ISSUE DATE

U. S. ATOMIC ENERGY COMMISSION
STANDARD OPERATING PROCEDURE
NEVADA TEST SITE ORGANIZATION

NTSO-0524-01

Chapter 0524

RADIOLOGICAL SAFETY

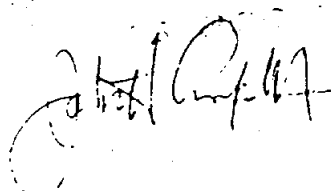
0524-01 Radiological Safety011 Purpose

The purpose of this Standard Operating Procedure is to define responsibility and to establish criteria and general procedures for radiological safety associated with NTS programs. Additional operational instructions relating to radiological safety for particular activities may be published as a part of the Test Manager's Operational Plan.

012 Responsibilities

- a. Test Manager. The Test Manager is responsible to the AEC for the protection of participating personnel and off-site populations from radiation hazards associated with activities conducted at the NTS. By mutual agreement between the Test Manager and a scientific user, control of rad-safety within the area assigned for a particular activity may be delegated to the user's Test Group Director during the period of time when such control could have a direct bearing on the success or failure of the scientific program.
- b. Test Group Director. Whenever operational rad-safety control is delegated to a Test Group Director under provisions of 012a above, he is responsible to the Test Manager for establishment and notification of safety criteria within the assigned area. Under such conditions, he will be responsible for submitting a detailed rad-safety operational plan to the Test Manager for concurrence.
- c. Area Manager, LV80. The Area Manager is delegated the on-site rad-safety responsibility for the NTS, except for those periods in which operational control of specified areas may be delegated to the Test Group Director under 012a above.

The Area Manager is also delegated responsibility for the off-site radiological safety operations associated with NTS activities.



- d. Radiological Safety Advisor. The NTSO Rad-Safety Advisor is responsible to the Test Manager for staff supervision of rad-safety policies and procedures at the NTS.
- e. AEC Radiological Safety Officer. The AEC Radiological Safety Officer is responsible to the Area Manager, LVAO, for the direction and coordination of the on-site and off-site rad-safety programs, except for those periods when operational control of specified areas is delegated to a Test Group Director under 012a above.
- f. Off-Site Radiological Safety Officer. The Officer-in-Charge, U. S. Public Health Service Off-Site Activities Office, LVAO, is designated as the Off-Site Rad-Safety Officer and is responsible to the Area Manager, LVAO, through the AEC Rad-Safety Officer, for operation of the off-site program.
- g. Project Manager, Reynolds Electrical and Engineering Co., Inc. The Project Manager provides on-site rad-safety support services to the Area Manager, LVAO, and to Test Group Directors as required.
- h. Participating Agencies. The official in charge of each agency or organizational group participating in NTS field activities is responsible to the appropriate NTSO official designated above for compliance by his personnel with established rad-safety policies, procedures and controls. Each official in charge of a participating group is also responsible at all times to his parent organization for the radiological safety of personnel under his supervision.

0524-02 Organization

The chart showing the organizational relationship of the rad-safety activities is shown in Figure I on the following page.

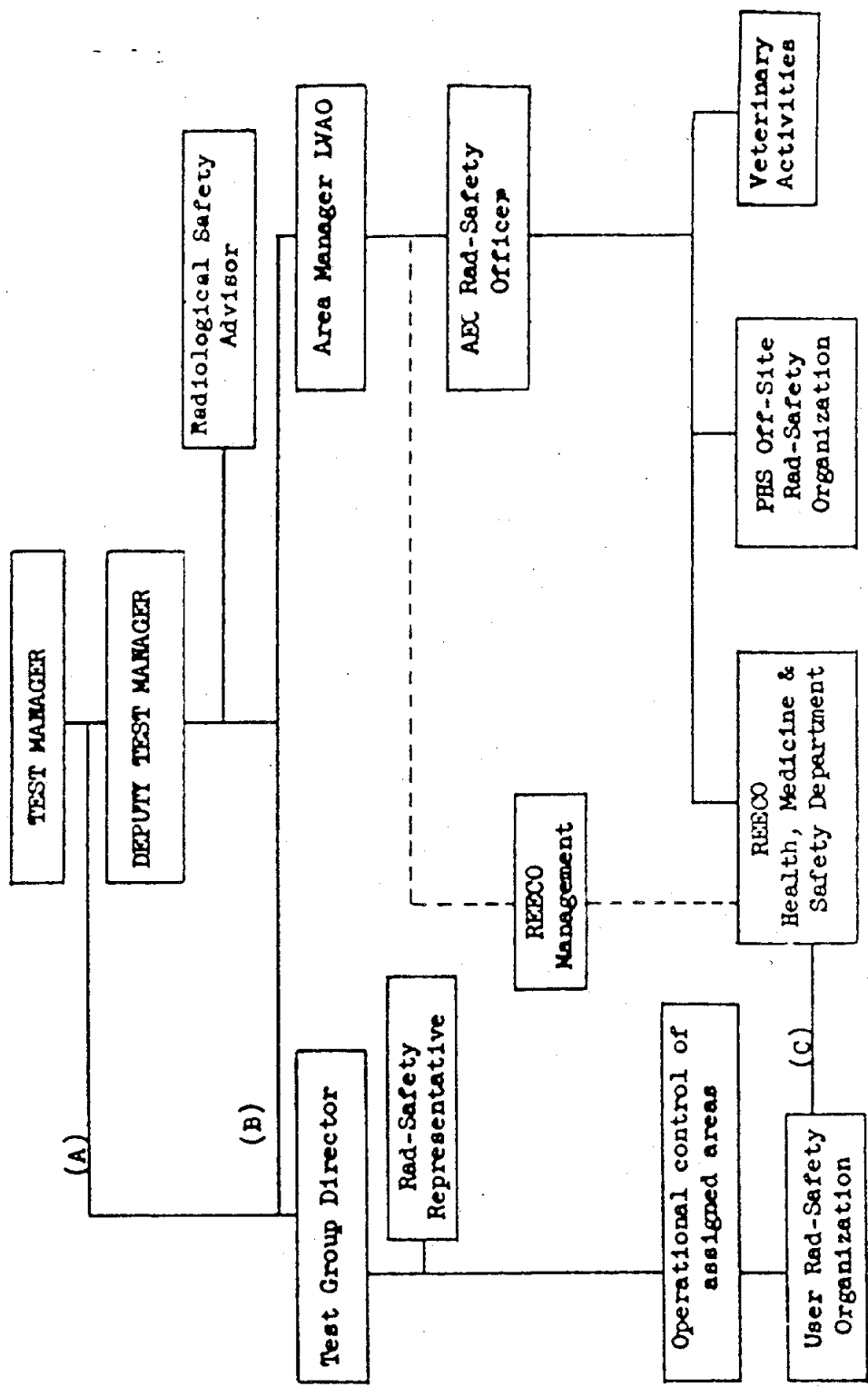
0524-03 Radiation Incidents Reports

See NTSO Chapter 0502 and NTSO Appendices 0502-04 A, B, and C for detailed reporting procedures.

0524-04 On-Site Rad-Safety Operations

041 Purpose

The purpose of this on-site plan is to set forth procedures to be followed by all participants in connection with on-site rad-safety operations at the Nevada Test Site.



- Administrative
- (A) Policy
- (B) Normal Operations
- (C) When requested by User

FIGURE 1 ORGANIZATION CHART, RAD-SAFETY ACTIVITIES

042 Definition of On-Site Terms

- a. Certified Monitor: Any person certified to the Test Manager or his designated representative as a qualified monitor by a Test Group Director or his Radiological Safety Representative.
- b. RPG: Radiation Protection Guide is the radiation dose which should not be exceeded without careful consideration of the reasons for doing so; every effort should be made to encourage the maintenance of radiation dose as far below this guide as practicable.
- c. RCG: Radioactivity Concentration Guide is the concentration of radioactivity in the environment which is determined to result in whole body or organ dose equal to the Radiation Protection Guide.
- d. MPD: The Maximum Permissible Dose in rems that can be accumulated at any age is equal to five times the number of years beyond age 18, thus $MPD = 5(N-18)$ where N is the age.
- e. NTS: The Nevada Test Site, excluding Desert Rock and Area 51, but including Mercury and the Jackass Flat area.
- f. On-Site: The area within the NTS boundaries including Mercury.
- g. Radex: Radiological Exclusion Area.
- h. Controlled Area: Refers to any area within the NTS boundaries where for safety or any other purpose it is necessary to control entry of personnel.
- i. User: Those organizations having an approved technical program.
- j. REECO: Reynolds Electrical & Engineering Company, Inc., the support contractor for the Nevada Test Site.

043 Responsibilities

- a. The Project Manager, REECO, is responsible to the Area Manager, LVAO, for furnishing radiation safety support services as follows:

1. Providing rad-safety support, including qualified monitors, to user organizations as required.
 2. Making radiological surveys, mapping and properly marking all contaminated areas, and distribution of this survey information.
 3. Conducting a personnel radiation dosimetry program.
 4. Maintaining and calibrating radiation detection equipment.
 5. Procuring, issuing, and decontaminating rad-safety clothing, supplies, and equipment as required.
 6. Providing radioactive source material and waste disposal control within the Nevada Test Site.
 7. Operating personnel- and equipment-decontamination facilities.
 8. Providing advice and assistance in matters pertaining to radiological safety.
 9. Conducting occupational and bio-assay program.
 10. Providing necessary support services for the off-site rad-safety program as required.
 11. Conducting rad-safety training courses as required.
 12. Preparing final on-site reports containing radiological data following each test operational period, special reports as requested, and detailed operational plans for each future program.
 13. Providing a stand-by emergency monitoring team to handle unforeseen incidents associated with radiation.
 14. Providing a repository for records and source documents pertaining to personnel dosimetry for all OTO field activities and all prior weapons test series.
 15. Conducting analysis of samples for radioactivity and for certain toxic materials.
- b. The Support Contractor will prepare and keep current a manual containing the Standard Operating Procedures (SOP) for providing rad-safety support services to users and contractors at NTS as outlined in 043a above.

- c. Whenever a Test Group Director has been delegated responsibility for on-site rad-safety under subsection 012a above, the Test Manager's operation order will specifically list those functions in subsection 043a for which the Support Contractor will be responsible to the Test Group Director.

044 Radiation Protection Guides

a. Radiation Exposure Criteria

1. The radiation exposure criteria for all test personnel at the NTS are established for each series of tests by AEC Headquarters.
2. AEC Manual Chapter 0523 and 0524 contain the radiological safety criteria for peaceful uses.
3. External Whole Body Radiation
 - (a) Quarterly Dose. Shall not exceed 3 rems (gamma + neutron).
 - (b) Yearly Dose. Shall not exceed 5 rems (whole body gamma + neutron) except as listed below.
 - (c) Exceptions
 - (1) If the individual's MPD minus his previous lifetime cumulative dose is less than 5 rem no exposure which will cause him to exceed his MPD will be authorized.
 - (2) If the individual's MPD minus his previous lifetime cumulative occupational dose is greater than 5 rem an added exposure may be allowed provided the parent organization has maintained an accurate record of the individual's lifetime radiation exposure. The Test Manager is authorized to approve an increase in the exposure, and in no case will more than 12 rem per year be authorized. All work requests must be fully justified by the user as to the need and requirement to receive an authorization to exceed the 5 rem per year radiation dose.

- (3) The Test Manager may approve requests from the Director, DOD Test Group for an increase in the operational radiation exposure when submitted in accordance with the special limits prescribed by the Armed Forces.
- (d) Accidental Dose. Provisions of NBS Handbook 59 shall pertain in the case of an accidental or emergency exposure.
4. Radiation Concentration Guides. The maximum permissible body burdens and concentrations (MPC) in air and water of radio-nuclides are contained in National Bureau of Standards Handbook 69 (June 1959).

b. Radiation Contamination from Weapons Testing

1. Allowable vehicle and equipment contamination must not exceed:

7 mr/hr (gamma)

400 d/m/55 cm² (removable alpha by swipe)

1000 d/m/55 cm² (fixed alpha)

By "fixed" alpha is meant that no change in the alpha contamination level can be detected by swiping a one square-foot area and monitoring the swipe. These measurements are made by portable survey instruments.

2. Personnel contamination should be maintained as low as possible and decontamination exercised when levels exceed those shown:

Item	Alpha d/m/55 cm ²	Gamma mr/hr
Outer Clothing	1000	7
Shoes	1000	7
Skin or Underclothing	200	1

3. Respirator protective devices will be maintained at a contamination level less than 1 mr/hr (beta+gamma) or 200 d/m/55 cm² (alpha fixed or removable).

4. Equipment or vehicles, alpha contaminated to levels in excess of 10,000 d/m/55 cm², will be decontaminated by mobile equipment in the field prior to transporting to the decontamination pad.
- c. Radiation levels from reactor testing. Maximum permissible radiation levels will be as specified in the Test Group Director's Operational Plan.

045 Film Badge Procedures

- a. All personnel entering NTS must wear a current gamma measuring film badge. These will be attached and worn with the security badge, and will be routinely exchanged each month.
- b. Neutron film badges will be issued to individuals working with neutron sources, or working in the reactor areas when required by test operations. These badges will be exchanged and processed whenever an individual or group of individuals could have received a dose greater than 100 mrem or at the end of each calendar quarter, whichever is sooner.
- c. Dosimeters will be worn by all personnel working in a radiation area in which it is possible to receive in a normal working day a radiation dose greater than 100 mrem.
- d. Film badges will be exchanged by all personnel at the nearest Rad-Safety facility immediately after leaving a radiation area or zone in which a pocket dosimeter reading shows a dosage of 100 mr or greater, or at any time a greater exposure is suspected. These badges will be processed each work day.
- e. Individuals returning to their home stations, or otherwise terminating their participation with an activity at the NTS, will turn in their film badges as a part of the Mercury check-out procedures. Film badges will be collected and processed each work day for these departing individuals and the dosage results will be reported to the appropriate agency within 24 hours from processing if the film badge processing indicates a dosage greater than 100 mrem.

046 Radiological Surveys.

When operational rad-safety control has been delegated to a Test Group Director under 012a, the Director will be responsible for the initial radiation survey of the specified area after an operation. Permission for entry into the area prior to completion

b. Monitors

1. Participating organizations will normally provide their own monitors. If they are unable to do so, the REECO Rad-Safety Organization will provide monitors.
2. The REECO Rad-Safety Organization will provide training courses for project monitors as required.
3. All participating organizations will provide a list of certified monitors to the REECO Rad-Safety Division.

c. Anti-Contamination Clothing and Equipment. Necessary rad-safety equipment, including instruments, clothing, respirators, film badges and dosimeters may be obtained at the Rad-Safety Building (CP-2) or the Reactor Test Area Rad-Safety Facility.

d. Decontamination

1. Vehicles and equipment found to be contaminated will be taken to the decontamination station adjacent to the Rad-Safety Building (CP-2) or the Reactor Test Area Rad-Safety Facility.
2. Monitoring and decontamination of aircraft will be provided by the on-site rad-safety organization when requested.

049 Radioactive Material Control

a. Definitions

1. Controlled Radioactive Sources: Any encapsulated radioactive source that has an associated dose rate greater than 1.5 rem/hr at one yard.
2. Registered Radioactive Sources:
 - (a) Plutonium, Polonium and Radium: those greater than 0.1 millicuries
 - (b) Barium ¹⁴⁰, Strontium ⁸⁹, Strontium ⁹⁰, Yttrium ⁹¹: those greater than 0.135 mc
 - (c) All other sources greater than 1.35 mc not controlled under 049 a-1 above.

of the initial survey lies solely with the Director. After the radiological situation has stabilized, he will advise all other agencies of the situation, and will permit operations in the area in accordance with his published safety plan.

047 Entry into Controlled Areas

- a. The Test Group Director or Area Manager, LVAO (as appropriate), is responsible for establishing a controlled area when required for reasons of radiation safety. These areas will normally be established when: (1) the radiation intensities require precautions to limit personnel exposure, (2) it is anticipated that radiation or use of radioactive material could cause a problem, (3) it is possible through an accident or otherwise that an experimental program could produce radiation, or (4) the Test Group Director or Area Manager considers it desirable for any safety reason to control entry of personnel.
- b. Procedures to control access of personnel will be established by the Area Manager, LVAO, or by the Test Group Director if the provisions of subsection 012a apply. The specific details on access procedures and precautions necessary to protect personnel from the radiation hazards associated with a particular program will be contained in the Test Group Director's Operation Plan.
- c. In the event of an emergency, the Test Manager, Test Group Director, or their authorized representatives may authorize entry into a precise location. This authorization may be verbal.

048 Radiation Exposure Control

a. Control of Exposure

1. Recovery parties will not enter areas with radiation intensities in excess of 10 r/hr unless specifically authorized by cognizant authority.
2. Surveys to establish isointensity lines greater than 1000 mr/hr will not be conducted as a routine function for each experiment.
3. Construction activities in radex areas will be accomplished only at the discretion of the Area Manager, LVAO.
4. Eating and smoking in radex areas or controlled area will be prohibited.

b. Radioactive Source Control Procedures

1. In advance of receipt of source at NTS, the using agency is responsible for submitting to the Area Manager, LVAO, for information and comment (with a copy to the Assistant Manager for Test Operations, ALO), written operating and radiological safety procedures for controlling the use of any radioactive source as defined in a-1 above. The following information is required:
 - (a) Time of arrival at NTS.
 - (b) Isotope or isotopes involved.
 - (c) Proposed use of the radioactive material.
 - (d) Statement that shipment will comply with ICC shipping regulations or other appropriate AEC regulations.
 - (e) Where the source will be stored.
 - (f) Final disposition of source.
 - (g) Operating procedures which will be followed in storing and working with the source.
 - (h) Name of individual responsible for radiological safety.

The Assistant Manager, OTO, will review all operational plans and procedures and will furnish the using agency with appropriate comments.

2. The senior on-site representative of user scientific laboratory, agency, or organization is responsible for notifying the REECO Rad-Safety Division in advance of the movement of any radioactive material, as defined in a-1 above, to other locations unless covered by operational procedures established in b-1 above.
3. Agencies using calibration sources will be familiar with radiological safety procedures for use of radioactive sources. The REECO Rad-Safety Division will assist user agencies in developing operational plans and procedures on request.

4. All radioactive material as defined in 049a, exclusive of source and nuclear material (SSN) brought onto the NTS, will be registered with the REECO Rad-Safety Division at the time of entry onto the test site.
5. The Area Manager, LVAO, is responsible for making periodic inspection of user agency source control procedures and reporting such inspections with appropriate recommendations to the Assistant Manager for Test Operations, ALO.

c. Radioactive Waste Material Control Procedures

1. The REECO Rad-Safety Division is responsible for disposing of radioactive waste material, on the NTS, except as defined in c-2 below. A radiological safety plan and control procedures will be submitted by REECO to the Area Manager, LVAO, for review and comment, with a copy to the Assistant Manager for Test Operations, ALO.
2. Disposal of radioactive waste material as a result of operations in the 400 and 401 areas is the responsibility of the Project Test Group Director.

d. Removal of Radioactive Material

1. All shipments of radioactive materials, except as exempted ind-2 below, will be labelled according to appropriate Interstate Commerce Commission, Civil Aeronautics Board, U. S. Coast Guard, and U. S. Postal regulations. Arrangements for packaging shipments will be the responsibility of the organization initiating the shipment. Shipping records will be initiated on an on-site Rad-Safety shipping form and will be completed and certified by the REECO Rad-Safety organization.
2. Scientific samples, instruments and equipment designated by the Test Group Director are exempt from the above procedural requirements when transported by courier vehicle or fly-away aircraft. A suitable record of exempted material will be maintained by the REECO Rad-Safety Organization.

e. Reports and Records

1. The REECO Rad-Safety Division is responsible for submitting monthly to the Area Manager, LVAO, a map showing the specific areas of radioactive contamination within NTS, showing locations, levels and types of radiation.

2. The REECO Rad-Safety Division is responsible for maintaining an up-to-date master file showing the ownership, source strength and specific location of all radioactive sources on the Nevada Test Site.

0410 Dosimetry and Records

- a. The REECO Rad-Safety Organization will provide dosimetry and record services for both the on-site and off-site organizations and maintain dosimetry records on all on-site personnel. Dosage reports will be submitted for all personnel to the Area Manager, LVAO, and to the Test Group Director on a monthly basis. The Test Group Director and the Area Manager, LVAO, will also be provided with a report of all integrated exposure in excess of 2 rems (gamma + neutron) on a daily and monthly basis as outlined.
- b. A quarterly exposure report will be furnished to the Area Manager, LVAO, and to the Assistant Manager, Office of Test Operations, ALO.
- c. Record disposition policies and regulations shall be in accordance with the provisions of AEC Appendix 0203-091-11, Sections 5 and 6.

0411 Documenting Decontamination

At the time any area decontamination has been completed, REECO will submit a report in quadruplicate to the Test Manager, including such data as: a map of the area showing radiation intensities, radiation levels at specific locations prior to decontamination, radiation levels upon completion, effect of character of terrain on radiation intensities, type of equipment used on the job, dosages equipment operators received, effectiveness of the decontamination, time required to complete the decontamination, photographs, and any other pertinent facts relating to the problem.

0412 Counting Laboratory

A counting laboratory for determining gross radioactivity will be operated in Mercury by the On-Site Rad-Safety Organization. Analysis for specific material such as plutonium, tritium, and beryllium will be made for user organizations as a routine support service, if requested.

0524-05 Off-Site Rad-Safety Operations051 Purpose

- a. The purpose of this plan is to set forth the general procedures to be followed by the U. S. Public Health Service Off-Site Rad-Safety Organization in providing off-site radiological safety support on a continuous basis and for test activities at the Nevada Test Site.
- b. Detailed monitoring and sample collection procedures are contained in the Off-Site Radiological Safety Plan.

052 Definition of Terms

The Off-Site Area is defined as the area surrounding NTS to a radius of about 250 miles.

053 Responsibilities

- a. During non-test periods the Public Health Service Off-Site Rad-Safety Organization is responsible to the Area Manager, LVAO, for:
 1. Analyzing data and preparing final off-site reports of previous series and special reports as requested.
 2. Preparing detailed operational plans for forthcoming series.
 3. Maintaining an active film badge program as required to fully document the gamma dosage to off-site populations and communities.
 4. Maintaining an active public education program, including periodic visits to communities.
 5. Maintaining an environmental sampling program, including air, water, and foodstuffs.
 6. Maintaining liaison with State and local health officials in the off-site area.
 7. Providing an off-site monitoring service.
- b. During a test period the Public Health Service Off-Site Rad-Safety Organization is responsible to the Area Manager, LVAO, for:

1. Providing the same services as during the non-test period, on an expanded scale to meet increased testing activities.
2. Fully documenting the off-site radiological situation following each test activity in which radioactive fallout could be detected off-site.
3. Maintaining an up-to-date map of the off-site area showing the locations and levels of any radiation.
4. Investigating inquiries and incidents of a medical nature from the off-site populace in accordance with the procedure contained in NTSO-SOP Chapter 0701.

054 Operational Guide - Radiation Exposure

The off-site radiological safety criterion is 0.5 roentgens per year whole body gamma exposure and one-tenth of the maximum permissible concentration of radioisotopes in air and water as listed in NBS Handbook 69. These MPC's may be averaged over a period up to one year.

055 Objectives

The objectives of the off-site radiological safety activities are as follows:

- a. To verify the off-site radiological situation associated with test site activities to insure public safety.
- b. To have trained personnel available to take emergency measures prescribed by the Atomic Energy Commission should an unacceptable situation develop.
- c. To obtain an adequate record of the radioactivity in the off-site area.
- d. To maintain public confidence that all reasonable safeguards are being employed to preserve public health and property free from radiation hazards.
- e. To investigate reports of incidents attributed to radioactivity which could result in claims against the Government or create unfavorable and unwarranted public opinion.
- f. To accumulate data to provide a basis for a better evaluation of cumulative radiation dose to people.

056 Organization

- a. By a Memorandum of Understanding between the PHS and the AEC-ALO, the PHS is responsible to staff and operate the off-site radiological safety program at NTS.
- b. PHS-commissioned officers will be permanently assigned to the Las Vegas Area Office in support of this activity. The number of officers so assigned will be by mutual agreement between the Division of Radiological Health, Public Health Service, and the Office of Test Operations.
- c. The Officer-in-Charge, PHS Off-Site Activities, is the Off-Site Rad-Safety Officer.
- d. The permanent staff will be augmented during test periods by personnel assigned through the Division of Radiological Health, PHS.

057 Operational Plana. Survey Results

1. Monitoring radiation readings will be radioed to Net Control at Mercury Bldg. 155 by the monitoring teams.
2. A carbon copy of all monitoring data will be forwarded immediately after each test activity to the Office of the Test Manager.
3. The results will be posted on a large-scale wall map in Bldg. 155 as received. The intensity and time of reading will be noted at each reading location.
4. An interim off-site radiological safety report will be prepared following each test activity for submission to the Area Manager, LVAO.

b. Environmental Sampling

1. Air sampling stations will be established in the larger population centers. Results from these stations assist in delineating the fallout pattern and documenting negative values outside the fallout area.

2. Water samples will be collected periodically at representative places such as public water supplies, stock watering ponds, and ground water surface discharges and will be counted for gross radioactivity.
3. Milk samples will be collected periodically from dairy farms, processing plants, and retail outlets in the off-site area.
4. Food samples will be collected to obtain data on internal radiation hazards to the off-site population.
5. A representative number of water, milk and food samples showing above normal gross levels will be analyzed for specific significant isotopes.

c. Public Education

1. Public relations is recognized as one of the more important functions of the off-site program. Educational activities will be directed toward individuals and groups through informal discussions, distribution of pertinent literature, showing of movies, and matter-of-fact question answering.
2. The Office of Test Information, NTSO, will furnish guidance and direction as necessary in the conduct of off-site public relations.

d. Film Badge Program

1. Film badges will be strategically placed in populated places, along highways and trails in non-populated areas, and inside and outside buildings, and will be exchanged monthly.
2. The film badges will be supplied and processed after exposure by the REECO Rad-Safety Organization.

e. Liaison with Public Health Officials

Continuous liaison will be maintained with State and local health officials. For operational periods notification of testing activities will be coordinated with appropriate test officials.

f. Instrumentation

1. Monitoring instruments for detecting alpha, beta, and gamma activity will be furnished and maintained by the Support Contractor.
2. Continuous recorders will be placed in communities to present a visual record of gamma radiation levels in these localities.

g. On-Site Data Collection--Reactor Operations:

The assignment of areas of responsibility for collection of data on site for periods of reactor testing will be as mutually agreed upon by the "Committee for Environmental-Radiation Studies."

058 Medical Activities

When required by test site activities, a medical officer will be assigned by the PHS Liaison Officer Network Coordinator to the staff of the Off-Site Rad-Safety Officer. He will be responsible for maintaining liaison with local physicians, answering inquiries of a medical nature, investigating complaints and conducting public relations.

059 Veterinary Activities

- a. A veterinarian will be assigned by the Veterinary Corps, U. S. Army, to the AEC Las Vegas Area Office.
- b. Programmatic direction and administration will be supplied by the Area Manager, LVAO.
- c. The Veterinary Officer is responsible for maintaining liaison with the local veterinarians managing the off-site animal project, answering inquiries from ranchers, and investigating complaints. He will also collect biological specimens for radiochemical analysis and will perform special studies as directed.

0510 Communications

- a. The primary method of communications will be by a low-band VHF radio net. All off-site vehicles will be equipped with a 2-way radio on this net. Automatic repeater stations will be used to provide complete coverage.

- b. Telephone service will be used as a secondary method of communication.
- c. The Support Contractor will maintain and operate the radio net.

0511 Counting Laboratory

A low-level radiochemical laboratory will be operated at Mercury for determining gross radioactivity and specific radiochemical tests that are desirable for environmental samples in order that the Nevada Test Site Organization will be able to better evaluate cumulative low-level radiation dose to people.

0512 Emergency Plan

The Emergency Plan for evacuation of off-site population groups is outlined in NTSO SOP Chapter 0601-04.