

ANNUAL SUMMARY OF CHANGES, TESTS AND EXPERIMENTS

PERFORMED AT THE

AEROTEST RADIOGRAPHY AND RESEARCH REACTOR

(ARRR)

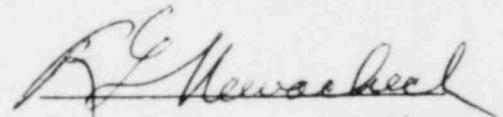
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BY

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APPROVED BY:



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AEROTEST OPERATIONS, INC.

## SECTION I

### PART I - Changes

- A. The shield block configuration around the reactor was modified to restrict entry, reduce radiation exposure, and provide increased earthquake stability.
- B. An uninterruptible power supply was installed but is not yet fully operational.
- C. An automatic sprinkler system was installed in the building for fire protection.

### PART II - Experiments

No new experiments were performed during the year.

The experiments performed during the year are as follows:

<u>Experiment Number</u>	
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- |     |   |
|-----|---|
| 114 | Perform neutron radiography in the neutron radiography facilities.  |
| 116 | Irradiation of hydrocarbon activation analysis samples for the Chevron Research Company.  |
| 120 | Irradiation of plastic slides impregnated with microscopic quantities of fissionable materials for the McClellan Air Force Base and General Electric Company. |
| 123 | Calibration of fission detectors in the T1A position of the thermal column for the General Electric Company.  |

SECTION II

ARRR MONTHLY OPERATIONS SUMMARY

<u>Date</u>	<u>Operating Hours</u>	<u>Kilowatt Hours</u>	<u>Accumulated kw Hours</u>	<u>Experiments &amp; Irradiations</u>	<u>Unscheduled Shutdowns</u>
July 1981	104.8	23436	2968212	10	6
Aug. 1981	74.8	17734	2985946	5	3
Sept. 1981	98	21759	3007705	9	3
Oct. 1981	114.7	28785	3036490	5	2
Nov. 1981	82	21706	3058196	6	1
Dec. 1981	103.8	24738	3082934	9	1
Jan. 1982	102	24261	3107195	7	2
Feb. 1982	83.3	19334	3126529	7	1
Mar. 1982	91.4	22519	3149048	14	3
Apr. 1982	105.9	25128	3174176	16	6
May 1982	97.3	22609	3196785	6	2
June 1982	98.1	23680	3220465	8	1
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Total	1156.1	275689		102	31

### ARRR UNSCHEDULED POWER REDUCTIONS

#	Date	TYPE OF SCRAM					CHANNEL AFFECTED						Comments
		Auto	Man.	Spur.	Oper. Error	Cal	1	2	3	4	Earth Quake	H <sub>2</sub> O	
1	7-1-81	X		X						X			High
2	7-20-81	X		X				X					Fast
3	7-20-81	X		X						X			High
4	7-24-81	X		X						X			High
5	7-27-81	X											PG & E
6	7-29-81	X		X				X					Fast
7	8-13-81	X		X				X					Fast
8	8-17-81	X		X				X					Fast
9	8-24-81	X		X				X					Fast
10	9-8-81	X		X						X			High
11	9-8-81	X		X				X					Fast
12	9-25-81	X		X				X					Fast
13	10-27-81	X											PG & E
14	10-27-81	X											PG & E
15	11-23-81	X			X								switching error
16	12-8-81	X		X				X					Fast
17	1-12-82	X											PG & E
18	1-25-82	X											switching transient
19	2-3-82	X		X				X					Fast
20	3-16-82	X			X								
21	3-23-82	X		X				X					Fast
22	4-6-82	X		X				X					Fast
23	4-6-82	X		X				X					Fast
24	4-6-82	X		X				X					Fast
25	4-29-82	X		X									
26	5-25-82	X		X									
27	5-25-82	X		X									
28	6-16-82	X		X									
29	3-17-82	X		X									
30	4-20-82	X											PG & E
31	4-29-82	X											PG & E
					P.G. & E. = 6			Unknown=6					
					Ch 2      13								
					Ch 4      5								