

To Paul R Nelson Sr Radiation Specialist CO-1  
From Eugene Epstein Radiation Specialist CO-1

Subject memo to file. Evaluation Re  
General Electric Valley Forge Pa Lic 37-02006-05.

Licenses activities are minimal  
with excellent facilities. ~~Health~~ <sup>Public</sup> health  
physics supervision is provided. License  
personnel are all safety ~~conscious~~ <sup>conscious</sup>  
and no hazard is believed to exist.

The license is properly categorized as F(1)  
with priority II and will be scheduled  
for reinspection during 2/71.

Gene Grater 9/3/69  
Revised Paul & J. Nelson  
10/9/69

General Electric Company  
Missile & Space ~~Factory~~ Division  
Valley Forge Space Technology Center  
P.O. Box 8555  
Phil. Pa 19101.

591 (Clear) NOTES

lic # 37-02006-05

PTS 20-30

announced - reinspection

amend 25 9/24/68.

E(1) II.

Inspected 8/28/69

Accompanied By - NONE.

PERSONS CONTACTED

Mr. Walter Treasin - Manager Relations and  
asst to the General Manager Daniel Finn.  
Robert O McClintock - R.S.O.

Report Details:

Background Information

Last previous inspection was performed  
5/2/68 by R. Fish. One item of non compliance  
was noted. Failure to leak test three alpha  
sealed sources at intervals less than 3 months  
as required by condition 14(C) of the license.  
Records indicate and McClintock stated that  
alpha emitting sources are now tested for  
leakage at intervals which do not exceed  
three months.

### Organization and Administration

Mr. Clentock, the R.S.O. stated that up to two weeks ago he had an assistant technician and a secretary, but due to a ~~big~~ layoff of 2500 persons he lost them. The plant which formerly had 6000 employees is now down to 3500. All organization however is as reported in license back-up. He stated that only 20 persons are involved in minor uses of materials.

### Facilities and Uses of Materials

Mr. Clentock stated that areas where radionuclides are used or stored are as follows:

(1) Concrete shielded sub-basement storage area used by Health Physics to store iras and sources not in immediate use.

On hand in the storage area was

36 mci  $\text{Co}^{60}$  sealed

10 C  $\text{Sr}^{90}$  sealed

5 C  $\text{H}^3$  sealed light sources

1 mci mixed fission products

1.5 mci  $\text{Co}^{60}$  (sol.).

(2) W Shallow Group.

Use of only generally licensed standards less than 1 mci each.

(3) Mass Source Group.

Use of 3  $\text{Am}^{241}$  sealed light sources inside sealed apparatus less than 2000 <sup>mci</sup>

(4) Koepf-Baker Group.

7 Ci -  $H^3$  sealed light source

4 Ci -  $H^3$  sealed light source

In a fixed sealed apparatus with no handling by personnel.

(5) Biology Group.

Use of 200 uCi  $Cr^{51}$  and 50 uCi  $I^{125}$  to tag blood cells in vitro for experimental studies which will allow astronauts on a Manned Orbital Station to check their own blood to determine blood volume and cell survival time. Three taggings per week.

The above according to records maintained by McEntire are the only programs in effect during the last two years.

Facilities for the above are all modern laboratories. The only group requiring some precautions is the Biology group. The laboratory is equipped with Hurricane filtered exhaust hood with face velocity in excess of 100 fpm. Mr. J. Coating in charge of the group stated that remote syringes and pipettes are used and that all doses are made up in the exhaust hood. Plastic gloves are used and lab coats are worn when working with materials.

### Personnel Monitoring

Landauer 3 mm film badges are used for some 20 persons who may be involved with radionuclides. Records are maintained on processors reports as well as Form NCT-5. Records examined for the past two years indicate that maximum exposure to the whole body occurred in the Biology Group with (b)(6) receiving 100 mrem for the 1<sup>st</sup> calendar quarter 1968. All other exposures are reported as minimal, less than 10 mrem. Exp

### Surveys

Area surveys are made in all areas of use and storage monthly. The records indicate that only the Biology Laboratory has detectable contamination. No more than 20 dpm/100 cm<sup>2</sup> on any surface.

Direct physical surveys are made monthly and levels of 10 mR/hr were noted inside the Storage Room. All other areas had radiation levels less than 1 <sup>mR</sup> mR/hr.

### Waste Disposal

All liquid waste is collected in metal drums, to be solidified. Only one liter of liquid waste has been generated to date and not disposed.

Solid waste is gathered by Health Physics and transferred to Psychological Services

Records are maintained showing kind, quantity and date of disposal.

### Posting and Labeling

All areas of use and storage were posted with signs reading "Caution Radioactive Materials" w symbol. The storage area was also posted with a sign reading "Caution Radiation Area" w symbol. All containers and apparatus using materials had labels affixed reading "Caution Radioactive Materials" w symbol and indicating kind, quantity and date of assay of contained material.

### Independent Surveys

Radiation level at the surface of <sup>Lead container housing a</sup> sealed source of  $^{60}\text{Co}$  was 20 mR/hr. Radiation level outside the storage room did not exceed 0.3 mR/hr at any surface.

### License Conditions

10. Place of use at King of Prussia location no use reported at Cape Kennedy Fla or at Chestnut St, Phil.

12. Records were examined indicating all users have to be approved by the Army's Radiation Advisory Group.

13. All beta gamma sealed sources were not checked for leakage at intervals other than did not exceed six months. All alpha emitting

Probes were tested at intervals which did not exceed 3 months. Tests were made by wiping accessible surfaces with ~~filter~~ filter paper and counting on a scintillation well counter or a pulse height analyzer using appropriate standards. No leakage exceeded 0.002 uCi.

Cont #14 - Materials have not been used in manned nuclear spacecraft or payloads according to the Certificate

Cont #15. Materials have been used according to the license and procedures listed in an application dated 9/13/68.

#### Management Review

Mr. Walter Trosin, Manager, Relations and Assistant Plant Manager was advised of the status of the inspection and received Form G-66 541 Clearance.