


UNITED STATES ATOMIC ENERGY COMMISSION  
DIVISION OF COMPLIANCE

INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT

*IB-1*  
*Initial*

<p>1. LICENSEE</p> <p>Department of the Army Headquarters, U.S. Army Alaska APO 949, Seattle, Washington</p>	<p>2. REGIONAL OFFICE</p> <p>Region V, Division of Compliance U.S. Atomic Energy Commission 2111 Bancroft Way Berkeley, California 94704</p>
<p>3. LICENSE NUMBER(S)</p> <p>50-10023-1      Docket No. 27-38</p>	<p>4. DATE OF INSPECTION</p> <p>August 5, 1964</p>
<p>5. INSPECTION FINDINGS</p> <p><input checked="" type="checkbox"/> A. No item of noncompliance was found.</p> <p><input type="checkbox"/> B. Rooms or areas were not properly posted to indicate the presence of a RADIATION AREA. 10 CFR 20.203(b) or 31.302</p> <p><input type="checkbox"/> C. Rooms or areas were not properly posted to indicate the presence of a HIGH RADIATION AREA. 10 CFR 20.203(c) (1) or 31.302</p> <p><input type="checkbox"/> D. Rooms or areas were not properly posted to indicate the presence of an AIRBORNE RADIOACTIVITY AREA. 10 CFR 20.203(d)</p> <p><input type="checkbox"/> E. Rooms or areas were not properly posted to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(e)</p> <p><input type="checkbox"/> F. Containers were not properly labeled to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(f) (1) or (f) (2)</p> <p><input type="checkbox"/> G. Storage containers were not properly labeled to show the quantity, date of measurement, or kind of radioactive material in the containers. 10 CFR 20.203(f) (4)</p> <p><input type="checkbox"/> H. A current copy of 10 CFR 20, a copy of the license, or a copy of the operating procedures was not properly posted or made available. 10 CFR 20.206(b)</p> <p><input type="checkbox"/> I. Form AEC-3 was not properly posted. 10 CFR 20.206(c)</p> <p><input type="checkbox"/> J. Records of the radiation exposure of individuals were not properly maintained. 10 CFR 20.401(a) or 31.205(b)</p> <p><input type="checkbox"/> K. Records of surveys or disposals were not properly maintained. 10 CFR 20.401(b) or 31.303(d)</p> <p><input type="checkbox"/> L. Records of receipt, transfer, disposal, export or inventory of licensed material were not properly maintained. 10 CFR 30.41, 40.61 or 70.51</p> <p><input type="checkbox"/> M. Records of leak tests were not maintained as prescribed in your license, or 10 CFR 31.105(c).</p> <p><input type="checkbox"/> N. Records of inventories were not maintained. 10 CFR 31.106</p> <p><input type="checkbox"/> O. Utilization logs were not maintained. 10 CFR 31.107</p> <div style="text-align: right; margin-top: 20px;">               _____              (AEC Compliance Inspector)         </div>	
<p>6. LICENSEE'S ACKNOWLEDGMENT</p> <p>The AEC Compliance Inspector has explained and I understand the items of noncompliance listed above. The items of noncompliance will be corrected within the next 30 days.</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 40%;">             _____              (Date)         </div> <div style="width: 40%;">             _____              (Licensee Representative - Title or Position)         </div> </div>	

COPIES: [1] LICENSEE: ☒ COMPLIANCE REGION: ☐ DIV. OF LIC. & REG.: ☐ DIV. OF COMPLIANCE

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PDR FOIA  
RODERIC92-187 PDR

Department of the Army  
Headquarters  
U. S. Army Alaska  
APO 949  
Seattle, Washington  
Docket No. 27-38  
License No. 50-10023-1

ORIGINAL SIGNED BY  
H. S. NORTH Inspector 9-11-64  
ORIGINAL SIGNED BY  
H. E. BOOK Reviewer 10-2-64

1. On August 5, 1964 an initial inspection of the subject licensee was conducted by H. S. North, Radiation Specialist, Region V. The inspector was accompanied by Mr. S. D. Heidersdorf, Radiation Physicist, Alaska Dept. of Health & Welfare. No items of noncompliance were noted during the subject inspection, however issuance of a Form AEC-591 showing the results of inspection was delayed until after the discussion of the inspection with Mr. H. E. Book, Radiation Specialist (Supervisory & Review). A Form AEC-591 was prepared and mailed to the licensee on August 14, 1964 showing no items of noncompliance as a result of this inspection. The results of the inspection were discussed with the following persons at the time of the inspection. Col. William S. Wiley, Major Frank C. Maine, Capt. John A. Tengler, Capt. F. L. Soyster.

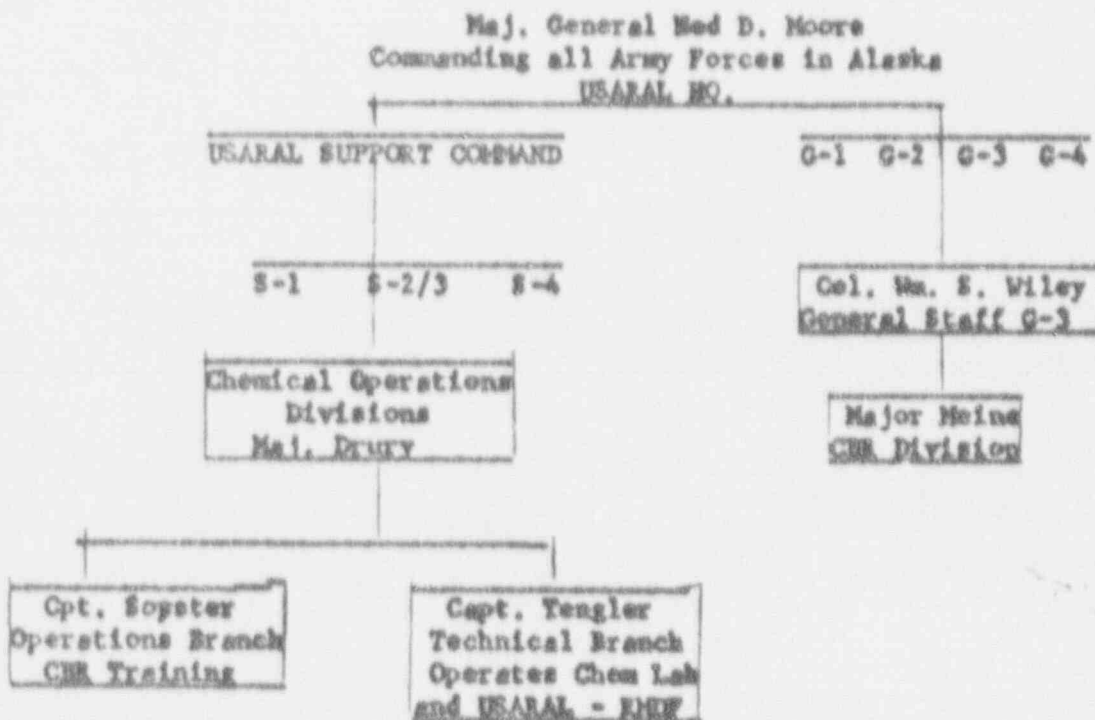
#### ADMINISTRATION

2. The inspector contacted the following persons during the course of the inspection:  
(1) Sgt. Major W. T. Whittaker, Administrative Staff to Major Maine; (2) Major Frank C. Maine, Chief CDR Division, Office of the Assistant Chief of Staff G-3 Headquarters, US Army Alaska (USARAL), whose present function is that of USARAL Nuclear Radiation Protection Officer. Major Maine's responsibilities include technical advisory duties with respect to the licensed activity and command advisory to the general staff G-3. (3) Major Edward A. Drury, Chief Chemical Operations Division, S2/3 Officer, USARAL Support Command and Fort Richardson. Major Drury is the officer immediately senior to the licensee operating level of the licensee. (4) Capt. F. L. Soyster, Chief Operations Branch, Chemical Operations reporting to

Major Drury has no responsibilities for the licensed program and was present to familiarize himself with the licensed program. (5) Captain John A. Tengler, Alternate USARAL, ESO., Chemical Operations Chief support, is designated by the army as a physical chemist. Tengler is the officer immediately in charge of the waste disposal operations and operates the radioactive material disposal facility for USARAL, which is designated USARAL RMDW. It is noted that Condition 3 of the subject license states that "Waste Disposal Activities shall be conducted under the supervision of individuals designated as Chief, Radiochemical Laboratory, Fort Richardson, Alaska; (Capt. Tengler) or radiation protection officer, U. S. Army Alaska (Major Meine)." Note: Parenthetic information added by the writer. Col. William S. Wiley, general staff G-3, Major Meine's immediate superior and on the staff of Commanding Officer, USARAL Headquarters.

### ORGANIZATION

3.



The licensee has no isotopes committee.

4. Major Meine stated that the two men identified in the application were the Chief of the radiochemical laboratory, Fort Richardson, Capt. Malolley and radiation protection officer, USARAL Major Hude who were both rotated from this post during June. Major Hude transferred on June 18, 1964 and was due for replacement by Major James M. Turner who had not arrived at the station at the time of inspection. Maj. Meine was acting for USARAL as a temporary replacement until Turner's arrival. Capt. Malolley's replacement was Capt. Malolley's replacement was Capt. Tengler who arrived on the station on July 9, 1964. It is noted that as long as the two positions identified in condition 3 are filled the licensee is authorized to continue operations and is not required to have specifically named individuals in charge of operations.
5. Written procedures are required by the license. The licensee stated that all personnel working on the RMEF must read the SOP and must sign off on the training manual 3-260 "Operation of Radioactive Material Disposal Facilities". Licensee stated that procedures have not been changed without the prior approval of DFE. The licensee had on file copies of the license, procedures and the regulations.

PROCUREMENT RECORDS RECEIPT

6. The licensee stated that there had been no export, that transfers of material had been limited to AEC contractors or Edgewood Arsenal, Maryland a licensee. Major Drury and Capt. Tengler explained that most materials received by the RMEF for disposal consist of surplus pieces of military equipment which contains a small

amount of some radioactive material. The licensee said that most material disposed of consisted of electron tubes, luminous markers and knobs, compasses and other instruments and radioactive source sets all of which are possessed by the Army either as unlicensed material such as radium, as generally licensed material, or as specifically licensed material under licenses issued to the Dept. of the Army authorizing distribution to any Army facility. The licensee explained that the major waste from the Fort Greely reactor (SM-1A) consist of demineralizer resin cartridges which are shipped in a 7,000 pound shielded cask to the Army Engineer Center at Fort Belvoir, Maryland for disposal. Further investigation revealed that the RMEF facility never receives possession of these demineralizer resin cartridges and merely supplies shipping instructions and guidance to the reactor facility at Fort Greely. The licensee also receives small quantities of conventional radioactive waste from the reactor at Fort Greely.

7. The licensee stated that the last shipment of materials from the RMEF consisted of 14 drums of various sizes. A total of 6 shipments have been made with approximately 12 to 14 drums of waste for shipment. The licensee stated that it was too early to estimate the quantity of materials that they would expect to dispose during any given period and that they were unable to estimate the quantity of radioactive materials which they would dispose in any given time. The licensee stated that shipments have been made from Fort Richardson by all means of travel available including air transportation via MATS, sea transportation via MSTB and several by truck via the Alcan Highway by joint agreement with Canada.
8. There is considerable reservation in the inspectors mind as to whether this licensee is actually disposing of radioactive waste in the conventional sense. The great



majority of the material received is surplus military items each having a specific catalog name, model and frequently a serial number. Those items which require a license for possession are possessed under licenses issued by the AEC to the Dept. of the Army, or the Dept. of the Defense. Capt. Tongler explained that within the military organization such items are accountable and each military unit or supply unit possessing such an item is both responsible and accountable for the pieces of equipment. This is true in the sense that when the commanding officer of a specific military unit is transferred and his successor takes over his duties and responsibilities, he is expected to sign the military unit or supply unit inventory which makes him both responsible and accountable for all the items shown on the inventory. When any item of equipment for one reason or another is no longer serviceable (lack of service-ability can be determined by in the case of radioactive materials, decay, replacement with alternate equipment and possibly but not necessarily by the actual destruction or damage to a given piece of equipment which destroys its serviceability) the individual military unit commander transfers the surplus item of equipment to his local supply unit who accepts responsibility and accountability for the surplus item and provides the necessary replacement. The military supply units then determine what action should be taken with respect to this particular surplus item of equipment, i.e. reissue, repair and reissue, or dispose as surplus equipment. In the event that the item contains radioactive material and is marked for disposal, it is transferred to the RMDV using the same record keeping system used in transferring this item to any other military unit. This transfer constitutes an accounting procedure in which the receipt of the item is logged by name, model and serial number and a record is made of the date of receipt. The material is still not identified primarily as radioactive waste that it is instead designated as a specific item of military equipment.

9. The RMEF accepts the material and maintains the usual receipt record and accepts responsibility but not accountability for the items transferred to it as surplus. These items are then packaged in various size steel drums and stored by the licensee at the RMEF until a sufficient number have been accumulated and are then transferred to Edgewood Arsenal. The identity of the material is never lost. It is always retained by the item description or name, model number and serial number, if one is used. In most cases the items are not identified by designation of the radioactive isotope or quantity of material which they contain. The RMEF does not attempt to remove radioactive materials from devices, for example removing a radioactive source from a shielding container in order to ship only the radioactive source. The entire item is packaged and shipped as a single unit. The inspector explained to the licensee that while some question might exist as to the status of such surplus items it would be advisable for the licensee to maintain records of receipt and transfer and show on the drum labelling the isotope and quantities of materials received, transferred and packaged, in the drums. No item of noncompliance is recommended for this possible deviation from the requirement for maintaining records of receipt and transfer in units of isotopes and radioactivity since all this data is available to the licensee in the individual handbooks describing the devices which they had received, packaged and transferred.
10. At the time of the inspection the licensee possessed two 55 gallon steel drums which contained a total of .5 millicuries of mixed fission and activation products from the Fort Greely reactor.

#### OPERATIONS FACILITIES

11. The licensee stated that their only uses of licensed materials had been in the capacity of a receipt packaging and transferring organization established to insure

a central collection point for the disposal of all items containing radioactive materials used and/or possessed and disposed by UZARAL.

#### FACILITIES

12. The licensee's receipt, packaging and disposal facilities consist of a 80 by 100 foot plot enclosed by a 6 foot barbed wire fence with a padlocked vehicle type gate. A 40 by 60 foot concrete pad has been located 20 feet from the fence line. The concrete pad has been provided with a crown to insure drainage to the perimeter of the pad. A drainage ditch around the pad is concrete lined and drains to sumps at the corners of the pad. Facilities located on the pad consist of a van from a van type truck, 3 pallets, old skid mounted building approximately 15 by 20 feet, an old hexagonal guard building with canvas windows, and a variety of steel drums of various shapes and sizes. The steel drums were the type normally used for packaging equipment for military overseas shipment and would appear to be comparable to IOC specification 55 drums.
13. Two 55 gallon drums with welded closures was stored in the small hexagonal building. These drums were labelled "Contaminated Waste Danger (Conventional symbol) Caution Radioactive Materials, Contaminated Waste MFP 0.1 (and on the second drum) 0.4 mc June 4, 1964". The building was posted with the conventional symbol and the words "Caution Radioactive Materials" <sup>as</sup> were several of the other buildings although they did not contain any radioactive materials at the time of the inspection. The "Caution Radioactive Material" signs also were marked with the legend "Dose Rate at this point \_\_\_\_\_". The hexagonal building sign had been marked showing a dose rate of 0.3  $\mu$ R/hr. The barbed wire fence was posted with signs at 10 to 20 foot intervals which showed the conventional symbol and the words "Caution Radiation Area, dose rate at this point is \_\_\_\_\_  $\mu$ R/hr." The highest level



recorded on the perimeter signs were 0.2 mR/hr. The gate to the facilities was posted "Do Not Enter Contact USARAC RMEF" and gave the phone number. The gate was locked and the licensee stated that keys were available only to RMEF personnel. The licensee stated that the 10 CFR 20 restricted area was that area bounded by the barbed wire fence but further stated that the disposal facility was located in an actively used ammunition storage depot which was surrounded by security type fencing controlled by armed guards and that the only access was through gates which required security clearance for entrance.

14. The licensee had posted a Form ABC-3 on the office bulletin board of the building used as headquarters for the RMEF group.
15. The licensee stated that standard military instrumentation was available for performing surveys. This instrumentation included AN/PDR-27's and AN/PDR-39's as well as various non-military issue items used for monitoring, surveying or calibration.

#### RADIOLOGICAL PRACTICES. SURVEY PROGRAM

16. The licensee stated that various types of surveys were performed in the restricted and unrestricted areas of the RMEF and provided records from which the following information was taken.

<u>Date</u>	<u>Survey type</u>	<u>Results</u>
2/6/63	dose rate survey of the restricted area plotting isodose curves at 2 and 5 mR/hr in the restricted area.	Two liter source samples were collected which ranged from 7.55 to 8.2 micromicrocuries per cc beta gamma.
5/18/63	Survey with AN/PDR-27 recording 2 and 5 mR/hr isodose levels within the restricted area.	

6/8, 24/  
7/8, 28  
8/16 &  
9/23

AN/PIR-27 to locate 2 mr/hr isodose  
inside restricted area.

7/28/64

20 smear samples collected on the  
correct pad and within the two small  
buildings in the restricted area. Smear  
locations identified on a plan view.

Results recorded in terms  
of maximum net count rate.  
Highest count rate recorded  
was 2 cpm.

#### PERSONNEL MONITORING

19. The licensee stated that both film badges and pocket dosimeters are used. Pocket dosimeters are type INSE/PD with a range of 0 to 200 mr. Film badges are supplied by the Sacramento Signal Depot and are exchanged monthly. A total of 5 persons at present and eventually six when one additional man arrives will have contact with licensed materials at the EMD. Captain Tengler stated that all personnel monitoring records are filed in the individuals medical records on Forms DD-1141 or their equivalent. It was noted in the licensee's file that a beginning has been made in preparing Forms AEC-4 and AEC-5. An AEC-5 form has been prepared on an individual named Baxley and four AEC-4 forms have been begun on Tengler and three other individuals. A review of the film badge monitoring records revealed that the high monthly exposure during the period January to 11 July 1964 was 3 mr.
18. Captain Tengler stated that waste disposal consisted of transfer of material to the Edgewood Arsenal Maryland or under on the contract to Nuclear Fuel Services, West Valley, New York.
19. The licensee conducts no leak tests and stated that there have been no unusual occurrences or incidents which have not been reported to the Commission. The licensee has no AEC contracts.

DA FORM 14-110  
1 MAR 62

REPLACES EDITION OF 42 57 WHICH  
WILL BE ISSUED/UPD 1 MAR 63  
UNLESS SOONER

ORGANIZATION (INSTALLATION) PROPERTY RECORD  
(AR 735-35)

ORGANIZATION OR ACTIVITY

USA RAL RMD

SUPPLY CODE NO.

[illegible]

## TECHNICAL SERVICE

TOTAL ALW	
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CUPR OPERATING ALW

UNIT

STOCK NUMBER

LINE	ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	100	100	1	1	1	1
2	200	200	1	1	1	1
3	300	300	1	1	1	1
4	400	400	1	1	1	1
5	500	500	1	1	1	1
6	600	600	1	1	1	1
7	700	700	1	1	1	1
8	800	800	1	1	1	1
9	900	900	1	1	1	1
10	1000	1000	1	1	1	1
11	1100	1100	1	1	1	1
12	1200	1200	1	1	1	1
13	1300	1300	1	1	1	1
14	1400	1400	1	1	1	1
15	1500	1500	1	1	1	1
16	1600	1600	1	1	1	1
17	1700	1700	1	1	1	1
18	1800	1800	1	1	1	1
19	1900	1900	1	1	1	1
20	2000	2000	1	1	1	1
21	2100	2100	1	1	1	1
22	2200	2200	1	1	1	1
23	2300	2300	1	1	1	1
24	2400	2400	1	1	1	1
25	2500	2500	1	1	1	1
26	2600	2600	1	1	1	1
27	2700	2700	1	1	1	1
28	2800	2800	1	1	1	1
29	2900	2900	1	1	1	1
30	3000	3000	1	1	1	1
31	3100	3100	1	1	1	1
32	3200	3200	1	1	1	1
33	3300	3300	1	1	1	1
34	3400	3400	1	1	1	1
35	3500	3500	1	1	1	1
36	3600	3600	1	1	1	1
37	3700	3700	1	1	1	1
38	3800	3800	1	1	1	1
39	3900	3900	1	1	1	1
40	4000	4000	1	1	1	1
41	4100	4100	1	1	1	1
42	4200	4200	1	1	1	1
43	4300	4300	1	1	1	1
44	4400	4400	1	1	1	1
45	4500	4500	1	1	1	1
46	4600	4600	1	1	1	1
47	4700	4700	1	1	1	1
48	4800	4800	1	1	1	1
49	4900	4900	1	1	1	1
50	5000	5000	1	1	1	1
51	5100	5100	1	1	1	1
52	5200	5200	1	1	1	1
53	5300	5300	1	1	1	1
54	5400	5400	1	1	1	1
55	5500	5500	1	1	1	1
56	5600	5600	1	1	1	1
57	5700	5700	1	1	1	1
58	5800	5800	1	1	1	1
59	5900	5900	1	1	1	1
60	6000	6000	1	1	1	1
61	6100	6100	1	1	1	1
62	6200	6200	1	1	1	1
63	6300	6300	1	1	1	1
64	6400	6400	1	1	1	1
65	6500					

EA

6665-300-5588

### ITEM DESCRIPTION

RADIOACTIVE SOURCE & DET, H-3

### AUTHORITY

PRICE	
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REGISTER OF VOUCHERS TO STOCK RECORD ACCOUNT