NRC Form 313 I (12-81) 10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

1. APPLICATION FOR: *(Check and/or complete as appropriate)*

	a. NEW LICENSE
	b. AMENDMENT TO: LICENSE NUMBER
X	c. RENEWAL OF: LICENSE NUMBER 15-13812-01

2. APPLICANT'S NAME *(Institution, firm, person, etc.)*
Department of The Air Force
381 Strategic Missile Wing (SAC)
TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
(316) 681-5136

3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION
James D. Fradenburg, TSgt, USAF
TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
(316) 681-5633

4. APPLICANT'S MAILING ADDRESS *(Include Zip Code)*
(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)
381 MIMS/MBAME Electronics Lab
McConnell AFB, KS 67221

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED *(Include Zip Code)*
McConnell AFB and adjacent missile complexes (see Supplemental Sheet No. 1)

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL
(See Items 16 and 17 for required training and experience of each individual named below)

	FULL NAME	TITLE
a.	James D. Fradenburg	Missile Electronics System Technician
b.	Bobby R. Pulliam (316) 681-6318	Missile Electronics System Technician
c.		

7. RADIATION PROTECTION OFFICER
Reginald K.Y. Ching (Primary)
Jorge A. Delucca (Alternate)

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.
Bioenvironmental Engineer

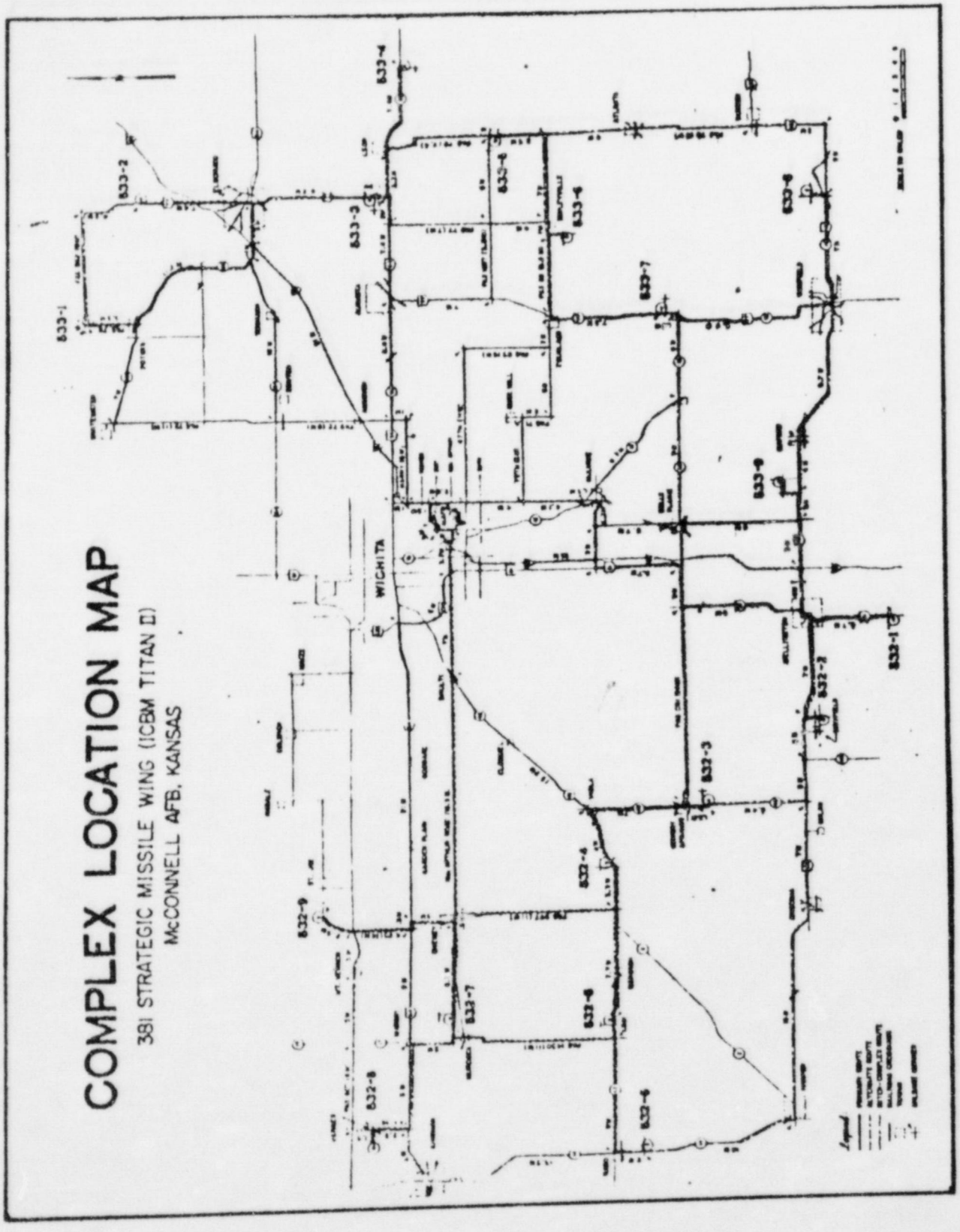
8. LICENSED MATERIAL

LINE NO.	A ELEMENT AND MASS NUMBER	B CHEMICAL AND/OR PHYSICAL FORM	C NAME OF MANUFACTURER AND MODEL NUMBER *(If Sealed Source)*	D MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Americium-241	Sealed Sources (Foils)	Nuclear Radiation Dev Inc., Model A-001	Not to exceed 0.6 millicuries per source
(2)	Americium-241	Sealed Sources (Foils)	Amersham Corporation, Model AMM	Not to exceed 0.6 millicuries per source
(3)				
(4)				

	E DESCRIBE USE OF LICENSED MATERIAL
(1)	For use in Mine Safety Appliance (MSA) Model 706CA/PA Billionaire Gas Analyzers for propellant detection at seventeen missile complexes surrounding Wichita, Kansas.
(2)	Same as above.
(3)	
(4)	

SUPPLEMENTAL SHEET NO. 1

Item 5. Location of McConnell AFB and missile complexes where licensed material will be used.



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SUPPLEMENTAL SHEET NO. 2

Item 11b. Method, frequency and standards used in calibrating radiation detection instruments listed in Item 10.

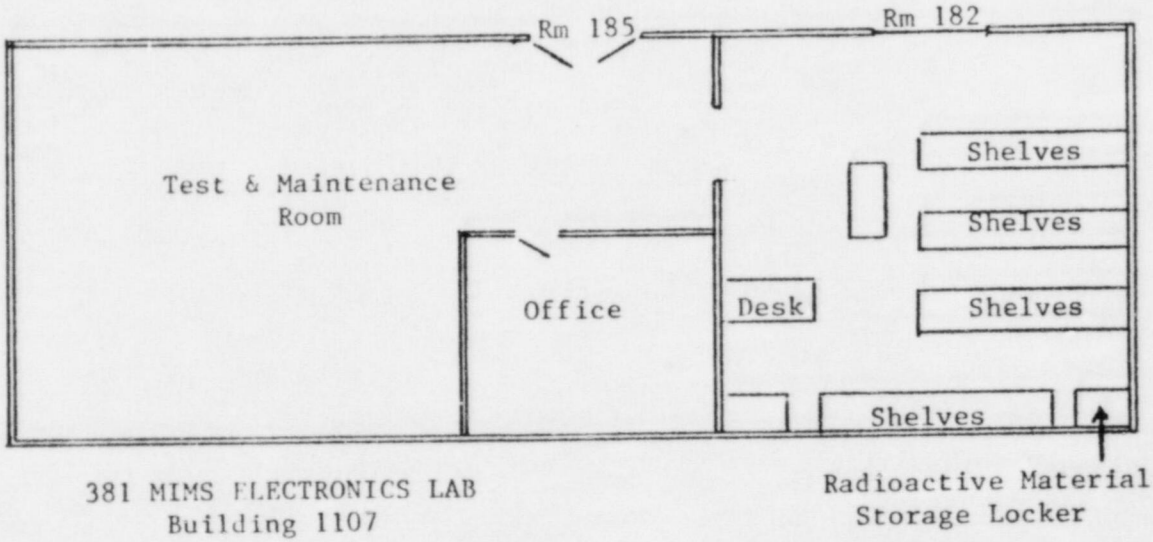
The clibration frequency for the PAC-1S-1 and AN/PDR-27K is 180 days in accordance with Air Force Technical Order 11H4-1-5. The standards used are:

Secondary Alpha Calibration Standard:	NSN 6665-00-767-7497 Serial No. 148
Secondary Gamma Calibration Standard:	NSN 6665-00-819-6606 Serial No. 245

SUPPLEMENTAL SHEET NO. 3

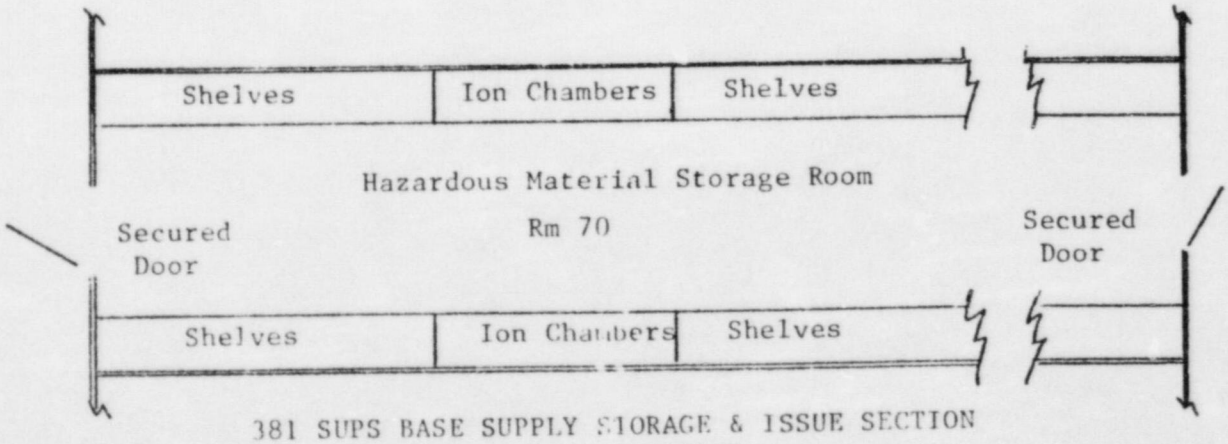
Item 13b. Storage Facilities.

Unserviceable ion chmabers will be stored in a locked cabinet in the 381 MIMS Electronics Laboratory, Bldg 1107. Serviceable ion chambers will be stored in a secured area in 381 Base Supply Storage and Issue Section, Bldg 1190.



381 MIMS ELECTRONICS LAB
Building 1107

Radioactive Material Storage Locker



381 SUPS BASE SUPPLY STORAGE & ISSUE SECTION
Building 1190

SUPPLEMENTAL SHEET NO. 4

Item 15. Radiation Protection Program

A. Any transfer of Americium-241 sources by 381 MIMS Electronics Laboratory will be reported to the Radiological Protection Officer for proper follow-up and monitoring actions. Ion chambers containing Americium-241 sealed sources shall not be opened or sealed sources removed from the ion chambers.

B. If for any reason a source is lost or broken, the Radiological Protection Officer will make an appropriate investigation and submit the report through proper channels to the U.S. Nuclear Regulatory Commission (NRC), Region IV, Office of Inspection and Enforcement, 611 Ryan Plaza Drive, Suite 1000, Arlington, Texas 76012. Reporting will conform to requirements established by Title 10 Code of Federal Regulations, Part 20, and appropriate Air Force Regulations.

C. Breakage of the sealed sources will be reported immediately to the Radiological Protection Officer. The source and contaminated area will be cleaned up by 381 MIMS Electronics Laboratory personnel under the direction of the Radiological Protection Officer employing procedures outlined in Air Force Technical Orders 00-110N-2 and 00-110N-3; and Air Force Regulations 160-132 and 161-8.

D. Storage areas and cabinets containing the radioactive sources will be identified by the appropriate yellow and magenta placards and validated with the signature of the Radiological Protection Officer.

E. The security precautions listed below for storage, handling, and transportation of ion chambers will be followed:

1. Storage and handling of the ion chambers will be restricted to areas designated by the Radiological Protection Officer.

2. All areas where ion chambers are stored will be properly secured.

a. Adequate security measures are provided in the missile launch facilities to preclude theft.

b. Spare ion chambers will be stored in 381 SMW Base Supply's Hazardous Material Storage Room.

c. Unserviceable ion chambers will be stored in a locked cabinet in the 381 MIMS Electronics Laboratory.

3. Transportation of the ion chambers will be accomplished in such a way as to preclude any damage to the ion chambers. The ion chambers will remain in their respective shipping containers during transportation to or from any specified destination.

4. Ion chambers will be shipped according to Department of Transportation Regulations.

F. In accordance with Air Force Technical Order 00-110N-3, each sealed source containing licensed material will be leak tested every 180 days. Leak testing will be performed under the supervision of the Radiological Protection Officer and accomplished through the combined efforts of Bioenvironmental Engineering and Electronics Laboratory personnel.

1. A sealed source will not be put into use upon receipt unless a certificate is obtained from the transferor indicating that it has been leak tested within six months prior to the transfer.

2. Leak testing will be accomplished by wiping the inlet and outlet ports of the ion chamber with filter paper (NSN 6640-00-336-6870), not to exceed two (2) inches in diameter.

a. Each swipe sample will be field monitored with the AN/PDR-56 or PAC-1S-1 and the AN/PDR-27 radiac instruments.

b. If a swipe sample reads (less background) over 200 CPM of alpha activity or over 0.01 mR/hr for beta-gamma radiation, the source will not be used until advised by the USAF Occupational and Environmental Health Lab (OEHL)/RZ, Brooks AFB, Texas 78235.

3. All samples will be sent to the USAF OEHL/RZ for leak test results. The swipe envelope, AF Form 495, shall be used for this purpose.

4. If leak test results reveal the presence of 0.005 microcurie or more if removable contamination, the leaking source will be removed from use and repaired or disposed of in accordance with U.S. NRC regulations. A report shall be filed within five days of the test with the U.S. NRC describing the equipment involved, the test results, and the corrective action taken.

5. Records of leak tests will be maintained on AFTO Form 140 by the using organization for the service life of the sources. The leak test results will be maintained in units of microcuries and made available on request to authorized personnel.

G. Radioactive waste material is not expected to be generated as a result of employing these radioactive sources. Maintenance of the sources is limited to removal and replacement of the ion chamber for failure or leak testing. Cleaning ion chambers is prohibited. Leak testing and monitoring during required maintenance will detect the generation of any radioactive waste products.

1. Any radioactive waste generated will be disposed of by conforming to the standards and procedures outlined in Title 10 Code of Federal Regulations, Part 20, and Air Force Technical Order 00-110N-2

2. Unserviceable ion chambers will be sent to Amersham Corporation, 2636 Clearbrook Drive, Arlington Heights, IL 60005, for disposal.

H. 381 MIMS Electronics Laboratory will conduct a physical inventory every six (6) months to account for all sealed sources received and possessed under the license. The records of the inventories will be maintained for two (2) years from the date of inventory and shall include the quantities and kinds of byproduct material, location of sealed sources, and the date of the inventory.

SUPPLEMENTAL SHEET NO. 5

Item 16. Formal Training In Radiation Safety.

A. TSgt James D. Fradenburg, FR548-84-5582, Missile Electronic System Technician (AFSC 31672F). Direct conversion from AFSC 31671F, Missile Guidance Control System Technician (Titan II) to Missile Electronic System Technician.

B. SSgt Booby R. Pulliam, FR238-06-0751, Missile Electronic System Technician (AFSC 31672F). Completed Missile Electronics Equipment Course, 3ALR31632F, 8 weeks, at Sheppard AFB, Texas, in May 1981.

C. Capt Reginald K.Y. Ching, 575-48-5980FV, Bioenvironmental Engineer (AFSC 9124).

1. Initial radiation protection training obtained at "Bioenvironmental Engineering Course," 50BY9121, Sep-Dec 1971 (16 weeks), at USAFSAM, Brooks AFB, Texas.

2. Nuclear Hazards Training Course, 30ZR9124, Dec 1972 (five days), at the Interservice Nuclear Weapons School, Kirtland AFB, New Mexico.

3. Industrial Radiological Hazards Course, B3AZY907X0-4, Oct 1980 (two weeks), at USAFSAM, Brooks AFB, Texas.

D. Capt Jorge A. Delucca, 584-70-2380FR, Bioenvironmental Engineer (AFSC 9121). Initial radiation protection training obtained at "Bioenvironmental Engineering Course," 50BY9121, Sep-Dec 1982 (16 weeks), at USAFSAM, Brooks AFB, Texas.

SUPPLEMENTAL SHEET NO. 6

Item 17. Experience.

A. TSgt James D. Fradenburg:

1. Shop supervisor responsible for the maintenance of the MSA vapor detector systems and storage of ion chambers containing Americium-241 or Radium-226.

2. Qualified Titan II Missile Electronic System technician for five (5) years and assigned to McConnell AFB since June 1977.

B. SSgt Bobby R. Pulliam:

1. Assistant shop supervisor responsible for the maintenance of the MSA detector systems and storage of ion chambers containing Americium-241 or Radium-226.

2. Qualified Titan II Missile Electronic System technician for five (5) years and assigned to McConnell AFB since May 1981.

C. Capt Reginald K.Y. Ching: Appointed as Radiological Protection Officer while assigned to the following Air Force installations:

1. Fairchild AFB, Washington, from Jan 1972 thru Jan 1974. Radioactive material controlled included C-14 (50 uCi), Cs-137 (110 mCi), H-3 (3 Ci), I-125 (200 uCi), I-131 (200 uCi), Pu-239 (10 uCi), and Ra-226 (1.0 uCi).

2. CCK AB, Republic of China, from Jul 1974 to Jul 1975. Radioactive material controlled included CS-137 (110 mCi) and Pu-239 (10 uCi).

3. Kunsan AB, Korea, from Jul 1975-1976 and Aug 1977 thru Jun 1979. Radioactive material controlled included Cs-137 (110 mCi) and Pu-239 (10 uCi).

4. McGuire AFB, New Jersey, from Aug 1976 to Aug 1977. Radioactive material controlled included C-14 (50 uCi), Cs-137 (110 mCi), Mg-Thorium (7 Kg), Pu-239 (10 uCi), and Ra-226 (1.0 uCi).

5. RAF Bentwaters, United Kingdom, from Jul 1979 to Jul 1982. Radioactive material controlled included C-14 (50 uCi), Cs-137 (110 mCi), depleted uranium (400,000 Kg), and Pu-239 (10 uCi).

D. Capt Jorge A. Delucca: Assigned as a Bioenvironmental Engineer at McConnell AFB since Dec 1982. He has performed radiation protection surveys of the work areas using ionizing radiation sources. Radioactive material controlled includes Am-241 (0.6 mCi per source), Cs-137 (110 mCi), I-125 (200 uCi), Pu-239 (10 uCi), and Ra-226 (150 uCi per source).

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
BOLLING AFB, D.C. 20332

REPLY TO ATTN OF: AFMSC/ SGPA
BROOKS AFB TEXAS 78235

6 June 1984

SUBJECT: USNRC License Number 15-13812-01, McConnell AFB KS

TO: Radioisotopes Licensing Branch
Division of Fuel Cycle and Material Safety
U.S. Nuclear Regulatory Commission
Washington DC 20555

1. Forwarded is request to amend subject license to reflect a change in personnel.

2. Request that any correspondence issued pursuant to this amendment be forwarded to this office.

LANCE J. BOLLINGER, Captain, USAF, BSC
Secretary, USAF Radioisotope Committee
Office of the Surgeon General

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 381ST STRATEGIC MISSLE WING (SAC)
MCCONNELL AIR FORCE BASE, KANSAS 67221

REPLY TO ATTN OF: 381 MIMS/CC

16 MAY 1984

SUBJECT: Amendment to USNRC License

TO: USAF HOSP/SGPB cc 29 MAY 84
HQ SAC/SGPB DLB concur 1 Jun 84
AFMSC/SGPZ
IN TURN

1. Request our U.S. Nuclear Regulatory Commission Materials License No. 15-1381201, Item 12, be amended as follows:

"Licensed material shall be used by or under the supervision of, Reginald K.Y. Ching, Robert W. Jones, Kenneth R. Hursey, or Jorge A. Delucca."

2. TSgt Jones and TSgt Hursey will be replacing MSgt Frandenburg and SSgt Pulliam. Type and extent of training of each individual is listed in Supplemental Sheet No. 1.

3. If there are any questions, please contact Capt Reginald K.Y. Ching, Bioenvironmental Engineer, AV 743-5229.

PHILIP L. SELVIDGE, Lt Colonel, ~~USAF~~
Commander

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Peace....is our Profession

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SUPPLEMENTAL SHEET NO. 1

I. TSgt Robert W. Jones, FR264-02-2076, Missile Electronic System Technician (AFSC 31652F).

a. Resume of Training. Missile Electronics Course, J3ABR31632F, 146 days, Jan 82 - Aug 82, Sheppard AFB, Texas.

b. Resume of Experience. TSgt Jones is the shop supervisor responsible for the maintenance of the MSA system and storage of ion chambers. He has been assigned as a Titan II Missile Electronics Specialist for one (1) year and nine (9) months. Assigned to McConnell AFB since Aug 1982.

II. TSgt Kenneth R. Hursey, FR259-88-9577, Missile Electronic System Technician (AFSC 31632F).

a. Resume of Training. Missile Electronics Course, J3ABR31632F, 146 days, Jan 83 - Aug 83, Sheppard AFB, Texas.

b. Resume of Experience. TSgt Hursey is the assistant shop supervisor responsible for the maintenance of the MSA system and storage of ion chambers. He has been assigned as a Titan II Missile Electronics Specialist for nine (9) months. Assigned to McConnell AFB since Aug 1983.

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