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Burroughs Corporation

OEM DIVISION
PLAINFIELD PLANT
P.O. Box 1226 • Plainfield, New Jersey 07061
201-757-5000

February 19, 1980

Mr. Nathan Bassin
U.S. Nuclear Regulatory Commission
Division of Fuel Cycle and Material Safety
Material Licensing Branch
Washington, D.C. 20555

Dear Mr. Bassin:

This letter refers to your correspondence of October 17, 1979 (Docket No. 99401 and 99402) concerning NRC Licenses 29-13377-OIE and 29-04239-02. Both licenses are in your office for renewal. The information you requested concerning License No. 29-13377-OIE will be sent to you by March 3, 1980 under separate cover. That information is being developed by Teledyne Isotopes, Inc. Teledyne is analyzing each of our products.

The following information is offered in response to your questions regarding License No. 29-04239-02:

a. Burroughs OEM Corporation has made no transfers of Nickel-63 or Hydrogen-3 in the past several years. Neither of these radioisotopes is in our possession at this time, and we plan no use of these materials in the near future. Accordingly, the license should be amended to delete both Nickel-63 and Hydrogen-3.

b. A re-evaluation of Burroughs OEM Corporation's Krypton-85 needs has been made. There is no requirement, at this time, for an increase in Krypton-85 from 25 curies to 75 curies.

c. Mr. W. Kaczowski is the Burroughs OEM Corporation's Radiation Safety Officer of record. However, Mr. Kaczowski terminated his employment with the corporation as of February 8, 1980. Mr. David B. Johnson will replace him as Radiation Safety Officer as soon as his training and experience is adequate to handle the type and quantity of radioactive material possessed and used at Burroughs OEM Corporation. Until that time, Mr. T. Maloney will be designated as the temporary Radiation Safety Officer. Mr. Maloney will supervise Mr. Johnson's activities in the radiation safety field until Mr. Johnson's training is completed.

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d. Radioactive materials (KR-85) are received and stored in an area designated for that purpose. The area consists of a filled concrete block addition to the west corner of the building (see Figures 1 and 2 attached). This addition has metal doors that are kept locked when radioactive material is not being added or withdrawn.

The Krypton -85 is received in steel, pressurized (approx. 1000 p.s.i.) three (3) liter bottles. These bottles are stored in cabinets that are double lined with 1/8" lead shielding. Inventory levels and consequently radiation dose to plant personnel is kept to a minimum by adherence to the "Radioactive Materials Inventory Control" procedures enclosed with this letter as Attachment No. 1.

e. Specific responsibilities for the safe handling of radioactive material together with use and handling procedures are detailed in both, "Radioactive Materials Inventory Control" procedures mentioned above and the "Radiation Safety Manual" appended as Attachment No. 2. In addition to these two documents, Nuclear Support Services, Inc. has been contracted to provide all employees who handle radioactive material with a training program which will include: (1) Basic Radiation Physics; (2) Biological Effects of Radiation; (3) Units of Radiation; (4) The use of Radiation Caution Signs; (5) Radiation Protection (Time, Distance, and Shielding); (6) the ALARA Principle.

f. The following actions have been taken to reduce effluent releases of radioactive material (KR-85) to as low as can be reasonably achieved.

(1) Approximately eighty percent (80%) of the present product line is filled with gas mixes in which the concentration of Kr-85 has been reduced over the past year from 2.0 millicuries per liter to 0.25 millicuries per liter in an effort to substantially reduce the use of radioactive material (Kr-85). The remaining approximate twenty percent (20%) of production is filled with gas mixes that have been reduced in radioactive Kr-85 concentration from 2.0 millicuries per liter to 1.0 millicuries per liter.

(2) The Barnebey-Cheney Company has been contacted to provide charcoal filters through which all effluent releases containing radioactive material (Kr-85) will be passed. Barnebey-Cheney representatives have requested chemical and particle size tests be performed preliminary to their recommending a suitable filtration system for the Burroughs OEM Corporation's use. These tests will be performed by March 17, 1980. The Barnebey-Cheney Company through its local New Jersey representative, the Samuel Tepp Company, Inc., has indicated that the filters could be installed by May 31, 1980. The charcoal filters should further reduce the concentration of Kr-85 and subsequent effluent releases by more than 90 percent. Installation of the filtration and accompanying ventilation system will cost approximately $60,000.

By May 31, 1980, a centralized exhaust system will be in place. A real-time, air effluent monitor capable of detecting that concentration of radioactive Kr-85 which would result in one (1) percent of MPC at the Burroughs OEM Corporation's site boundary, will be installed by that time. This instrument will be set to alarm when the boundary concentration exceeds ten (10) percent of the value permitted for unrestricted areas. Should an alarm occur, the Radiation Safety Officer or his designee will investigate to determine the cause and take steps to reduce the concentration if such steps are warranted.

Please change the name in Block No. 2 of the License Application for renewal License No. 29-04239-02 to "Burroughs OEM Corporation." Thank you.

Sincerely,

H. Reese
General Manager, Plainfield Plant
Burroughs OEM Corporation

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cc: General Council
Nuclear Support Services, Inc.

FIGURE 1

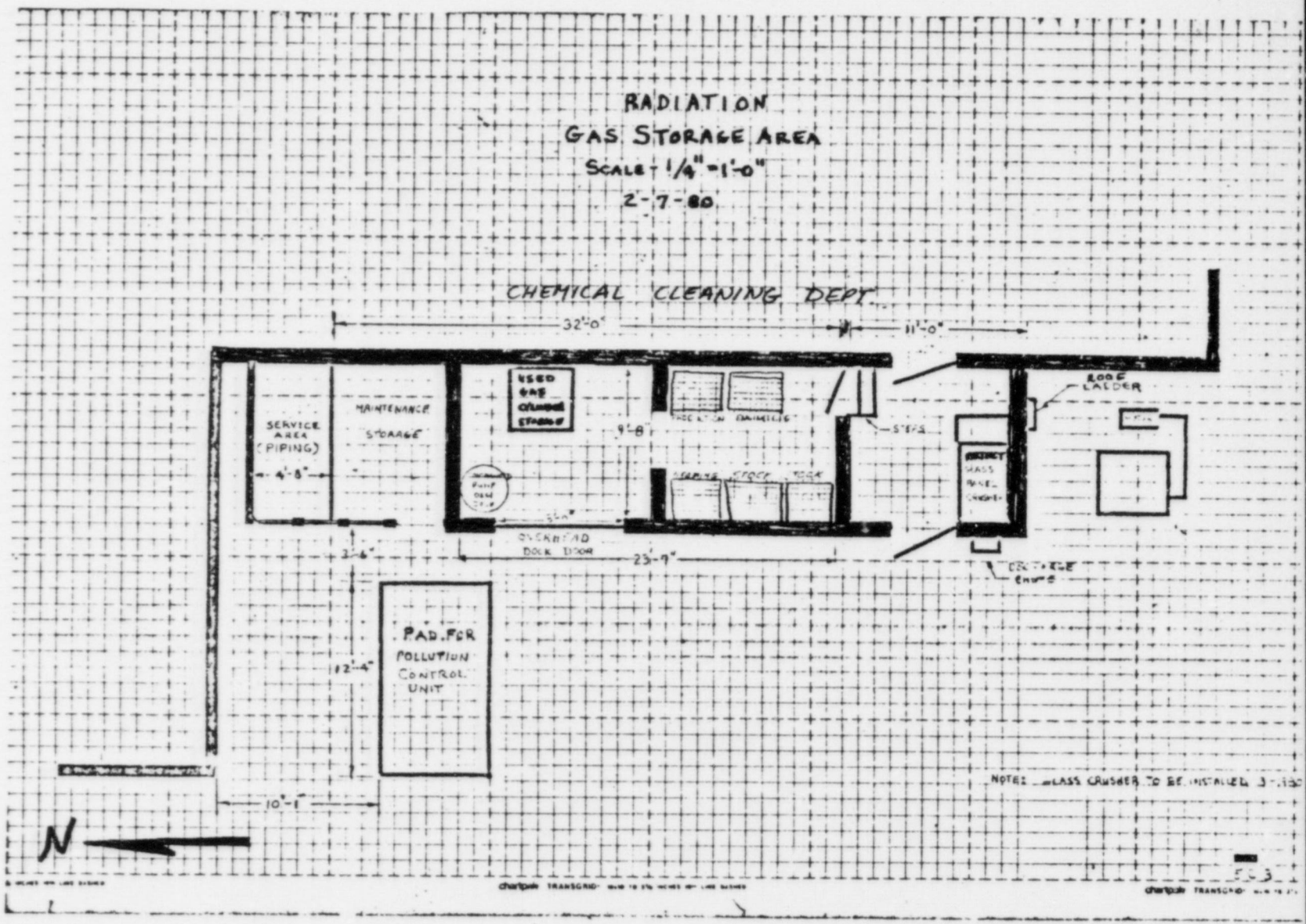
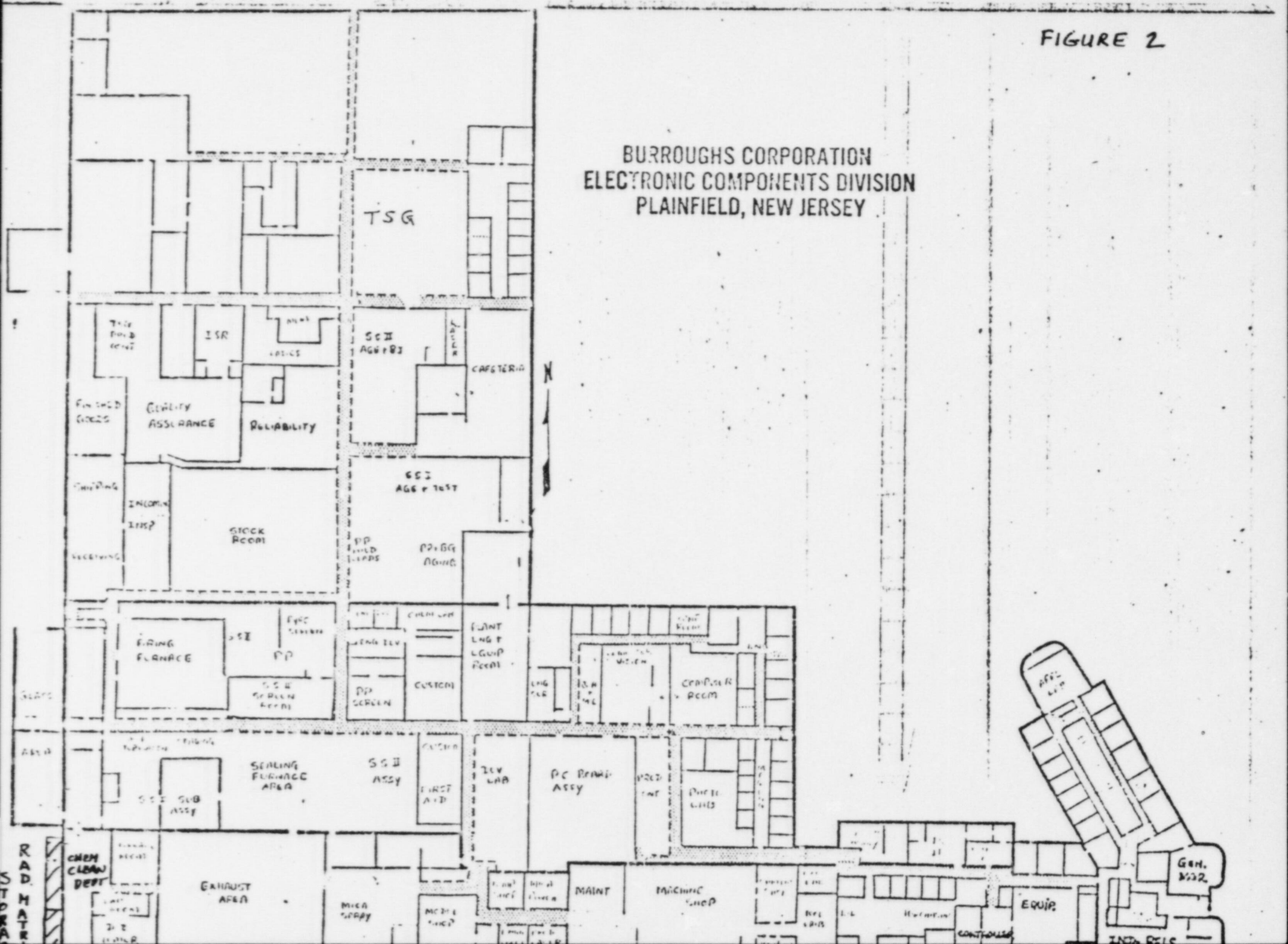

RADIATION
GAS STORAGE AREA
SCALE 1/4"-1'-0"
2-7-80
CHEMICAL CLEANING DEPT.
32'-0"
11'-0"
SERVICE AREA (PIPING)
4'-8"
MAINTENANCE STORAGE
USED GAS CYLINDER STORAGE
9'-8"
OVERHEAD DOCK DOOR
2'-6"
23'-9"
STEPS
ROOF LADDER
PAD FOR POLLUTION CONTROL UNIT
12'-4"
10'-1"
N
NOTE: GLASS CRUSHER TO BE INSTALLED

FIGURE 2

BURROUGHS CORPORATION
ELECTRONIC COMPONENTS DIVISION
PLAINFIELD, NEW JERSEY



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RADIOACTIVE MATERIALS

INVENTORY CONTROL

Stack #1

RADIOACTIVE MATERIALS INVENTORY CONTROL

1.0 GENERAL

The procedure detailed herein recognizes that the only licensed radioisotope in use in the plant now and in the foreseeable future is Krypton-85. Kr-85 is received as a compressed gas, mixed with stable gasses, in "lecture" size, steel bottles. Orders for customized mixtures are placed either by the Production Control Department or by the Engineering Department. All orders for gasses containing Kr-85 are routed through the Radiation Safety Officer to assure that plant inventory levels do not exceed the quantity limit imposed by the NRC By-Product Materials License issued to the plant.

2.0 INCOMING SHIPMENTS

2.1 RECEIVING DEPARTMENT

On receipt of a shipment of cylinders of Kr-85 gas, the cognizant individual in the receiving department shall:

2.1.1 Log in each cylinder in the "RADIOACTIVE MATERIALS" receiving log book showing:

(a) Date received.
(b) Time received.
(c) Name of individual who makes the log entry.
(d) Cylinder Curie content.
(e) Gas mixture.
(f) Number of liters per cylinder.
(g) Name of carrier.
(h) Department that ordered the cylinder.
(i) Vendor.

2.1.2 Notify the Radiation Safety Officer or his designee that a shipment has arrived.

2.1.3 Notify the Ordering Department that a shipment has arrived.

2.2 ORDERING DEPARTMENT

On being notified that a shipment of "RADIOACTIVE MATERIALS" has arrived, the Ordering Department will send a cognizant representative to the Receiving Department to:

2.2.1 Verify the "RADIOACTIVE MATERIALS" log entry and countersign the entry.

2.2.2 Lock cylinders in the Department sheilded locker located in the "RADIOACTIVE MATERIALS" Vault.

2.3 THE RADIATION SAFETY OFFICER

On being notified that a shipment of cylinders of Kr-85 has arrived at the plant, the Radiation Safety Officer or his designee will:

2.3.1 Verify the "RADIOACTIVE MATERIALS" log entry.

2.3.2 Verify by making appropriate instrument measurements, the Curie content of each cylinder.

2.3.3 Apply a "RADIOACTIVE MATERIAL" inventory tag to each cylinder.

2.3.4 Fill out the "Inventory" portion of each "RADIOACTIVE MATERIALS" tag, tear it off, and retain it for further use in maintaining inventory control of each cylinder. He will further note the cylinder Serial Number in the inventory log book.

2.3.5 Take a dose-rate measurement on each Department locker after the cylinders received have been placed inside by the Ordering Department's representative.

3.0 IN-HOUSE TRANSFERS FROM STORAGE VAULT

3.1 THE TRANSFERRING DEPARTMENT

Prior to the transfer of any cylinder that contains Kr-85 from locations within the plant, a "RADIOACTIVE MATERIALS TRANSFER" request form must be completed by the individual requesting the transfer. This form indicates the location from which the cylinder is being taken and the location to which it is being moved, and must be signed and dated by:

3.1.1 The shift Supervisor of Production if the requestor is a production employee.

3.1.2 The engineer who requires the transfer.

3.1.3 All "RADIATION MATERIALS TRANSFER" forms must be approved by the Radiation Safety Officer or his designee prior to the transfer.

3.2 THE RADIATION SAFETY OFFICER

The Radiation Safety Officer or his designee will, upon receipt of a "RADIOACTIVE MATERIALS TRANSFER" request, select a cylinder(s) from his record of inventory and note the transfer by Serial Number(s) on the appropriate inventory card together with the date of transfer. He will

issue the vault key to the individual who will make the actual transfer, and once made will assure the key is returned to him. He will document the issuance and return of the key by signatures. When the transfer has been completed, he will take dose-rate measurements at the location where the cylinder(s) has/have been relocated, and will verify that the cylinder(s) is/are properly stored to minimize employee exposure.

3.3 THE TRANSFEROR

The representative of the requesting department who actually makes the transfer:

3.3.1 Assures that the "RADIOACTIVE MATERIALS TRANSFER" form has been approved by the Radiation Safety Officer.

3.3.2 Signs out the vault key from the Radiation Safety Officer.

3.3.3 Makes the transfer, assuring that only the cylinder(s) designated by the Radiation Safety Officer is/are moved and that the material is moved to the location indicated on the transfer form.

3.3.4 Returns the vault key to the Radiation Safety Officer or his designee.

3.3.5 Signs and dates the inventory card maintained by the Radiation Safety Officer.

4.0 TRANSFER OF "USED" CYLINDERS TO VAULT

This procedure is used whenever a cylinder which contains Kr-85 is returned from one of the use stations to the storage vault. It must be assumed that all such cylinders have some quantity of Kr-85 remaining in them.

4.1 THE TRANSFERRING DEPARTMENT

The transferring department initiates a "RADIOACTIVE MATERIALS TRANSFER" form listing the quantity of cylinders it wishes to transfer in the remarks section of the form. The transfer form is signed and dated as in 3.0 above and approved by the Radiation Safety Officer or his designee.

4.2 THE RADIATION SAFETY OFFICER

The Radiation Safety Officer or his designee, upon receipt and approval of a "RADIATION MATERIALS TRANSFER" form, will issue the vault key to the individual who will effect the transfer. He further indicates which locker or disposal rack in the vault the cylinder(s) is/are to be placed.

4.3 THE TRANSFEROR

The individual who makes the transfer to the vault:

4.3.1 Obtains the vault key from the Radiation Safety Officer.

4.3.2 Transfers the cylinder(s) to the vault.

4.3.3 Stamps "USED" across the face of the "RADIOACTIVE MATERIALS" tag.

4.3.4 Returns the vault key to the Radiation Safety Officer.

4.3.5 Signs and dates the inventory card(s) kept by the Radiation Safety Officer to indicate that the transfer has been made.

4.4 INVENTORY

The Radiation Safety Officer or his designee will inventory the entire plant stock of Kr-85 gas cylinders at least once each week to verify records and to assure compliance with the NRC By-Product Materials License issued to the plant.