DR-1231

UNITED NUCLEAR
CORPORATION

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August 18, 1964

Mr. Harold L. Price
Director of Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Sir:

In my letter to you dated July 30, 1964, we stated we would not begin operations of a production nature at the Fuels Recovery Plant before a conference was held with you.

It has become necessary to perform certain operations of a non-production nature at the plant, and we wish to advise you of them before proceeding. They are:

1. The accurate determination of a SNM material balance. To achieve this, certain material transfer operations must be carried out. The procedure we plan to use is outlined in the Appendix of this letter.

2. The ability to receive incoming material of a general nature. This receipt of material includes uranium bearing material for which we have contracts to process. Receipts will be made in accordance with our license requirements for storage, and no process work will be carried out.

We believe these activities are in accordance with commitments made to you, but wish to keep you completely informed in all areas regarding these commitments. May we have your comments at your earliest convenience?

Very truly yours,

J. A. Lindberg
Vice President

JAL:jh
attachment

Rec'd Off. Dir. of Reg.
Date 8-22-64

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APPENDIX

J. A. Lindberg Letter to Harold L. Price dated August 18, 1964

Uranium Accountability

1. Objective of physical inventory of the entire plant is to establish the uranium balance of the categories of material at each of the stages in the process and to determine the uranium losses resulting from the nuclear incident.

2. The procedure will consist of sampling and analyzing all uranium-bearing materials located in storage and in process equipment.

3. The categories of material to be inventoried are as follows:

   a. Dry ADU contained in 4 liter bottles.

   b. Dilute and concentrated solutions in 4 liter bottles, 11 liter bottles and 55 gallon drums.

   c. Solutions stored in overhead storage tanks.

   d. Solutions contained in pulse columns, precipitator, and evaporator.

   e. Pickle liquor adjustment and storage tanks.

4. Procedure for Dry ADU

   a. Remove 4 liter bottle from storage rack and transfer bottle to ADU collection hood and sample bottle. Sample is to be taken directly from container. No pouring of contents from one container to another is to be performed.

   b. Remove approximately 5g sample and identify sample container.

   c. Transfer 4 liter bottle and sample to weighing area. Weigh both containers and record weights on batch card. Attach batch cards to containers.

   d. Transfer 4 liter bottle and sample bottle to storage rack.

   e. Only one bottle is to be handled at one time.

5. Procedure for Dilute and Concentrated Solutions in Storage

   a. 4 liter and 11 liter bottles

      (1) Establish an isolated sampling area where containers can be agitated.

      (2) Transfer one bottle at a time to the sampling area.

      (3) Check cover on bottle to assure tightness and agitate by shaking the bottle.

a. 4 liter and 11 liter bottles (continued)

(4) Remove cover and select sample (300 ml.).

(5) Replace and secure cover. Identify sample.

(6) Weigh both containers and record weights.

(7) Return bottles to their original location.

b. Fifty-five gallon drums

(1) Transfer drum to sampling area one at a time.

(2) Agitate contents directly in the drum either with air or propeller agitation.

(3) Select 500 ml. sample and place in sample bottle. Secure covers and identify containers.

(4) Weigh drum and record weight. Return drum to original location.

6. Procedure for Solutions Stored in Overhead Tanks

a. 1-D-10 Series (evaporator side)

(1) Begin draining one overhead tank into one of the precipitator tanks until it is filled.

(2) Obtain one 11 liter empty bottle in a criticality safe cart.

(3) Drain solution from precipitator tank into a 4 liter bottle and pour contents of 4 liter bottle into 11 liter bottle situated in cart.

(4) When 11 liter bottle is filled transfer cart to sampling area and remove 11 liter bottle. Check cover for tightness and agitate bottle by shaking.

(5) Replace bottle in rack and remove sample (300 ml.)

(6) Weigh bottles and record weights.

(7) Remove cart with bottle to storage location.

(8) Repeat steps (1) through (7) until one overhead tank is empty.

(9) Return one cart at a time to the precipitator and remove bottle from cart.

a. 1-D-10 Series (evaporator side) (continued)

(10) Pour contents of bottle into precipitator tank and repeat until tank is full.

(11) Pump contents of precipitator tank back into original overhead tank.

(12) Repeat operation for each tank.

b. 1-D-9 Series

1D34

Extraction feed tanks (6)

(1) Drain individually each tank into the assay tank. This can be accomplished without any intermediate transfer to bottles.

(2) Weigh the solution in the assay tanks.

(3) Agitate the solution and remove a 500 ml. sample.

(4) Pump the solution back into its original tank.

7. Procedure for Solutions Contained in Evaporator, Precipitator, and Pulse Columns

a. Evaporator

(1) Follow steps 6.a(2) through 6.a(7)

(2) Follow steps 6.a(9) through 6.a(10)

What happens after 6.a.10

b. Precipitator

(1) Follow steps 6.a(2) through 6.a(7) and 6.a(9) through 6.a(10).

c. Pulse Columns

(1) Follow steps 6.a(2) through 6.a(7) and 6.a(9) through 6.a(10)

8. Procedure for Pickle Liquor Adjustment and Storage Tanks

a. Adjustment Tank

(1) Agitate directly in tank using agitator on tank.

(2) Select sample and estimate number of gallons. No transfer of material required.

b. Pickle Liquor Storage

(1) Sample tank and estimate number of gallons. No transfer of material required.