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U. S. Atomic Energy Commission
Division of Licensing & Regulation

Mr. Eber R. Price
Assistant Director
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D.C.

ATTENTION: Mr. Donald Nussbaumer

REFERENCE: Your telegram dated February 27, 1964

SUBJECT: APPLICATION FOR SOURCE AND SPECIAL NUCLEAR MATERIAL LICENSES FOR UNITED NUCLEAR CORPORATION'S SCRAP PLANT FACILITIES AT WOOD RIVER JUNCTION, RHODE ISLAND

Gentlemen:

The following is in reply to your telecon of February 26 and telegram of February 27, 1964. The following listed comments correspond to your questions as numbered in the telegram.

1. The dimensions of the flash tank are:
3" diameter x 8" long.

2. Process and equipment has been designed and will be operated to prevent concentrated solutions from reaching tanks 1-D-24 A & B. Examples of this are given in Section 304.4 (page 33 of 300). If through equipment failure or mis-operation some uranium does get through the filter, it will be small in amount and dilution in the tank will provide a degree of protection.

   Assuming concentrated liquor of an amount to cause concern does get into 1-D-24 A or B, the following procedures and features will protect against having this material go to the waste treatment tanks 1-D-14:

   a) Reference drawing A905/4

   Elevation of line 1" R-6 is 87'-6". Elevation of top of tanks 1-D-24 A & B is 77'-1". Tanks 1-D-24 A & B and 1-D-14 A & B are vented. Therefore, transfer by siphon action from 1-D-24 A & B to 1-D-14 A & B is impossible.

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Also, maximum elevation of lines feeding tanks 1-D-10 A, B & C is 86'-3". Elevation of tanks 1-D-10 A,B & C and vent from 1-D-10 A,B & C does not exceed this. Therefore, inadvertent drainage from 1-D-10 to 1-D-14 as a result of leaky valves is impossible.

b) Reference drawing A905/4

A positive break will be made between lines 1" LD 3 and 1" R6. A flexible hose or other suitable arrangement will be installed such that discharge of pumps 1-D-17 can be connected to only one of the two lines.

c) Transfer out of 1-D-24 A & B requires supervisory approval which is based on uranium analysis of their content. (Reference paragraph 304.3).

d) Tags or other appropriate means for ready identification are used on all valves and piping.

3. Features and controls which protect against uranium backing up into unsafe sized vessels in the event of:

a) Air Failure

1) air lines which open into process vessels drop down from headers which are at higher elevations than the vessels; these lines are equipped with check valves.

2) in the event of an air failure, the operator turns off the air valve.

b) Steam Failure

The same features as described above hold for the steam lines.

4. The items marked FI are flow indicators and in all cases are less than 3" inside diameter.

5. On Drawing A/904:

   a) at B-1
      "From pump 1-P-2" should be "From pump 1-P-20"

   b) at A-1
      "continued on Drawing A-904" should be "continued on Drawing A-903"

   c) at C-1
      "From pumps 1-2 A & B" should be "From pump 1-P-2 A & B"

6. The additional lines on 1-D-6A besides water and nitric acid is an air line to provide a means of mixing. The marking is "1/2" IA".

Reference is made to paragraph 207.2 -- Description of General Nuclear Safety Procedures:

Mr. Louis J. Swallow is Supervisor of Nuclear Safety. His qualifications include:

Degree of BS Mechanical Engineering
Washington University
St. Louis, Missouri --[ ]

Degree of MS Mechanical Engineering
Washington University
St. Louis, Missouri -- 1959

Special Training: ORNL Nuclear Safety Course -- 1959.

Experience:

July 1955 - December 1958
Project Engineer, Mallinckrdot Chemical Works,
Uranium Division

Assigned to the Hematite Plant of United Nuclear Corporation since December 1958. Since September 1959, responsibilities have included nuclear safety analyses of equipment for processing special nuclear material. This includes preparation of Special Nuclear Material License Application and AEC Contract Feasibility Reports and securing AEC approval thereof.

Respectfully yours,

L. J. Swallow

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