JAN 15 1990

Peter B. Bloch
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Gustave A. Linenberger, Jr.
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

In the Matter of
ROCKWELL INTERNATIONAL CORPORATION
Rocketdyne Division
Docket No. 70-25-SNM No. 21
ASLBP No. 89-594-01-ML

Dear Administrative Judges:

By this letter, we are transmitting to you copies of the following background information for inclusion in your files:

12/06/89 Ltr RLancet to LRouse transmitting supplemental information for the renewal application

12/22/89 Ltr RLancet to GSjoblom transmitting info on TRUMP-S program

Sincerely,

Original Signed By:
Virginia Tharpe
Uranium Fuel Section
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Enclosures: As stated

cc: ASLAP (3)
LPDR
SECY

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PDR

Rocketdyne Division
Rockwell International Corporation
6633 Canoga Avenue
Canoga Park, California 913
Telex: 6
ROCKETDY PK

Rockwell International

December 22, 1989 In reply refer to 89RC16167

Glen L. Sjoblom
Acting Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety,
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Supplement to Application for Renewal to License No. SNM-21, Docket 70-25 issued to Rocketdyne Division of Rockwell International Corporation.

Reference: RI Letter R.T. Lancet to Leland C. Rouse, "same subject", 89RC14432, December 6, 1989

Dear Mr. Sjoblom:

In the reference letter we provided additional clarification and information as requested by members of your staff. This letter provides additional clarification to our license renewal request by defining the limited R&D associated with the amended license use reduction to 6g of plutonium (SNM-21 license amendment No. 4, December 12, 1989).

The R&D to be performed is limited to the first phase of the TRUMP-S program. The purpose of the TRUMP-S program at Rocketdyne is to develop fundamental thermodynamic and electrochemical data on various actinide materials so that processes can be developed to separate long-lived radioactive isotopes from spent nuclear fuel. These long-lived isotopes would be destroyed (fissioned) in a nuclear reactor or accelerator, thereby eliminating the long-term hazard associated with the disposal of spent nuclear fuel. The program at Rocketdyne will use small quantities of actinide materials with the work being performed in a facility with multiple barriers to guard against their release to the environment.

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For the first phase of the TRUMP-S program, five grams of plutonium have been procured and are stored in the Source and Special Nuclear Material Vault (TO64). As required, material will be transferred to the RIHL (building T020). Material handling will be conducted within an inert atmosphere glove box in the Alpha Room of this facility. The inert atmosphere (high purity argon) is required for experimental reasons; e.g. atmospheric air, carbon dioxide and water vapor will interfere with the test. No more than one gram of plutonium will be in the glove box at one time. Approximately 0.1 gram of plutonium (or less in some experiments) will be dissolved in molten cadmium (~500 C) in the test cell. The cell is made up of ceramic (alumium oxide) and metal (tantalum) parts. A low-melting salt (lithium-potassium chloride) is added, and stirrers and various electrodes are placed in the cell. The overall dimensions of the cell are approximately 2 in. diameter and 5 in. tall. From the internal configuration of the cell and varying the mode of operation such fundamental data as free energy of formation, activity coefficients in the metal and salt phases, valence states in the salt, and characteristics of deposits are obtained. A particular run may last from one day to one week. The same cell loading of plutonium and salt may be used in several runs. During a run, the entire operation is monitored and controlled with a computer.

In order to confirm the electrochemical results, one or two chemical samples of the cadmium and salt will be taken during the test. The total weight of each sample will be less than one gram (approximately 0.1 gram.) The samples will be dissolved in acid in a gloved hood and first analyzed for plutonium by radioactive counting. Based on the radiochemical analysis, an aliquot of the chemical sample will be prepared that will contain no more than 10 microcuries. This sample will undergo chemical analysis of the non-radioactive constituents by inductively-coupled plasma (ICP) analysis. The ICP unit is installed in a glove box.

If you have any questions or require additional information, please call me at (818) 718-3461.

Very truly yours,

R. T. Lancet

R.T. Lancet, Director
Nuclear Safety & Licensing

70-25
PDR

Rocketdyne Division
Rockwell International Corporation
6633 Canoga Avenue
Canoga Park, California 91304
Telex: 698478
ROCKETDYN CNPK

Rockwell International

December 6, 1989 In reply refer to 89RC14432

Leland C. Rouse
Fuel Cycle Safety Branch
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Subject: Supplement to Application for Renewal to License No. SNM-21, Docket 70-25 issued to Rocketdyne Division of Rockwell International Corporation

Reference:

1. RI Letter R.T. Lancet to Leland C. Rouse "Same Subject", 89RC13898, November 5, 1989

2. RI Letter, R.T. Lancet to Leland C. Rouse "Application for Renewal of License No SNM 21 Docket 75-20 issued to the Rocketdyne Division of Rockwell International Corporation, 89RC06668 May 25, 1989.

3. NRC Letter, Leland C. Rouse to Attn: Dr. M.E. Remley dated March 8, 1989

Mr. George Bidinger and Ms. Merri Horn of your staff, on November 22, 1989, requested that we modify our supplement to the application, Reference 1 to specify a "termination" date and provide a time when the decommissioning plan for the Rockwell International Hot Laboratory will be submitted. This letter modifies and replaces Reference 1 to provide the additional information.

In the Reference 2 letter we requested renewal of the subject license, as revised by Amendment 2 (reference 3).

This supplement requests that the following changes be made to reference 2 renewal request.

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Rockwell International

1. The use limit be reduced to less than 6g of Pu for research and development (R&D) activities.

2. The possession limit be reduced to 400g of special nuclear material (SNM) to cover the 6g of Pu for use in R&D activities and potentially up to 394g of SNM contamination distributed in the Rockwell International Hot Laboratory.

3. The license is to terminate October 30, 1990.

4. Subsequent to October 30, 1990 the only activities will be to complete the decontamination and decommissioning of the Rockwell International licensed facility(ies).

5. A plan for completion of decommissioning will be provided for review by March 15, 1990.

If you have any questions or require additional information, please call me at (818) 718-3462.

Very truly yours,

R. T. Lancet

R.T. Lancet, Director
Nuclear Safety and Licensing