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ECISION MATERIALS CORPORATION

REPLOGLE AVENUE

MINE HILL, N.J. 07801

(201) 989-0100

August 5, 1985

The Fals

Dr. John Glenn, Chief Nuclear Material Section B U.S. Nuclear Regulatory Commission 631 Park Avenue King of Prussia, PA 19406

Dear Dr. Glenn:

As per Section 12.A of Materials License 29-20777-01 Amendment No. 01, Precision Materials Corporation is submitting the name of Frank W. Brazitis, Social Security to the U.S. Nuclear Regulatory Commission as a Responsible User of the Omega Irradiator.

In support of this submission, please find enclosed a copy of Mr. Brazitis' Operator's Qualification Card. Also enclosed is a copy of Mr. Brazitis' Exposure Record from Isomedix, Inc. During the period of January 1978 to December 1980, Mr. Brazitis was employed by Isomedix, Inc. as an Irradiator Operator and Assistant Production Manager.

Due to Mr. Brazitis' past experience as an Irradiator Operator and his successful completion of all phases of the Operator Training Program at Precision Materials Corporation, the Safety Committee has designated Mr. Brazitis as a Responsible User of the Omega Irradiator on August 5, 1985.

If you have any questions, please contact me at the above telephone number.

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Sincerely,

Eugene R. Nestor

Compliance Officer

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FOIA ULIE96-319 Enclosures ***

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0.	TINTOR'S QUALIFICATION CARD	*
Operator Trainee's Name	EnoK W. Brazitis	
Social Security Number		
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The Operator's Qualification Card is to be used as a record that the Operator Trainee has completed all requirements of Item 8 of the license application. All signature blocks are to be signed and dated by a Radiation Safety Officer or a designated Operator-Instructor. Section 4 of this card will be signed by all members of the Precision Materials Corporation Safety Committee upon the trainee's successful completion of the Oral Qualification Board. This card is part of the training file and is not to be disposed of without written permission of the Compliance Officer.

PHASE I - Formal Training

DATE SIGNATURE

(Note: Each signature represents one hour of completed lecture.)

- A) Operating and ALARA Philosophy of Precision Materials Corporation.
- B) Review of the History of Nuclear Power and Gamma Irradiation.
- C) Mathematics Review
- D) Types and Effects of Radiation

E) Radiation Measurements and Instrumentation

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Operator's Qualification Card Page 2

F) High Level Dosimetry

G) Review of Microbiology

H) Irradiator Design and Construction

1) Safety Systems

J) Procedures

K) Quality Control and Regulatory Regulatory Reguirements

PHASE II - Simulator Training (Note: Each signature represents four hours of Simulator Training).

SIGNATURE DATE 1) -13/85 Amt 2) 6/3/85 hat 1) 5/22/85 Junt H. St 2) 5/22/85 Junto 74. 5to 1) 1-11-85 June 14 (2 his) 2) 5-17-25 Rund At 6-26-85 Rund At (2605) 1) 5-21-15 A.J.At 2) 6-3-85 Ruch At 3) 6-3-85 Red dt. 4) 6-13-85 Rod pt 1) 6-4-85 Ruly tt 2) ... - 4-85 AQUA 3) 6-4-85 Schelo 4) - 14-25 Put my

1) 6/26/55 2) 6/20/25 Etc 3) 6/22/95 416/27/85

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PHASE III - On-the-Job Training (Note: Each signature represents one part of the required training).

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(A) Under Instruction

of days / 2

(B) Under Direct Supervision

of days 6

(C) Under Supervision # of days 5

1) 6/10/85 - Colto

2) 6/26/05 6

PHASE IV - Oral Qualification Board

7/1/85 ESPENER NesTOR CORS 7/1/85 MARTIN H. STEIN Ant H.S

7/1/85

Russell Stein

(Date)

(Print Name)

(Signature)

NOTE: Attach Question Sheets to Qualification Card.

DATE

SIGNATURE

PRECISION MATERIALS CORPORATION

REPLOGLE AVENUE

MINE HILL, N.J. 07801

(201) 989-0100

August 28, 1985

Dr. John Glenn, Chief Nuclear Material Section B US Nuclear Regulatory Commission Region I 631 Park Avenue King of Prussia, PA 19406

Dear Dr. Glenn:

As you know, Section 20 of our Material License #29-20777-01 Amendment #01 requires that we have an independent audit performed by an outside concern on an annual basis. Enclosed you will find the resume of John Pirro of Pirro Associates. Please review the resume and let us know if Mr. Pirro is acceptable, to the U.S. Nuclear Regulatory Commission, as the auditor.

Sincerely,

Eugene R. Nestor Compliance Officer

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Enclosures



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JOHN PIRRO

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EDUCATION: Bachelor and Masters Degrees in Mechanical and Nuclear Engineering, College of the City of New York.

LICENSES: Registered Professional Engineer: New York.

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PIRRO ASSOCIATES

1985-PRESENT

Executive Vice-President

Responsiblities include: Nuclear Engineering Services for Commercial and Governmental clients. Providing nuclear engineering, design, audit and consulting services as required.

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Manager of Nuclear Engineering (Burns and Roe Industria) Services Corp.)

As Manager of Nuclear Engineering, Mr. Pirro was responsibile for development of the Company's technical capabilities in the nuclear non-power field. He was responsible for Keeping . abreast of technical advances in this field, identification of projects and serving as Project Manager on the projects awarded.

As Project Manager, Mr. Pirro had overall responsibility for projects in the nuclear engineering field. His more than twenty-nine years of engineering experience predominantly encompassed the specialized areas of:

- Planning, Scheduling, Cost Estimating, and Execution of Field Operations.
- Radioactive Waste Management Processing, Packaging, Transportation and Disposal.
- Project Management Detail Design and Engineering, and Conceptual Design and Engineering.

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- Nuclear Analysis - Criticality and Shielding. Project Manager - System Safety Program for the demilitarization of chemical warfare agent BZ for the U.S. Army Corps of Engineers. Developed a detailed system Safety Program including:

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- Administrative and Functional Organization. Defined and developed the Safety organization reporting to the Safety Manager for the BZ project.
- Responsibility and Authority Documents. Developed and defined the responsibilies and authority of the Safety Manager and his staff in the operation of the B2 Demilitarization Facility.
- Procedures. Developed the detailed procedures for Safety assurance during routine and emergency operation of the facility.
- Configuration Control. Developed modification control procedures to assure safety staff review of activities proposed to modify procedures and/or equipment.
- Developed the chain of command for the Safety Managers office staff and project organization for safety related matters.

This system Safety Program Plan was the first approved plan by the Army for chemical warfare agent demilitarization.

Project Manager - Safety Analysis Document for the Shipping port Decommissioning Project (Phase I). Prepared a Safety Analysis Report on the Shippingport Decommissioning Project, which encompased over 150 Activity Specifications for decontamination of the facility. The analysis covered exposure control methods and procedures, contamination control of hazardous material and radioactive materials, and the safety of routine and emergency operations.

Project Manager - Improvements to Radioactive Waste Facilities at DRNL. Title I and II Architect/Engineering design services included preparation of construction drawings, specifications, construction schedules, and capital cost estimates, encompassing Architectural and all Engineering disciplines. The project work consisted of four major tasks:

 Cell Ventilation and Off-Gas System Demolition, Renovation, Upgrading and Replacing an existing 30-year-old system with minimal interruption of services.

Intermediate Level Waste (ILW) Collection System -

Replacement of two ILW collection tanks and transfer lines.

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- Streamflow Monitoring and Control System -Installation of improved flow measurement devices (weirs) and design of short-span bridges over the new channels.
- Waste Operations Control Center Design of a new facility to house the data acquisition system and modernized instrumentation.

The facilities were constructed on schedule and within the \$20 million estimated cost.

Project Manager - Feasibility study of adapting the West Valley Fuel Reprocessing Facility for the solidification of high-level waste generated by earlier fuel reprocessing. Handling and interim storage of the solidified waste and the management and disposal of low-level wastes from the decontamination and decommissioning of the facility as well as the low-level waste from the solidification operation.

Program Manager - Assessment of International Fuel Service Centers (IFSC) for the Department of Energy. The study assessed four types of IFSC's to perform the following functions: (1) Receive fuel from dispersed reactors for longterm storage, (2) Receive spent fuel from dispersed reactors, reprocess fuel, fabricate recovered fuel for reuse, process radioactive wastes, (3) Receive spent fuel from on-site reactors (burners), reprocess, refabricate fuel for on-site reactors and process radioactive waste, (4) Receive spent fuel from on-site reactors and process radioactive waste. A total of 15 IFSC concepts were assessed and characterized. The work involved preparation of Conceptual Designs, Construction Cost Estimates, Operating Cost Estimates, Construction Schedules, Safeguards and Non-Proliferation Features, and technology assessments of the 15 IFSC concepts.

Project Manager - Evaluation Study of Single and Multiple Contractor Construction and Operation of a Centrifuge Add-on Enrichment Facility at Portsmouth (under subcontract to Electro-Nucleonics). The study included: Management and control concepts, planning and scheduling, quality assurance, engineering manpower estimates, constructibility and capital and operating cost estimates.

Project Manager - Pre-Title I Services for CENTAR Associates (Joint Venture of Electro-Nucleonics and Atlantic Richfield for a 3000 MT-SWU/yr Centrifuge Enrichment Plant. These services included: Preparation of a Project Control Plan for Title 1, 11, and 111; Site Selection Report covering 130 sites; preparation of Documentation and Reporting for Project Planning, project Execution, Project Analysis and Action; preparation of Engineering and Design manpower schedules; preparation of construction schedules; computerized cascade computations and layouts.

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Project Manager - Feasibility Study of Gas Centrifuge Enrichment Facilities. Joint Venture of Electro-Nucleonics, Tennessee Valley Authority, and Burns and Roe. The classified version comprises three volumes and contains approximately E00 pages. The objective of the study was to examine the feasibility of using the Gas Centrifuge Process for Uranium Enrichment. The study covered plant sizes of 300, 1000, 3000, and 9000 MT-SWR/yr, each one with a separate, conceptual design of Process Buildings and support facilities, capital cost estimate, operating cost estimate, construction schedules, and financing options.

Consulting Engineer to the Greater Bridgeport Regional Solid Waste Commission under contract to the Connecticut Recovery Authority (CCRA). Mr. Firro provided technical evaluation, reviews, and recommendations to the Commission with regard to the Greater Bridgeport Resource Recovery Plant, a project which will recover recycled materials and refuse-derived fuels from municipal solid wastes.

Nuclear Engineer - Waste Management Systems for Clinch River Breeder Reactor Plant.

Lead Engineer on Metropolitan Edison's Three Mile Island Unit 2.

Senior Nuclear Engineer on Jersey Central's Forked River Unit 1.

ANEFCO, INC.

1972 - 1974

One of two principals in the startup of this corporation (\$3 million gross sales) supplying equipment and services to utilities with nuclear power plants. Services included field operations for decontamination and modification or replacement of equipment in operating nuclear plants.

Field Manager - Removal of radioactive spent resins and decontamination of Dresden 11 Spent Resin Tank. Training and indoctrination of field teams as well as supervision of field teams involved in working in radiation fields of up to 25R/hr.

Equipment supplied included: Radwaste solidification system, radwaste liquid concentrator systems using Wiped Film Evaporators, backflush filters (minimal waste volume), inplant shielded casks and spent fuel shielded shipping casks.

ATCOR, INC.

1967-1971

As Director of Engineering Division, Mr. Pirro was responsible for design, development and marketing of radwaste solidification - packaging systems and shielded shipping casks for radwaste and spent fuel.

Mr. Pirro also served as Project Manager for projects involving the peaceful uses of nuclear explosives (PLOUSHARE). Also responsible for planning, safety analysis, and operations for the Wyoming Atomic Stimulation Project, a 60 KT nuclear explosion to stimulate a natural gas field; conceptual design, planning and analysis for a Geothermal Power Facility using nuclear explosives for stimulation; and conceptual design of a Nuclear Explosion Service System, for fielding nuclear explosives. Mr. Pirro was responsible for computer codes for the phenomenonclogical, ground motion, meteorological and radiological analyses required for these projects.

THOMAS A EDISON INDUSTRIES

1965 - 1967

Assistant Manufacturing Engineering Manager. Duties included: Value analysis of new processes, equipment and production methods, cost analysis of existing production and tooling methods and implementation of improvements for the Quality Control, Production Control, and Production Departments. Established an electronic component manufacturing line in accordance with NASA soldering specifications and GA requirements.

UNITED NUCLEAR CORPORATION, INC.

1963 - 1965

As Senior Nuclear Engineer, Mr. Pirro was responsible for the nuclear reactor core design and analysis for central station power plants and merchant ships. He was also responsible for the core analysis and shielding for the U.S. Army's Mobile Compact Reactor and fuel cycle analysis for a sodium-cooled fast breeder. He participated in a Decontanination and Decommissioning Planning for a Army Reactor in Alaska. He developed a conceptual design and cost estimate for a shipboard seafood irradiator.

NASA, LEWIS RESEARCH CENTER

1961 - 1963

As a Nuclear Engineer in the Nuclear Reactor Division, Propulsion Concepts Branch, Mr. Pirro participated in analyses to determine the criticality aspects of externally moderated and reflected gaseous core reactors, and the design, safety analysis and test of a sub-critical experiment to verify parameters and computational methods. He also worked on the design and analysis of a solid fuel critical experiment involving a water moderated, tungsten-core nuclear rocket engine.

GRUMMAN AIRCRAFT ENGINEERING CORPORATION

1955 - 1961

Mr. Pirro was a Mechanical Engineer responsible for the design of tools for airframe manufacture. Duties included research and development of new methods and techniques and utilization of mass production techniques to low volume production as part of a cost reduction program.

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SOCIETIES: American Nuclear Society; Past Program Chairman - Fuel Cycle and Waste Management Division. Past Vice-Chairman - Waste Management Committee. Member - Executive Committee Fuel Cycle and Waste Management Division. Member - Task Force on ANS Position Paper on Fuel Cycle and Reprocessing Policy of the United States.

PATENTS: Radioactive Waste Bulk Packaging Unit Assigned ATCOR, INC., 1970.

PAPERS: "An Investigation of Parameters Affection the Design of Nuclear Reactors for Rocket Propulsion," Masters' Thesis, City College of New York, 1961.

> "The Use of Transport Theory Codes in the Parametric Survey of Deep Shield Penetrations by Gamma Photons and Neutrons Using Monte Carlo Scaling," United Nuclear Corporation, presented at the Dak Ridge Conference on Computation, 1965.

> "The Transportation of Radioactive Materials from Large Nuclear Power Plants," Burns and Roe, Inc., presinted at the Annual Meeting of the Institute of Environmental Sciences, New York City, 1971.

> "Technical and Economic Feasibility of Centrifuge Enrichment Plants," Burns and Roe, Inc., invited paper presented at the ANS Winter Meeting, November 16-21, 1975, San Francisco, California.

> "The Layout of Gas Cintrifuge Cascades for Uranium Enrichment," Burns and Roe, Inc., presented at the ANS Winter Meeting, November 17 - December 2, 1977, San Francisco, California.

"Nuclear Fuel Service Center Approach to

Reducing Proliferation Potential," Burns and Roe, Inc., presented at the Winter Annual Meeting of the ASME, December 10 - 15, 1978, San Francisco, California.

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"International Fuel Service Centers," Burns and Roe, Inc., presented at the ANS Winter Meeting, November 16 - 21, 1980, Washington, D.C.



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PRECISION MATERIALS CORPORATION

REPLOGLE AVENUE

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MINE HILL, N.J. 07801

(201) 989-0100

September 24, 1985

Dr. John Glenn, Chief U.S. Nuclear Regulatory Commission Nuclear Material Section B 631 Park Avenue King of Prussia, PA 19406

Dear Dr. Glenn:

This is to inform you that the Safety Committee of Precision Materials Corporation has reviewed the qualifications of Scott E. Markwood, Social Security, and has found that he meets the requirements of Section 12.A of Materials License #29-20777-01 Amendment #01 for listing as a "Responsible User" of the Omega Irradiator.

Mr. Markwood had completed one month of Simulator Training on the Omega Irradiator prior to initial source loading and has two months of operating experience under the direct supervision of Russell N. Stein since the loading. In addition, Mr. Markwood was involved in the initial calibration, testing and surveying of the unit following the initial source loading.

Should you have any questions, please call.

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Sincerely,

Eugene R. Nestor Compliance Officer

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