



In Reply, Please Refer to File No.

~~SECRET~~
SECRET
UNITED STATES DEPARTMENT OF JUSTICE

FEDERAL BUREAU OF INVESTIGATION

Pittsburgh, Pennsylvania

January 20, 1969

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 12-22-2008

Class. & Ext. By SP1 GSK/RBG
Reason - FCIM II 1-2.4.2
Date of Review N-20A89
217,822

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
EXCEPT WHERE SHOWN
OTHERWISE

DR. ZALMAN MORDECAI SHAPIRO

~~431-525
CLASSIFIED BY 8221 MUC/SL
DECLASSIFY ON: 25X 1
8-25-98~~

(U) Investigation was instituted at the request of the Attorney General to establish the nature and extent of Zalman Mordecai Shapiro's relationship with the Government of Israel. This could be connected with, or in addition to, or as a result of, his association with Israeli officials and sympathizers in the United States. (X)

(U) On October 10, 1968, a source, who has furnished reliable information in the past, advised that subject mentioned that he was in contact with [redacted] (phonetic) on that date. During the course of this contact, according to source, subject revealed that while in Washington, D. C., September 30, 1968, he spoke with Hermoni and Bogun and that although there were problems, both were anxious to move ahead. Subject explained, according to source, that they must first determine if the materials are available for exportation; and in this connection, he sent a letter a few days ago to the Commission (Atomic Energy Commission) (AEC) requesting general information as to the availability of the materials for domestic as well as foreign applications. Source went on to say that he also inquired as to what the cost would be and if the metal was available as well as the oxide and things of that sort. Subject reportedly stated that he further indicated in the letter that the Commission urgently give consideration of the matter in view of the fact that it not only affects the possibility of customers, but also affects their desire to do development work on their own. (X)

b6
b7C

This document contains neither recommendations nor conclusions of the FBI. It is the property of the FBI and is loaned to your agency; it and its contents are not to be distributed outside your agency.

CLASS. & EXT.
REASON
DATE OF REVIEW
Clamp # 204,451

56685412
7-11-89
8-27-82
SP 4/ [unclear]
11/20/89 2,3
7/12/81

~~SECRET~~

GROUP 1
Excluded from automatic
downgrading and
declassification

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

(S)

~~(S)~~ a second source.

(C)

b1

~~(U)~~
~~(S)~~

(S)

(S)

~~(S)~~ second source advised

(S)

During November, 1968, the Security Office, AEC, Washington, D. C., made available a copy of a letter dated October 8, 1968, from subject to Dr. Glenn T. Seaborg, Chairman, United States Atomic Energy Commission, Washington, D. C., which reads as follows:

"Dear Dr. Seaborg:

"NUMEC (Nuclear Materials and Equipment Corporation) has been receiving a number of requests from potential domestic and foreign customers to furnish them with microwatt and milliwatt thermoelectric generators powered by Pu-238. The number of these inquiries has increased since the official A.E.C. announcement indicating the availability of Pu-238 for commercial applications.

~~SECRET~~

2 -
SECRET

X

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

"However, despite this announcement, we have found it impossible to make any firm proposals for the supply of these units because we have not been able to get definitive answers to questions put to the A.E.C. regarding availability of the material in metallic form, purity, encapsulation cost, schedule and possible restrictions on use for domestic and foreign applications. More specifically, we must know:

- "1. Whether the material will be equally available for foreign applications as well as domestic applications. If this is not the case, what the specific restrictions are on foreign sales.
- "2. Whether there are any restrictions on the amount of Pu-238 in any particular device, assuming it can be licensed.
- "3. Whether any special criteria are to be employed in the design of the capsule and the device in which the capsule is located from the standpoint of licensing for domestic or foreign use.
- "4. What the minimum purity of the oxide will be.
- "5. Whether the material will be made available as metal as well as oxide since the oxide is unfit for many applications. Also, what will the minimum purity specifications and price on the metal be if it is supplied.
- "6. What maximum tolerance can be expected on the specified thermal and radiation output.

- 3 -
~~SECRET~~

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

- "7. Whether the A.E.C. will encapsulate the material and, if so, what the cost will be.
- "8. Whether the customer will be expected to supply the capsule parts or whether the A.E.C. will want to supply them.
- "9. What the basis will be for establishment of delivery schedules and whether these can be considered firm for quotation to potential customers.

"We urgently request that these matters be resolved as quickly as possible so that we can make definitive replies to our potential customers as well as determine whether we should continue our own private development of devices for commercial sale. It would be especially helpful if we could obtain immediate resolution of Items 1, 5, 7, and 9."

During December, 1968, the Security Office, AEC, Washington, D. C., made available a copy of a letter dated November 20, 1968, from Glenn T. Seaborg, Chairman, United States Atomic Energy Commission, Washington, D. C., to subject, which reads as follows:

"Dear Zal:

"This is in response to your letter of October 8, 1968, containing various questions pertaining to plutonium 238 for commercial applications. I am heartened by the increasing interest in the use of plutonium 238 as mentioned in your letter, and I want to be of assistance in any way I can in the encouragement of the beneficial use of this isotope and other Commission products. In the interest of clarity and to be sure I have responded to all your questions, I am answering the letter in the same format as you sent it to me.

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

"In answer to your first question, the 500 grams of plutonium 238 made available in April 1968 may be used for foreign applications as well as domestic applications. Overseas distribution in the free world is made on a non-discriminatory basis by (1) direct purchase through the U. S. Atomic Energy Commission by means of a formal request from the overseas customer to the Division of International Affairs, U.S. Atomic Energy Commission, Washington, D.C., or (2) by direct purchase from any private source, subject to applicable rules and regulations of the Atomic Energy Commission for the export of special nuclear materials.

"With regard to your second question, and in the context of your request, i.e., plutonium 238 for microwatt and milliwatt thermoelectric generators, there are no restrictions on the amount of plutonium 238 in a single device, assuming it can be licensed. Criticality is the only concern in terms of the amount of plutonium 238 that can be used in any particular device.

"The answer to your third question is that from the standpoint of licensing for domestic or foreign use, there are no special criteria to be employed in the design of the capsule and the device in which the capsule is located.

"Concerning your questions 4., part of 5., and 6., we have enclosed a very recent compilation of plutonium 238 data which has been accumulated by the Mound Laboratory over a number of years. While there is no material specifications, as such, for the commercially available plutonium oxide, these data should be helpful in answering your questions concerning the characteristics of the isotope in oxide, metal and other forms on the basis of average values. The heat source specification which was developed for the cardiac pacemaker and in which you are currently participating, may be considered typical of the metal which the AEC could supply.

~~SECRET~~

5 -
~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

"With regard to the remainder of question 5., and questions 7., 8., and 9., conversion from the oxide to other forms, such as the metal, and encapsulation services are available through AEC laboratories at additional cost but only if they are not available from private industry. Members of our staff have had discussions with the following companies which have indicated some capabilities in these areas: Atomics International, Donald W. Douglas Laboratory, General Nuclear Incorporated, Monsanto Research Corporation, and the Vallecitos Atomic Laboratory of the General Electric Company. As stated by Dr. Herman M. Roth, Director, Laboratory University Division, Oak Ridge Operations Office, in his letter dated October 29, 1968, to Mr. C. H. Whitmire of your company, if these or other commercial sources are not responsive to your needs, the work you wish to have done can be requested through the Isotopes Sales Department of the Oak Ridge National Laboratory. The criteria for the AEC performing this work are essentially those which Dr. Roth enumerated. Namely, your request should be accompanied by a list of the commercial firms you have contacted, their reasons and yours for not providing the services, and any other information which would be useful in evaluating your request. The description of the work you wish to have done should include the quantity of isotope fuel, the fuel form, thermal wattage per source, capsule design, encapsulating materials, and total number of heat sources to be fabricated. Only after this information has been received can the costs of your work, which would be based on full cost recovery, be established. At that time, delivery schedules could be established on a non-interfering basis and a determination made as to whether NUMEC or the AEC laboratory would supply capsule parts.

- 6 -
~~SECRET~~

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

"I hope this information has been helpful to you and that I have answered all your questions concerning the use of plutonium 238 in milliwatt and microwatt thermoelectric generators. I would be happy to have you discuss these matters further with Commission personnel if you so desire. In this regard I suggest that you call [redacted] and [redacted] for programmatic and licensing discussions, respectively, and they will be glad to arrange to meet with you."

On November 22, 1968, [redacted] Lawrence Radiation Laboratory (LRL), Livermore, California, advised that about three years earlier he had partial responsibility for a project in the Special Materials Group of the Laboratory involving a research and development contract with subject's firm, Nuclear Materials and Equipment Corporation, for processing of nuclear material. [redacted] of the Special Materials Group, handled details of the contract; and [redacted] only met the subject briefly when subject was at the Laboratory on business. [redacted] had no knowledge of any connections of the subject with the Israeli government. The subject and his firm had been a source of concern to [redacted] while the contract was in existence. Under the contract, the Laboratory furnished Special Nuclear material to NUMEC for processing. Accountability for such material is strict because of its cost and toxicity poisonous. Past experiences had established average percentages of loss of material during processing of the type done by NUMEC and the loss by the firm seemed excessive to [redacted] (X)

The equipment used by NUMEC was government owned and furnished by the Laboratory. Upon completion of the contract, the firm tried to persuade the Laboratory to leave the equipment where it was on the grounds that it would be cheaper to leave it than to return it to Livermore and decontaminate it. In support of this argument, the firm furnished lists of equipment it claimed had been contaminated. Subsequent inspection by [redacted] showed that some of these items had never been used at all. This led [redacted] to suspect NUMEC of trying to get the equipment free and created further distrust of this firm. (X)

~~SECRET~~

- 7 -
~~SECRET~~

b6
b7c

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

[] did not have details concerning the NUMEC contract since he did not work directly on it. He did not know how the contract was finally terminated because he received a new job assignment at the Laboratory prior to its completion. (S)(u)

On November 29, 1968, [] El Al Israel Airlines, John F. Kennedy (JFK) International Airport, New York City, advised that subject departed JFK aboard El Al Israel Flight #256 at 10:00 p.m. on November 28, 1968, for Tel Aviv, Israel, with scheduled arrival in Tel Aviv at 6:30 p.m., November 29, 1968. (S)(u)

[] advised that subject had return reservations from Tel Aviv, Israel, on December 12, 1968, aboard El Al Israel Flight #255, arriving New York City at 5:40 p.m., December 12, 1968. (S)(u)

(U) [On December 15, 1968, first source advised that on that date subject briefly discussed his recent visit to Israel with Joseph Swartz, an attorney and a long time personal friend and business associate of subject. According to this source, subject informed Swartz that his trip to Israel was satisfactory but very hectic and that he obtained no rest during his visit. Subject said, according to source, that besides appointments with Israeli people, he attempted to conduct some NUMEC and ISORAD business at the same time. (S)(u)

(U) Subject indicated to Swartz, according to this source, that he is seriously considering the possibility of settling in Israel within the next four or five years. Subject said he has not definitely decided on the type of work he will pursue when he moves to Israel, but that during his recent visit he was offered a professorship, which subject indicated was not what he desired at this time. Subject advised, according to source, that the Israeli government is presently very interested in converting their technology in the nuclear field into commercial enterprises. Subject added, according to source, that other interesting business opportunities were discussed during his visit, but to take advantage, he must raise approximately \$1,000,000. (S)(u)

~~SECRET~~

8
~~SECRET~~

b6
b7c

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

(U) Source said Swartz informed subject that he plans to visit Israel on or about December 22, 1968. Subject remarked, according to source, that if Swartz needed telephone numbers of people in Israel, Swartz should obtain the numbers from his wife, Evelyn Shapiro. (S) (C)

On December 18, 1968, [redacted] receptionist, Credit Bureau, Inc., 415 Smithfield Street, Pittsburgh, Pa., advised that her records show Joseph Swartz and wife, Reva E. Swartz, reside at 415 Braddock Road, Pittsburgh 21, Pa., and have resided at that address since approximately 1952. The records show Swartz has been a self-employed attorney since 1953, and that his office is located at 1231 Frick Building, Pittsburgh, Pa. Reva Swartz is shown to be employed as an Assistant to the Dean of Nurses School, University of Pittsburgh, Pittsburgh, Pa., and has been employed in this position since approximately 1958. He is shown to have been born January 13, 1911, and that both he and his wife maintain a satisfactory credit standing with that bureau. (S) (C) (u)

b6
b7c

By letter dated November 3, 1966, AEC furnished a summary of the foreign activities of NUMEC, which states in part that "NUMEC is a sales agent for the Government of Israel through its Ministry of Defense, Division of Supplies, 830 Third Avenue, New York 22, New York. In this connection, NUMEC has an arrangement with the Israel Atomic Energy Commission to do biological work on insect control and assist in establishing facilities for the irradiation and preservation of citrus fruits. In this latter connection, NUMEC and the Government of Israel (represented by the Israel AEC) have formed a company in Israel called Isotopes and Radiation Enterprises Ltd. (ISORAD) which is an organization to do experimental and commercial work in irradiation processing of foodstuffs and other commodities." (S) (u)

~~SECRET~~
SECRET

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

(U) [On December 15, 1968,] first source advised that with Oscar Gray, an attorney from Washington, D. C., and Vice President of NUMEC. According to source, subject informed Gray that although his two-week visit to Israel was hectic, it was also very fruitful in that he gained a better understanding of the current political situation in Israel and in addition, was furnished information concerning several business opportunities of mutual interest to the Israeli government and himself. Subject, according to source, revealed that he was led to believe from discussions held with people in the Israeli government, that they were at that time very disorganized and discouraged; that they continue to remain skeptical about receiving Phantom F-4 fighter planes from the United States; that William Scranton's recent visit to the Middle East was at the direction of President-elect Richard M. Nixon who preconceived Scranton's approach and the fact that Scranton held no authority to make final decisions. Subject continued, according to source, that the Israeli government is now of the opinion that they cannot trust anyone. Israel, continued subject, is currently in the need of help and particularly large sums of money. Subject advised, according to source, that Israel is capable of actually building their own fighter planes as far as airframes and electronics are concerned, but that they lack the knowledge for designing the planes, which necessitates new technologies currently unavailable to them. ~~(S)~~ ~~(S)~~

(U) Subject further informed Gray, according to source, that individuals in the Israeli government proposed several business ventures which they believed to be mutually profitable to both the Israeli government and himself. Subject said the proposition he is particularly interested in and will attempt to follow through with involved the building of a testing laboratory in Israel of the Pittsburgh Testing Laboratory and the State of Washington Batelle Laboratory type. Subject said, according to source, that the Israeli government is willing to guarantee \$2,500,000 for the construction of this laboratory if subject can raise \$500,000. Although subject did not believe it would be any easy task to accomplish, he indicated that he was going to attempt to raise the money. Subject continued, according to source, ~~(S)~~ ~~(S)~~

- 10 -
SECRET

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

by mentioning that the Israeli government wants to put in an aluminum extrusion plant; this facility could be started with a \$2,000,000 investment and the Israeli government would be willing to make concessions so that an investor could get one half of the extrusion plant for a million dollars. ~~(S)~~ ~~(C)~~

(U) Subject also discussed, according to source, the need for a complete aluminum industry in Israel. This would be a \$30,000,000 plant with the country (Israel) using at least 50 per cent of the plant's production with the remainder for export. The acquisition of raw materials for such a plant would present some problems, but subject believed, according to source, these problems could be overcome. ~~(S)~~ ~~(C)~~

(U) Source advised that subject revealed that Israel is anxious to convert their technologies in nuclear centers to commercial business, but that subject indicated he was not interested in devoting all of his time to this type of work. ~~(S)~~ ~~(C)~~

(U) Subject further revealed that Israel has a technique for drilling holes in diamonds, which is not accomplished by the use of a "laser," and that this technique has numerous commercial possibilities. Source advised that subject did not elaborate further on the above. ~~(S)~~ ~~(C)~~

(U) Source advised that subject reiterated that of all of the propositions discussed during his visit to Israel, the building of a laboratory sounded most appealing to him and added that it would take approximately eighteen months to organize the business. Subject said that both the defense and industrial branches of the Israeli government are anxious to have this laboratory in operation although before commencing he would secure contracts from all Israeli government services to insure their use of the laboratory. Subject, according to source, stressed the fact that Israel desperately needs money and anyone with a little money and desire could accomplish plenty in Israel at this time. ~~(S)~~ ~~(C)~~

~~SECRET~~

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

(U) Subject went on to say, according to source, that concerning ISORAD they are currently attempting to get an irradiator built and have eight or nine bids outstanding. Subject indicated that a Canadian outfit has currently made the best bid to date. According to source, subject added that he brought back to the United States a couple of bids to review and to determine if the basis for their analysis is realistic. (S)(C)

(U) [On December 15, 1968, a third source, who has furnished reliable information in the past, advised that on that date subject contacted [redacted] an employee at NUMEC, and that during the course of the conversation, [redacted] inquired about subject's recent visit to Israel. According to source, subject revealed that his two-week vacation in Israel afforded him an opportunity to catch up on some overdue rest. Subject explained to [redacted] that he had no close calls while in Israel with Arab guerrillas with whom the people of Israel must contend with on a daily basis. According to third source, subject went on to explain that [redacted]

b6
b7C

b1

(C) [redacted]

On December 17, 1968, [redacted] supra, advised that her records disclose that [redacted] have resided at [redacted] Pittsburgh, Pa., since 1959. The records show that he was born in [redacted] and has been employed since [redacted] as [redacted]

b6
b7C

The records show that he has maintained a satisfactory credit standing with that bureau. (S)(C)u

- 12 -
~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

X

(U)

(C)

[On December 21, 1968, third source advised that on that date subject's wife, [redacted] requested Reva Swartz, wife of Joseph Swartz, previously mentioned, to carry a package on her forthcoming visit to Israel and to deliver same to a person by the name of [redacted] whom she explained was connected with the Israel atomic energy. [redacted] advised Reva, according to source, that she would write this individual's name and telephone number on the package. Third source advised that [redacted] described [redacted] to Reva as being a very nice and dedicated person.]

b6
b7C

(U)

(U) (S) (C) (S)

[On December 24, 1968, first source advised that subject and his family planned to spend the Christmas vacation in San Juan, Puerto Rico. Source advised that subject will depart Pittsburgh, Pa., via Eastern Airlines (EAL), Flight 303, at 9:05 a.m., December 25, 1968, for Miami, Florida, and will leave Miami via EAL Flight 590, arriving San Juan, 4:05 p.m., same date. Source revealed that subject will stay at the Condado Beach Hotel, San Juan, until December 31, 1968, when he and his family plan to return to Pittsburgh, Pa., via EAL Flight 950, departing San Juan 9:05 a.m., December 31, 1968.]

(U)

(U) (S) (C) (S)

[On January 8, 1969, third source advised that on [redacted]]

b1

(C)

(U) (S) (C) [On November 25, 1968, a fourth source, who has furnished reliable information in the past, revealed that during September, 1968, NUMEC commenced publishing a four-page newspaper temporarily called "NUMEC News." NUMEC is currently running a contest among their employees to obtain a more suitable name.]

X

~~SECRET~~

~~SECRET~~

DR. ZALMAN MORDECAI SHAPIRO

Concerning this publication, source advised that subject recently informed employees at NUMEC that because of the growth of NUMEC there exists a need to establish an effective way for getting information to employees at NUMEC concerning their plans, problems, and activities, and that the publication of this newspaper is intended to serve that purpose.

(u) (S) (X) [It is recalled that on October 30, 1968, fourth source advised that

[redacted] he learned that NUMEC had sustained unaccountable losses of nuclear material, and since, that this material might possibly have been diverted by subject to Israel. [Fourth source revealed that about the same period of time that NUMEC sustained the unaccountable losses of U-235, subject was involved in the development and manufacture of food irradiators for Israel. Source advised that at least one large irradiator was manufactured, and a number of smaller units called "Howitzers" were manufactured and sent to Israel. Source was of the opinion that had U-235 or any other nuclear material been available for shipment to Israel, it would have been a simple matter of placing large quantities of the material in these food irradiator units and shipping to Israel with no questions asked.

(u) (S) (X) (u) [On November 25, 1968, fourth source] made available a copy of attached four-page document entitled, "NUMEC" and bearing the subtitle, "Neutron-Pac: irradiator-Howitzer NAC-64," which describes the irradiator-Howitzer of the type manufactured and sent to Israel by subject, according to source.

b6
b7C
b7D

~~SECRET~~

NUMEC

Nuclear Materials and Equipment Corporation, internationally recognized as a leading manufacturer of nuclear materials, equipment and radioisotopes, offers another new commercial product—the NUMEC Neutron-Pac®. Through its inherent versatility, this unique neutron irradiator-howitzer enables a diversity of experiments in the areas of chemistry, physics, biology and metallurgy.

Functional capabilities of the Neutron-Pac® include:

- Demonstration and investigation of neutron phenomena
- Irradiation of biological specimens including small animals, plants and seeds
- Generation of appreciable quantities of radioisotopes
- Activation analysis of gaseous, liquid and solid materials

Description

The Neutron-Pac® is a cylindrical tank containing five fixed thermal radiation positions, an irradiation well with removable plugs of solid moderating material and a liquid irradiation tank. Neutron sources or material for bombardment may be inserted in irradiation positions in the plugs, or the plugs may be entirely removed to permit introduction of an animal cage or a twelve liter solution container for irradiation by sources within or below the liquid. From one to three fast or thermal neutron beam ports are also available as optional features.

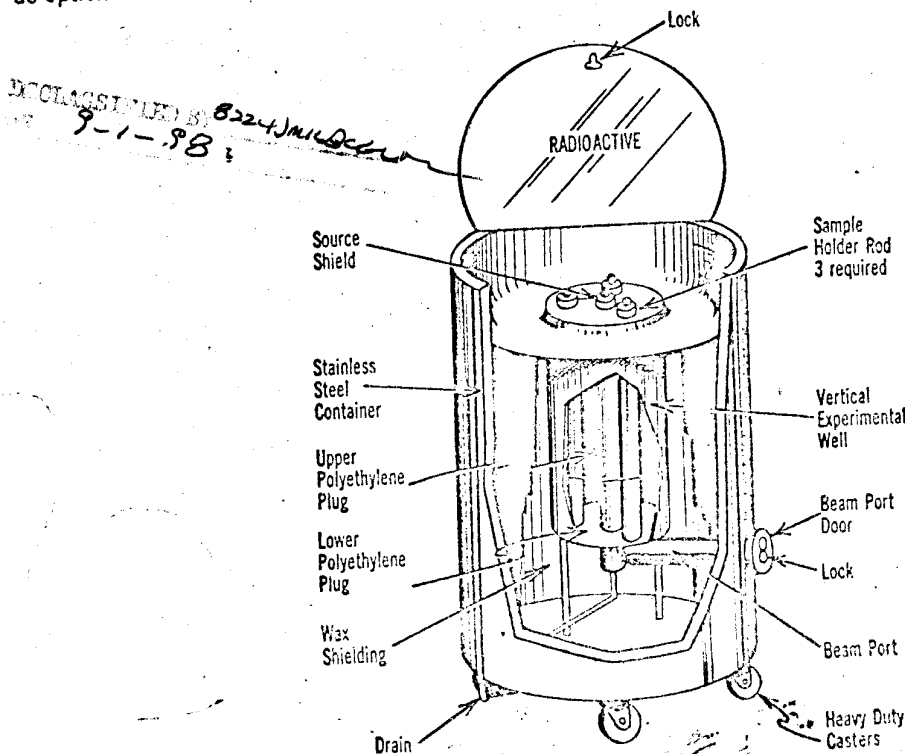
An activation potential (thermal neutron flux) of 7.5 to 8.0×10^4 thermal neutrons per square centimeter per second is produced from three 2 curie NUMEC Pu-Be or Am-Be neutron sources. While neutron interaction can be demonstrated with only a single 1 or 2 curie source, up to 30 curies can be used safely.

The stainless steel irradiator tank is carefully filled with a special paraffin preparation which provides efficient neutron moderation and fast neutron shielding. Irradiation with fast neutrons is accomplished through the use of cadmium or boron liners which filter out the thermal neutrons.

Operational Features

The NUMEC Neutron-Pac® readily provides various types of irradiation facilities; the more important operational features include:

- A single position high-efficiency thermal neutron facility with reproducible geometry
- Simultaneous irradiation in three reproducible geometry thermal neutron positions
- Thermal or fast neutron small animal irradiation facility
- Production of up to millicurie quantities of radioisotopes
- Infinitely variable geometry for thermal neutrons in a liquid filled facility
- Fast and thermal neutron beams for irradiation and attenuation experiments



Description

The design of the NUMEC Neutron-Pac® offers unique operating versatility. A brief description of the various operational arrangements is presented below.

1. Central Source Position with Annular Experiments

Arrangement 1 shows upper and lower polyethylene plugs in the vertical experimental well and a source or sources in the central irradiation position. Sample containers are in the three annular irradiation positions which are located 120° apart in the region of maximum thermal flux. This arrangement enables three different or similar experiments to be conducted simultaneously.

2. Annular Source Position with Central Experiment

Thermal neutron flux rises to a maximum and then decreases as a function of distance from a fast neutron source due to the combined effects of geometry and moderation. The Neutron-Pac® takes advantage of this phenomenon achieving higher flux when three sources are placed in the annular positions and a single experiment is performed in the central irradiation position as shown in Arrangement 2.

3. Beam Experiments in Vertical Position

Any of the three vertical irradiation positions may be used as a vertical beam port for absorptimetry experiments and analysis or for neutron radiography as shown in Arrangement 3. A fast neutron beam can be obtained by lining any irradiation position with a cadmium sleeve.

4. Small Animal Irradiators

For radiation exposure of small animals, a cage may be placed on the lower polyethylene plug.

The upper plug provides shielding while the source handling rod holes provide ventilation, as shown in Arrangement 4.

5. Experiment Tank

a. Liquid with Dry Source

By replacing the upper polyethylene plug with the liquid irradiation tank as shown in Arrangement 5, the entire 8" diameter by 14" high cylindrical volume is available for either fast or slow neutron experimentation depending on whether an unlined or cadmium-lined tank is used. For these experiments, the sources are placed at the top of the lower polyethylene plug. The irradiation in this tank may be performed in air or under any liquid, in a system with infinite incremental geometric variables, or the tank may be used to produce radioisotopes in large volumes of solutions.

b. Liquid with Wet Sources

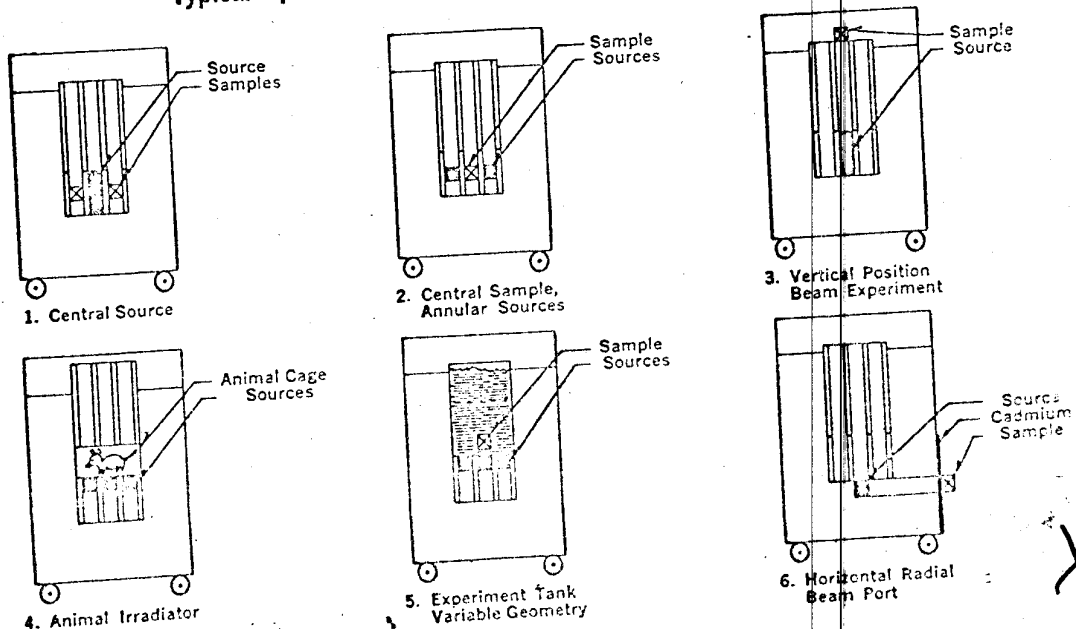
Simple fixtures can be used to suspend multiple NUMEC neutron sources in the liquid experiment tank, thereby allowing maximum interaction of the emitted neutrons with the tank contents. The liquid experiment tank may also be filled with water into which experiment capsules are immersed, thereby providing a completely flexible facility with unlimited sources and samples arrangement possibilities.

6. Horizontal Radial Beam Port

Where horizontal rather than vertical beam irradiation is desirable, up to three optional horizontal radial beam ports are available to provide either slow or fast neutron beams which can be used for absorptimetry or for radiographic purposes as shown in Arrangement 6.

If a fast neutron beam is desired, a cadmium radial beam shield is inserted in the beam port to absorb most of the thermal neutrons in the beam.

Typical Operating and Experimental Tank Arrangements



Specifications

Container: The basic structure of the Neutron-Pac® is a 22" diameter by 35" high stainless steel container with a coved experiment tray, a vertical experimental well, a hinged cover with lock and key and optional beam ports with lock and key. The container is mounted on ball bearing casters for easy mobility. Design considerations enable sources and port shields to be secured so that the Neutron-Pac® can be safely left unattended during irradiation periods.

Shielding: A special microcrystalline wax, having a melting point of 157°F and a flash point of 550°F, is carefully cast between the vertical experiment well and the outer container to provide an integral uniform shield for the operator. With the source in the central position, a surface dose rate of less than 1 mrem. per hour per curie of Pu-Be and Am-Be source occurs.

Vertical Irradiation Well: An 8" diameter by 21" high vertical irradiation well holds the 5" lower and 16" upper polyethylene irradiation plugs which provide four fixed irradiation positions of 1 3/8" diameter.

Placing a 12.5 liter stainless steel irradiation tank in the vertical irradiation well provides containment for solutions to be irradiated or allows infinitely variable geometry. An optional cadmium-lined liquid irradiation tank is available when fast neutron interaction is desired.

When the animal cage is placed on the lower polyethylene irradiation plug, the upper plug provides shielding for the operator and ventilation for animals. A stainless steel drain and valve are provided in the bottom of the well to facilitate cleaning or draining.

Sample Shield and Removal Tool: Each of three 17 1/2" long sample shield and removal tools locks onto one of the three sample containers by means of a "J" slot. These containers are then usable to position foils, liquid irradiation bottles or materials for irradiation in any of the four fixed vertical irradiation positions. These tools shield the source when the annular array is used.

Source Lifting Tool: A 30" source lifting tool with a permanent magnet is provided for convenient and safe moving of sources and magnetic polyethylene plugs. The dose 30" from an Am-Be or Pu-Be neutron source is 3.5 mr/hr/ curie; thus an exposure of 30 curie-hours per week at 30" may be tolerated before reaching the U. S. A.E.C. maximum permissible dose of 100 mr/week.

Foils: A set of activation foils is provided which consists of 10 indium foils, 20 cadmium foils, one 10k gold foil and one 18k gold foil. Calibrated foils are also available.

Beam Port: Up to four aluminum-clad beam ports can be provided. Each beam port has a 2" diameter by 11" long semi-cylindrical sample holder (with lock and key) which can be used with moderator spacers and foils to obtain flux profiles.

Source Magnetic Caps: Three source magnetic caps of 430 stainless steel are attached to the standard NUMEC Pu-Be neutron source or the Type A NUMEC Am-Be neutron source.

Spacers: Five magnetic and twelve 3/8" diameter plexiglass spacers are included. Others are available as an extra.

Experimental Applications

The operational features of the Neutron-Pac® enable numerous experiments to be performed; typical experiments are described in step-by-step procedural fashion in the Neutron-Pac® Experiment Manual. A partial listing of experiment categories follows:

General

Radiation Survey
Absolute Foil Counting

Physics

Half-life and Saturated Activity
Total Cross-Section 1/v Absorbers
Most Probable Neutron Energy
Temperature Coefficient of Nuclear Cross-section
Fission Product Activity
Neutron Reactor Control
1) Poison
2) Reflection
Neutron Radiography

Chemistry

Activation Analysis, Quantitative and Qualitative
Isotopic Analysis by Absorptimetry
Production of Short Lived Isotopes
(^{112m}In, ^{Mn⁵⁶}, ^{P³²}, ^{Ag¹⁰⁸}, ^{V⁵²}, ^{In¹¹⁶}, ^{Ir¹⁹²}, ^{Re¹⁸⁷}, several rare earths, and others)
Isotope Dilution Technique
Physical Chemistry Studies (solubilities, electrode reactions, etc.)
Slurry Settling
Diffusion
Szilard-Chalmers Reaction

Metallurgy

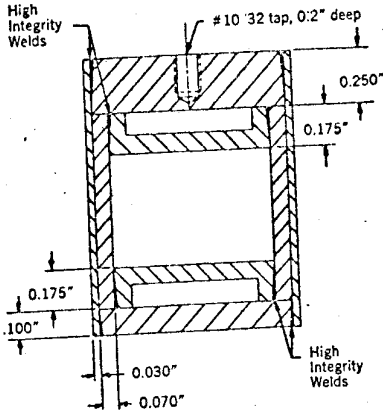
Diffusion
Activation of Gold and Platinum-Iridium Alloys
Radiography
Trace Analysis

Biology

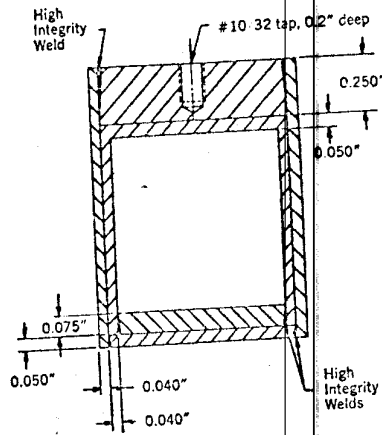
Translocation of ¹²⁵I and ^{Mn⁵⁵} in Animals and Plants

Neutron sources of Pu-Be and Am-Be are available from NUMEC for neutron irradiator-howitzer and other applications. These sources are attractive from an experimental viewpoint since their

high specific activity combined with long half-life permits a high constant neutron output. Specification data for NUMEC Pu-Be and Am-Be neutron sources is presented below.



Standard NUMEC Americium Neutron Source Capsule
Inner Capsule: 304L Stainless Steel
Outer Capsule: 304L Stainless Steel



Standard NUMEC Plutonium Neutron Source Capsule
Inner Capsule: Tantalum
Outer Capsule: 304L Stainless Steel

Standard NUMEC Pu²³⁹-Be Neutron Sources

Catalog Designation	Plutonium Content Grams		Diameter Cylinder (In.) (1)	Length Cylinder (In.) (1)	Approximate Strength (NPS)	Price (2) (U.S. Dollars)
Sources with 0.250" cap and 10/32 tapped hole:						
NUMEC-AA	1	16	1.310	1.105	1.8 x 10 ⁶	\$ 665
NUMEC-C	2	32	1.310	1.510	3.6 x 10 ⁶	765
NUMEC-D	3	48	1.310	1.915	5.4 x 10 ⁶	865
NUMEC-F	4	64	1.310	2.320	7.2 x 10 ⁶	965
NUMEC-H	5	80	1.310	2.720	9.0 x 10 ⁶	1,065

Standard NUMEC Am-Be Neutron Sources

Catalog Designation	Americium Content Grams		Diameter Cylinder (In.) (1)	Length Cylinder (In.) (1)	Approximate Strength (NPS)	Price (3) (U.S. Dollars)
Sources with 0.250" cap and 10/32 tapped hole:						
NUMEC-AM-31-3A	1	0.309	1.310	0.575	2.1 x 10 ⁶	\$1,150
NUMEC-AM-62-3A	2	0.618	1.310	0.720	4.2 x 10 ⁶	1,710
NUMEC-AM-93-3A	3	0.926	1.310	0.870	6.3 x 10 ⁶	2,225
NUMEC-AM-123-3A	4	1.23	1.310	1.020	8.4 x 10 ⁶	2,735
NUMEC-AM-154-3A	5	1.54	1.310	1.170	1.0 x 10 ⁷	3,240
NUMEC-AM-185-3A	6	1.85	1.310	1.320	1.3 x 10 ⁷	3,740

- (1) All dimensions are ± 0.002 inches.
 - (2) Pu-Be prices include source fabrication, all USAEC use and loss charges during fabrication, calibration of source against standard NUMEC source, and "all risk" marine insurance during transit within continental United States; a \$50 handling charge is added to each non-domestic order. Prices do not include the contained plutonium which must be leased from the USAEC by domestic customers and purchased from the USAEC by non-domestic customers.
 - (3) Am-Be prices include source fabrication, contained americium, packing and shipping per I.C.C. and other applicable regulations and "all risk" marine insurance from NUMEC to any point within the continental United States. A \$50 handling charge is added to each non-domestic order.
- Shipping containers can be purchased for customer storage use or returned to NUMEC for deposit refund.
Prices are subject to change without notice.

~~CONFIDENTIAL~~
~~SECRET~~

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
EXCEPT WHERE SHOWN
OTHERWISE

UNITED STATES GOVERNMENT

~~CONFIDENTIAL~~
~~SECRET~~
Memorandum

Class. & Ext. By SP-1 GSK/RBG

Reason - FCIM II, 1-2.4.2

Date of Review 2/7/82

DATE: 1/20/69 5/13/82

TO :

FROM :

SUBJECT:

DIRECTOR, FBI (117-2564)

SAC, PITTSBURGH (97-123) (P)

DR. ZALMAN MORDECAI SHAPIRO
(U) IS - ISRAEL; (S)
ATOMIC ENERGY ACT

Classified by 5668SLD/KR
Declassify on: OADR
EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1)
DATE 10/17/89

ReBuletts to Pittsburgh dated 11/13/68 and 12/10/68;
New York airtel to Bureau dated 11/29/68; San Francisco letter
to Bureau dated 11/26/68; and Pittsburgh letters to Bureau
dated 10/22/68 and 11/29/68.

Enclosed for the Bureau are five copies and the
other listed offices two copies of LHM dated and captioned
as above.

Enclosed LHM is being classified "Secret" since an
unauthorized disclosure of a FBI investigation of the subject
could be detrimental to the national security interests of
this Government. (S)(u)

It should be noted that [redacted]
[redacted] at NUMEC, Apollo, Pa., moved to [redacted]
[redacted] on or about [redacted]. The information, document, and
copy of NUMEC publication, referred to in enclosed LHM, were
received by SA [redacted] through the mail from [redacted]
on 11/25/68.

Concerning the NUMEC publication mentioned above,
the issue furnished by [redacted] contained no information per-
taining to this investigation. Further copies of this
publication are being sought through [redacted] a reliable
source who has previously furnished information in this matter.

On 1/4/69, [redacted] reported that on that date
a [redacted] attempted to contact subject. [redacted] when
informed subject was not at home, advised that he would
attempt to contact him at a later date. To date, this
individual is not known to have contacted subject at his
residence. However, in all probability, [redacted] has been in
contact with subject at NUMEC, Apollo, Pa. (S)(u)

- 3 - Bureau (Enc. 5) (RM) (C)
- 2 - New York (105-75538) (Enc. [redacted])
- 2 - Washington Field (97 [redacted])
- 2 - Pittsburgh (C) AGENCY [redacted]



DFW/emq
(9)

5010-108-02

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

~~CONFIDENTIAL~~
~~SECRET~~

CONFIDENTIAL

to [redacted]
acc [redacted]
1/31/69

2/20/69

b6
b7C
b7D

b6
b7C
b7D

b2
b6
b7C

~~SECRET~~

NAL INT. SEC.

~~CONFIDENTIAL~~

~~SECRET~~

~~CONFIDENTIAL~~

~~SECRET~~

~~SECRET~~

PG 97-123

It is noted that [redacted]

b6
b7C

(U) Cambridge, Mass., reportedly attended the meeting held at subject's residence on 11/3/68. (S)(C)

(U) With reference to the business propositions discussed with subject during his recent visit to Israel, referred to in enclosed LHM, it is recalled that subject has previously discussed business ventures of this type. (S)(C)

(U) On 10/26/68, subject expressed interest in a chemical facility which is being built in Israel by the Allied Chemical Company. (S)(C)

(U) It appears that if subject can raise a million dollars or so within the next few years, he would not hesitate to move to Israel and establish some business in that country. (S)(C)

The information attributed to [redacted] was furnished to SA [redacted]

Credit records at Pittsburgh, Pa., were checked by IC [redacted]

Source

Location

First source and third source are

(U) [redacted] (S)

Second source

PG 97-123-229, 147

Fourth source is

PG 97-123-1A-42

(By request)

LEAD

PITTSBURGH

AT PITTSBURGH, PA. (ALLEGHENY COUNTY)

Will continue to report activities of subject.

~~SECRET~~

~~SECRET~~

~~CONFIDENTIAL~~

b2

b1

b6
b7C
b7D

~~CONFIDENTIAL~~

Date of Mail 1-21-69

#03R0758
DECLASSIFIED BY ADC 60290 BCE/TFB
ON 10/6/03

~~ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED EXCEPT
WHERE SHOWN OTHERWISE.~~

Has been removed and placed in the Special File Room of Records Branch.

~~(S)~~
(U)

~~431525
CLASSIFIED BY 8224 SML/BCL
DECLASSIFY ON 25X 1
8-25-98~~

See File 66-2554-7530 for authority.

~~4-27-85
Classified by 52675-01/19
Declassify on OADB~~

Subject JUNE MAIL Dr. Zalman Mordochai Shapiro

Removed By 98 FEB 3 1969

File Number 117-2564-177

Class. & Ext. By SP-1 BSK/RBG
Reason - FCIM II, 1-2.4.2 2+3
Date of Review 1-21-89

Permanent Serial Charge Out
~~CONFIDENTIAL~~

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

- Tolson _____
- DeLoach _____
- Mohr _____
- Bishop _____
- Casper _____
- Callahan _____
- Conrad _____
- Felt _____ b6
- Gale _____ b7C
- Rosen _____
- Sullivan _____
- Tavel _____
- Trotter _____
- Tele. Room _____
- Holmes _____
- Gandy _____

UNITED STATES GOVERNMENT

Memorandum

~~SECRET~~
~~CONFIDENTIAL~~

DATE: 2/3/69

TO: [Redacted]

FROM: [Redacted]

SUBJECT: [Redacted]
INTERNAL SECURITY - ISRAELI

(U) ~~(S)~~

[Large Redacted Area]

(S)

b1

ACTION:

This memorandum is being directed to the Nationalities Intelligence Section.

- 1 - [Redacted]
- 1 - [Redacted]
- 1 - Liaison
- 1 - [Redacted]

JMF:kw
(5)

4-27-85
Classified by 5665 SLD/ED
Declassify on OADR

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
EXCEPT WHERE SHOWN
OTHERWISE

8224/mw/BC/...

8-26-94

Class. & Ext. By SP-165X/RBG
Reason - FCIM II, 1-2.4.2
Date of Review 3-84
217,822
5/19/82

REC-34

FEB 7 1969

~~CONFIDENTIAL~~
~~SECRET~~

b6
b7C

~~CONFIDENTIAL~~

~~ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED EXCEPT
WHERE SHOWN OTHERWISE.~~

Date of Mail

1/24/69

~~CLASSIFIED BY 8224/MLR/BE/L
DECLASSIFY ON: 1
8-25-98~~

Has been removed and placed in the Special File Room of Records Branch.

~~II 03 R0758
DECLASSIFIED BY
ON 10-6-03~~

~~NUC60290 BCE/MLT/TK~~

~~(U)~~

See File 66-2554-7530 for authority.

~~Classified by 3665/MLR
Declassify on: OADR~~

4-26-85

Shapiro

Subject

JUNE MAIL

99 FEB 1969

Removed By

File Number

117-2564-187

Class. & Ext. By

SP-16SK/RBG

Reason - FCIM II, 1-24.2

283

Date of Review

24-89 5/17/02

217,822

Permanent Serial Charge Out

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Date of Mail 2/10/69

#03R0758
DECLASSIFIED BY AVC 60290 BCE/MLT/116
OR 10-6-03

Has been removed and placed in the Special File Room of Records Branch.

~~(S)~~

~~CLASSIFIED BY 2451M K. O. G. L. W.
DECLASSIFY ON: 8-25-98~~

See File 66-2554-7530 for authority.

Shapiro

~~4-26-85
Classified by 56685LD/KO
Declassify on: OADR~~

Subject JUNE MAIL

Removed By 99 FEB 25 1969

Class. & Ext. By SP-1 GSK/RBC File Number 117-2564-188
Reason - FCIM, II, 1-2.4.2 243
Date of Review 2-10-89
5/7/82

Permanent Serial Charge Out

~~CONFIDENTIAL~~

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

~~SECRET~~
~~SECRET~~

b6
b7c

1 - Liaison
1 - [redacted]

Class. & Ext. By SP-IV/SK/RB6
Reason - FCIM II, 1-2.4.2 2+3
Date of Review 2-12-89

(NI) 117-2564

DECLASSIFIED BY 8224/ams/...
DECLASSIFY ON: 25X
8-18-98

BY LIAISON

5117782

Date: February 12, 1969

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
EXCEPT WHERE SHOWN
OTHERWISE

To

[redacted]

FROM: John Edgar Hoover, Director

Subject: DR. ZALMAN MORDECAI SHAPIRO
INTERNAL SECURITY - ISRAEL
ATOMIC ENERGY ACT

SP-4
5685LD/...
11/30/83
comp

It is noted that the subject has in the past made numerous trips to Israel. It is known that subject is definitely an Israeli sympathizer. This Bureau is giving consideration to further action in this case including a preparation of a summary report on the subject's activities

(U) It would be appreciated if the above request is given expeditious attention.

JFW:wmk
(5)

NOTE: Subject is the head of Nuclear Material and Equipment Corporation (NUMEC), Apollo, Pennsylvania, which processes uranium-235. Our investigation of subject has indicated that he is definitely pro-Israel; has been in contact with Israeli officials [redacted] and he has considered whether to move to that country in order to assist Israel.

- Tolson
- DeLoach
- Mohr
- Bishop
- Casper
- Callahan
- Conrad
- Felt
- Rosen
- Sullivan
- Tavel
- Trotter
- Tele. Room
- Holmes
- Gandy

9 19 1969

~~SECRET~~
GROUP 1
Excluded from automatic
downgrading and
declassification
~~SECRET~~

REC-9

FEB 13 1969

TELETYPE UNIT

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

~~SECRET~~

1 - Mr. C. D. Leach
1 - Mr. W. C. Sullivan
1 - [redacted]

ROUTE IN ENVELOPE

b6
b7c

Mr. W. C. Sullivan

2/13/69

1 - Liaison
1 - [redacted]
1 - [redacted]

[redacted]

[redacted]
INTERNAL SECURITY - ISRAEL

(S)

5-1-85
Classified by ~~SP8SLK/9~~
[redacted]

b1

[Large redacted area with a large 'X' in the center]

(S)

(S)

(S)

Classification by SP8Wm/ace/2/1/69

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED EXCEPT
WHERE SHOWN OTHERWISE.

ACTION:

It is recommended that the attached letters be forwarded by liaison to the Secretary of State and Dr. Henry A. Kissinger at the White House and to the Attorney General.

Enclosures

(S) [redacted] (S)
1 - [redacted]
1 - [redacted]
1 - 117-2504 (Shapiro)

Class. & Ext. By ~~6-3~~
Reason - FCIM II, 1-2.4.2-2.4.3
Date of Review ~~2-13-89~~
217,822 517,180

NOT RECORDED
46 FEB 17 1969

JFH:111 (10)

FEB 20 1969

~~SECRET~~

~~SECRET~~

~~TOP SECRET~~

Honorable William P. Rogers

NOTE:

(S) See memorandum [redacted] to Mr. W. C. Sullivan
dated 2/13/69. [redacted]

b1
b6
b7C

[redacted] prepared by JFH:lll.

Classified "~~Top Secret~~" since unauthorized disclosure
of this information could reveal the identity of our sources
who are of continuing value and such revelation could result
in especially grave damage to the Nation.

~~TOP SECRET~~

- 2 - ~~SECRET~~

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

~~TOP SECRET~~

~~SECRET~~

- 1 - Mr. DeLoach
- 1 - Mr. Sullivan
- 1 - [redacted]
- 1 - Liaison
- 1 - [redacted]
- 1 - [redacted]

b6
b7c

ROUTE IN ENVELOPE

CLASSIFIED BY 822/UNBAC/LM
DECLASSIFY ON: 25X/1
8-25-98

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
EXCEPT WHERE SHOWN OTHERWISE.
February 13, 1969

BY LIAISON

Class. & Ext. By G-3
Reason - FCIM II, 1-2.4.2
Date of Review 2-13-89
217,822

Classified by 5668/SLK/D
Declassify on: OADR

5-1-85

[redacted]

Classified by [redacted]
Declassify on: OADR
8-24-88
75677
275678

b1

[Large redacted area]

SEE NOTE PAGE THREE

1 - 117-2565 (Shapiro)

~~TOP SECRET~~

JFH:111
(14)

Group 1
Excluded from automatic
downgrading and
declassification

NOT RECORDED

46 FEB 17 1969

FEB 20 1969

~~SECRET~~

Illegible

~~CONFIDENTIAL~~

~~92441118224~~
~~8-25-83~~

5-1-85
Classified by 5668 SLD/K8
Declassify on: OADB

Since Disclosure has placed the Illegible text at the top, this declassification only pertains to this copy of the document. For any future reviews, a better copy of this document should be obtained from the paper file for classification review.

(U)

(U)

~~(S)~~

7-2-80

SP-1 GSK/RBG
2+3

2/17/84

5/24/82

CONFIDENTIAL

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(U)

~~(S)~~

~~CONFIDENTIAL~~

SECRET

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

FEDERAL BUREAU OF INVESTIGATION

REPORTING OFFICE PITTSBURGH	OFFICE OF ORIGIN PITTSBURGH	DATE 2/18/69	REPORTING PERIOD 5/28/68 - 2/15/69
TITLE OF CASE DR. ZAKHIN MOEDERAT		REPORT MADE BY [Redacted]	CHARACTER OF CASE 8-25-78
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE Class. & Ext. By SP-1 GJK/RSB Reason - FCIM II, 1-2.4.2 Date of Review 2-18-89		(U) [IS - ISRAEL] ATOMIC ENERGY ACT	

REFERENCES Bureau airtels to Pittsburgh dated 2/11 and 12/69

LEADS

CLASS. & EXT. BY **SP-4 Jantalan**
 DATE OF REVIEW **2/18/89**
 PHILADELPHIA **Comp # 204, 451**

AT HARRISBURG, PA.

Memoranda to Section with cc of report led to AG, DAG, with cc of report for ed

On 2/14/69, [Redacted] Supervisor (established son Central Index File, DISCO, Columbus, Ohio, advised subject's OSI File No. 33-2303, is currently maintained by the Third District, OSI, Harrisburg, Pa. Will review subject's file No. 33-2303 and obtain information regarding all current classified contracts with the government. If contracts are too voluminous, discretion should be used to synopsise obtaining number of contracts and general type

ACCOMPLISHMENTS CLAIMED					ACQUIT- TIALS	CASE HAS BEEN:
CONVIC.	AUTO.	FUG.	FILES	SAVINGS		PENDING OVER ONE YEAR <input type="checkbox"/> YES PENDING PROSECUTION OVER SIX MONTHS <input type="checkbox"/> YES

APPROVED **IDM** SPECIAL AGENT IN CHARGE

DO NOT WRITE IN SPACES BELOW

COPIES MADE:
 3 - Bureau (117-2564) (RM)
 1 - Secret Service, Pittsburgh, Pa.
 2 - New York (105-75538) (RM)
 2 - Philadelphia (105-15642) (RM)
 1 - Washington Field (97-1799) (Info) (RM)
 3 - Pittsburgh (97-123)

117-2564-197

(C) **SECRET**

Agency **AFC**

REVERSE SIDE FOR DISSEMINATION

~~SECRET~~

X

PG 97-123

now in force with subject and his company, Nuclear Materials and Equipment Corporation of Apollo, Pa.

NEW YORK

NEW YORK, N. Y.

(U) [redacted] Will furnish the Pittsburgh Office verification of residence and employment. This individual reportedly attended a meeting at subject's residence on 11/3/68.

b6
b7C

~~(S)~~
~~(U)~~

PITTSBURGH

AT PITTSBURGH, PA. (ALLEGHENY COUNTY)

1. Will await decision concerning Security Index status of subject as recommended in Pittsburgh FD-122 dated 2/18/69.
2. If approved, and Pittsburgh is specifically advised by Bureau, will forward report concerning subject to Secret Service, Pittsburgh, Pa.
3. Will continue to follow and report subject's activities.

ADMINISTRATIVE

Report is being classified "Secret - No Foreign Dissemination," due to the highly sensitive nature of information contained therein

b1

(S) [redacted] since an unauthorized disclosure of an FBI investigation of subject could be detrimental to the national security interests of this government.

~~(S)~~(u)

(U) At the time of preparation of report, no identifying information re [redacted] who attended 11/3/68, meeting at subject's residence was available.

b6
b7C

~~(S)~~(c)

In interest of brevity, names of persons obtaining information from various agencies as well as Special Agents observing subject, his contacts and activity are not set out. Identities of individuals and Special Agents are available in Pittsburgh case files.

-E-
COVER PAGE

X

~~SECRET~~

~~SECRET~~

PG 97-123

X

[REDACTED]

(S)

b1

Per DOE letter
7-29-82

Subject, acting on an unofficial approval of AEC inspectors, hired an Israeli nuclear scientist to work at NUMEC for one year. Official AEC position was one of disapproval. AEC has advised the aforementioned scientist was [REDACTED]

b6
b7C

Subject later sought AEC permission to have other foreign scientists to work in NUMEC laboratories. AEC stated that they disapprove of this procedure. [REDACTED]

(C)

b1

Investigation has disclosed that subject is known to be critical of Internal Revenue Service, "other government agencies," and President RICHARD M. NIXON.

[REDACTED] has advised that subject travels extensively in connection with his duties as head of NUMEC and as Vice President of Atlantic Richfield Company. Knowledge of his activity on these journeys has been minimal because discretion has indicated that any indication to subject that he is under observation could result in reducing the effectiveness of established source.. [REDACTED]

b2

Subject's travels have included trips to AEC installations, Washington, D. C.; Philadelphia, Pa.; New York City, N.Y.; Chicago, Ill.; Detroit, Mich.; Richland, Washington; Miami, Fla.; San Juan, Puerto Rico; and of course his journey to Israel, 11/28 - 12/12/68. [REDACTED]

[REDACTED] has indicated that subject has stated that he seeks new employees for NUMEC, who in addition to their technical skills, may have contacts in the AEC or other other government agencies. Source has indicated subject does [REDACTED]

(U)

-C-
COVER PAGE

~~SECRET~~

X

~~SECRET~~

X

PG 97-123

(U) this type of thing many times in a covert or backhanded manner which reflects a character trait of ruthlessness on the part of subject. ~~(S)~~~~(C)~~

INFORMANTS

INFORMANT

LOCATION

PG T-1 is [redacted]

PG 97-123

(By Request)

PG T-2 is [redacted]

PG 97-123

(By Request)

PG T-3 is [redacted] ~~(S)~~

PG T-4 [redacted] ~~(S)~~

PG T-5 is [redacted]

PG 97-123

(By Request)

PG T-6 is [redacted]

PG 97-123

(By Request)

PG T-7 is [redacted]

PG 97-123

(By Request)

b6
b7C
b7D

b2

b1

b6
b7C
b7D

~~(S)~~~~(C)~~ u

-D-
COVER PAGE

~~SECRET~~

X

~~SECRET~~

X

PG 97-123

INFORMANT

LOCATION

PG T-8 is [redacted]

PG 97-123 Sub 2

b6
b7C
b7D

(By Request)

[redacted]

PG 97-123

b1

PG T-10 is [redacted]

PG 116-7749-1B

b6
b7C
b7D

(S) (u)

PG T-11 is [redacted]

PG 116-7749-2A

b2
b7D

PG T-12 is [redacted]

PG 116-7749-2A

b6
b7C

This report was prepared through the joint efforts of SAs [redacted] and [redacted]

Information copy to Washington Field because of their current interest in this matter.

-S*-
COVER PAGE

~~SECRET~~

X

~~SECRET - NO FOREIGN DISSEMINATION~~



UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION

WASHINGTON, D.C. 20535

February 18, 1969

In Reply, Please Refer to
File No.

Director
United States Secret Service
Department of the Treasury
Washington, D. C. 20220

Dear Sir:

The information furnished herewith concerns an individual who is believed to be covered by the agreement between the FBI and Secret Service concerning Presidential protection, and to fall within the category or categories checked.

- 1. Has attempted or threatened bodily harm to any government official or employee, including foreign government officials residing in or planning an imminent visit to the U. S., because of his official status.
 - 2. Has attempted or threatened to redress a grievance against any public official by other than legal means.
 - 3. Because of background is potentially dangerous; or has been identified as member or participant in communist movement; or has been under active investigation as member of other group or organization inimical to U. S.
 - 4. U. S. citizens or residents who defect from the U. S. to countries in the Soviet or Chinese Communist blocs and return.
 - 5. Subversives, ultrarightists, racists and fascists who meet one or more of the following criteria:
 - (a) Evidence of emotional instability (including unstable residence and employment record) or irrational or suicidal behavior;
 - (b) Expressions of strong or violent anti-U. S. sentiment;
 - (c) Prior acts (including arrests or convictions) or conduct or statements indicating a propensity for violence and antipathy toward good order and government.
 - 6. Individuals involved in illegal bombing or illegal bomb-making.
- Photograph has been furnished enclosed is not available
 may be available through _____

DECLASSIFIED BY 8224 JRM/ACG
ON 7-1-98

Very truly yours,

J. Edgar Hoover
John Edgar Hoover
Director

1 - Special Agent in Charge (Enclosure(s) 2
U. S. Secret Service, Pittsburgh, Pa. (RM)

~~SECRET - NO FOREIGN DISSEMINATION~~

(Upon removal of classified enclosures, if any, this transmittal form becomes UNCLASSIFIED.)

Enclosure(s) 2

X

X

EXEMPTED FROM AUTOMATIC
DECLASSIFICATION
AUTHORITY DERIVED FROM:
FBI AUTOMATIC DECLASSIFICATION GUIDE
EXEMPTION CODE 25X(1,6)
DATE 09-30-2008

~~SECRET - NO FOREIGN DISSEMINATION~~

UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION

Copy to: 1 - Secret Service, Pittsburgh, Pa. (RM)

Report of: [Redacted]
Date: 2/16/68

Field Office File #: 97-123

Title: DR. ZALMAN MORDECAI SHAPIRO

Character: (U) INTERNAL SECURITY - ISRAELI
ATOMIC ENERGY ACT

Office: PITTSBURGH, PA.

Classified By S-3-85
Declassify on 2008/1/15/0

Bureau File #: 117-2564

Synopsis:

SUMMARY REPORT

ZALMAN MORDECAI SHAPIRO, a 48-year-old Pittsburgh, Pa., resident, is President of Nuclear Materials and Equipment Corporation (NUMEC), Apollo, Pa. Background data regarding subject and NUMEC set forth. A 1965 investigation of subject under Registration Act provisions was terminated upon decision of Assistant Attorney General that subject not required to register under Foreign Agents Registrations Act. Subject currently holds "Q" and "Secret" clearances with Atomic Energy Commission and United States Air Force respectively. Sources, former NUMEC employees and others describe prior security conditions at NUMEC as substandard and stated they could furnish no logical explanation for reported large losses of nuclear materials at NUMEC. These individuals describe subject as an active supporter of Israel and a frequent visitor to that country. At SHAPIRO's home, subject met with AVRAHAM HERMONI, Scientific counselor, Israeli Embassy, and ten other men who have special skills and knowledge in scientific and technical fields, on 11/3/68. This meeting was held to assist HERMONI in gathering necessary data in these areas for Israel. Source

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE

Group 1 Excludes from automatic downgrading and declassification

Class. & Ext. By SP-1 GSK/RB6
Reason - FCIM II, 1-2.4.2
Date of Review 2/8/89
2/7/82 3/18/82

~~SECRET~~

CLASSIFIED

b1
b6
b7C

367127/116
8-27-82
SP-4 J...
2/18/89
8/12/81
197

~~SECRET~~

X

b1

(S)

[redacted] indicated SHAPIRO in contact with Colonel AVRAHAM EYLONIE, regarding Israeli's needs in certain unspecified areas. SHAPIRO, in connection with contact with Colonel EYLONIE, wrote USAEC for information regarding uses and sales of Plutonium 233 (Pu 233) to foreign and domestic buyers. SHAPIRO's meeting with HERMONY set for 2/16/69, called off because of personal emergency of SHAPIRO. Subject and wife attended dinner at Israeli Embassy, Washington, D. C., 11/26/68; stated that dinner would give him opportunity to discuss Israel's needs with Israeli Defense Minister who would also be present. Subject and wife visited Israel 11/28 to 12/12/68, and as a result, indicated he learned of many business opportunities in that country. Subject indicated he is acquainted with past and present head of Israeli AEC. Members of Israeli Internal Security Service visited SHAPIRO at NUMEC plant. NUMEC Vice President, OSCAR SHALOM GRAY, Yale University graduate, close associate of SHAPIRO, formerly associated with CP Fronts and certain Yale faculty members active in left wing causes. Subject interested in pro-Israeli Zionist causes. SHAPIRO has expressed belief Israel's cause worth fighting for and has indicated he may settle in that country within a few years. Close friend DAVID LUZER LOVENTHAL.

(S)

[redacted] a frequent visitor to Israel. In 1949, subject indicated he was a member of communist front group while attending college. Physical description set out.

(S) (X) (S) (u)
-P-

~~SECRET~~

X
KITAL

197

~~SECRET~~

X

PG 97-123

T A B L E O F C O N T E N T S

	<u>Page</u>
PREDICATION.....	3
I. BACKGROUND.....	3
A. Birth.....	3
B. Education.....	3
C. Employment.....	4
D. Residence.....	12
E. Status of Health.....	13
F. Foreign Travel.....	13
II. REGISTRATION ACT INVESTIGATION, 1965.....	14
A. Predication.....	14
B. Contacts With Israeli Officials.....	14
C. Atomic Energy Commission Records (1965).....	16
D. Interview of SHAPIRO.....	17
E. Prosecutive Opinion.....	21
III. SUBJECT'S SECURITY CLEARANCE.....	22
IV. INTERVIEWS WITH FORMER EMPLOYEES AND OTHERS.....	24
V. CONTACT WITH ISRAELI OFFICIALS.....	30
(U) VI. COMMENTS REGARDING SHAPIRO'S [MIGRATION TO ISRAEL].....	46
VII. MISCELLANEOUS.....	48
VIII. PHYSICAL DESCRIPTION.....	51
IX. INDEX.....	54

T A B L E O F C O N T E N T S

~~SECRET~~

X

~~SECRET~~

PG 97-123

PREDICATION

Investigation was instituted at the request of the Attorney General to establish the nature and extent of ZALMAN MORDECAI SHAPIRO's relationship with the Government of Israel. This could be connected with, or in addition to, or as a result of, his association with Israeli officials and sympathizers in the United States. (U)

I. BACKGROUND

A. Birth

Records, Bureau of Vital Statistics, Canton, Ohio, reviewed on March 7, 1949, revealed that ZALMAN MORDECAI SHAPIRO was born May 12, 1920, at Canton, Ohio. His father and mother were listed as ABRAHAM SHAPIRO and MINNIE PINK, respectively, and their birth place was shown as Russia.

B. Education

Records of the Passaic, New Jersey, High School, examined during 1949, showed subject attended that high school from September 10, 1936, to January 28, 1938, and had attended post-graduate classes from February 11, 1938, to June 15, 1938.

Records, Johns Hopkins University, Baltimore, Maryland, examined during 1949, showed subject entered that university on September 22, 1938, and received an A.B. degree on June 2, 1942. He re-entered the university as a graduate student in the Chemistry Department October 18, 1943, and received his M.A. degree in chemistry November 5, 1945. He continued at the university as a graduate student and received his Ph.D degree in chemistry on June 8, 1948.

~~SECRET~~

~~SECRET~~

X

PG 97-122

C. Employment

Investigation during 1949 disclosed subject was employed with the following organizations on the dates indicated:

<u>Place</u>	<u>Date</u>	<u>Position</u>
Passaic, New Jersey Park Department	July and August, 1931	Playground Director
Good Humor Ice Cream Corporation, Newark, New Jersey	February 27, 1938; to April 2, 1938	Salesman
Zankel's Sportswear Shop, Passaic, N. J.	Summer Months, 1939 - 1940	Salesman
Johns Hopkins University, Baltimore, Md.	1938 - 1939	Clerical Assistant
Johns Hopkins University, Baltimore, Md.	1942 - 1947	Research Assistant (Government research)
Johns Hopkins University, Baltimore, Md.	October 1, 1946, to June 30, 1947, and from October 1, 1947 to January 31, 1948	Junior Instructor in Chemistry

(On May 24, 1968, PG T-1 advised subject was employed by Westinghouse Electric Corporation, Pittsburgh, Pa., from 1948 to 1956. During his employment with Westinghouse, he was supervisor of zirconium process development; manager, physical chemistry and chemical control; manager, chemical metallurgy and uranium oxide development; and manager, reactor design, P. W. R. Core 2.

~~SECRET~~

X

~~SECRET~~

PG 97-123

The "American Men of Science" (1967), a biographical directory, showed subject as President of Nuclear Materials and Equipment Corporation (NUMEC) upon his termination of employment at Westinghouse Electric Corporation. In 1957, he was President, Nuclear Decontamination Corporation, Isotope and Radiation Enterprises, Limited, (ISORAD).

Poors Register of Corporations, Directors and Executives, 1968, showed subject to be connected with the following corporations:

1. Nuclear Decontamination Corporation, President and Director
2. Greater Pittsburgh Capital Corporation, Director
3. NUMEC Instruments and Controls Corporation, Chairman
4. Isotope and Radiation Enterprises, Limited, Director

[On May 24, 1968, PG T-1 advised] that NUMEC was incorporated in Pennsylvania on December 31, 1956, and is located at Apollo, Pa. This corporation is a producer of nuclear fuel and other materials used in nuclear power reactors. It is also active in the use of radioactive materials for radiation processing and energy production.

The firm operates plants and research facilities at Apollo and Parks Township, Pa., as well as a Government-owned bare isotope separation facility at Lewiston, New York.

On June 17, 1968, a review of files concerning NUMEC located at the Office of Safeguards and Materials Management, Atomic Energy Commission (AEC), Germantown, Maryland, disclosed an intra-agency memorandum dated February 11, 1966, which concerned the "status of

~~SECRET~~

~~SECRET~~

PG 97-123

arrangements and discussions between NUMEC and foreign business organizations." The following organizations were noted:

NUMINCO - NUMEC Instrument and Controls Company, which manufactures and markets laboratory equipment and process control equipment. NUMEC owns one third of the stock; Societe d'Applications Industrielles de la Physique, a French company, owns one third; the last third is owned by a group of private investors.

ISORAD - In connection with ISORAD, by letter dated November 3, 1966, AEC furnished the FBI a summary of the foreign activities of NUMEC, which states in part that "NUMEC is a sales agent for the Government of Israel through its Ministry of Defense, Division of Supplies, 830 Third Avenue, New York 22, New York. In this connection, NUMEC has an arrangement with the Israel Atomic Energy Commission to do biological work on insect control; and assist in establishing facilities for the irradiation and preservation of citrus fruits. In this latter connection, NUMEC and the Government of Israel (represented by the Israel AEC) have formed a company in Israel called Isotopes and Radiation Enterprises, Limited (ISORAD) which is an organization to do experimental and commercial work in irradiation processing of foodstuffs and other commodities; such as medical supplies. NUMEC and the Government of Israel are equal partners in this venture."

NUMEC's foreign sales representatives were listed as follows:

Electronucleonica of Milan, Italy

A. Johnson Company - Scandinavian representative

Renee Schurmans Company of Brussels, representative for the Common Market nations.

Other miscellaneous contacts were listed as:

- 6 -

~~SECRET~~

~~SECRET~~

X

Japanese Atomic Fuel Corporation

Government of Israel - providing 2 small
3-watt terrestrial SNAP generators.

Discussions were also being held with the
following:

Spanish Government officials-regarding
food irradiation

Mitsubishi International of Japan
as a possible sales representative

In Germany - looking into purchase of
Dow Chemicals' 30% interest in
ALKEM, a German company.

In England - exploring with International
Research and Development, Limited,
for manufacture and sale of a laser
ophthalmoscope.

The April 17, 1965, issue of "Business Week," a
weekly magazine, carried an article entitled, "Plutonium edges
its way from weapons to peaceful use in power reactors." This
article stated in part that NUMEC announced receipt of more
than \$1.6-million in orders for the development and production
of plutonium-bearing nuclear fuels. This order was in addition
to about \$1-million worth of plutonium fuel orders placed last
December. The latest orders include:

1. A three-year program for the joint U.S. National
Research and Development Board involving development and
testing of mixed plutonium oxide, uranium oxide, and
zirconium oxide fuels for plutonium recycle in thermal
reactors.

2. A four-year program for the U. S. Atomic Energy
Commission for development and testing of plutonium oxide-
uranium oxide fuels for fast breeder reactors.

3. Production of 525 fuel rods containing mixed
plutonium and uranium oxides in ceramic pellet form for
AEC's San Francisco operations office.

~~SECRET~~

X



4. Production of 800 metallic plutonium-aluminum-alloy fuel rods for the Brookhaven National Laboratory.

One of NUMEC's December orders was for 530 rods of mixed plutonium and uranium oxide pellets for Westinghouse Electric Corporation to fuel a utility-owned reactor—the first such use of this fuel, according to NUMEC.

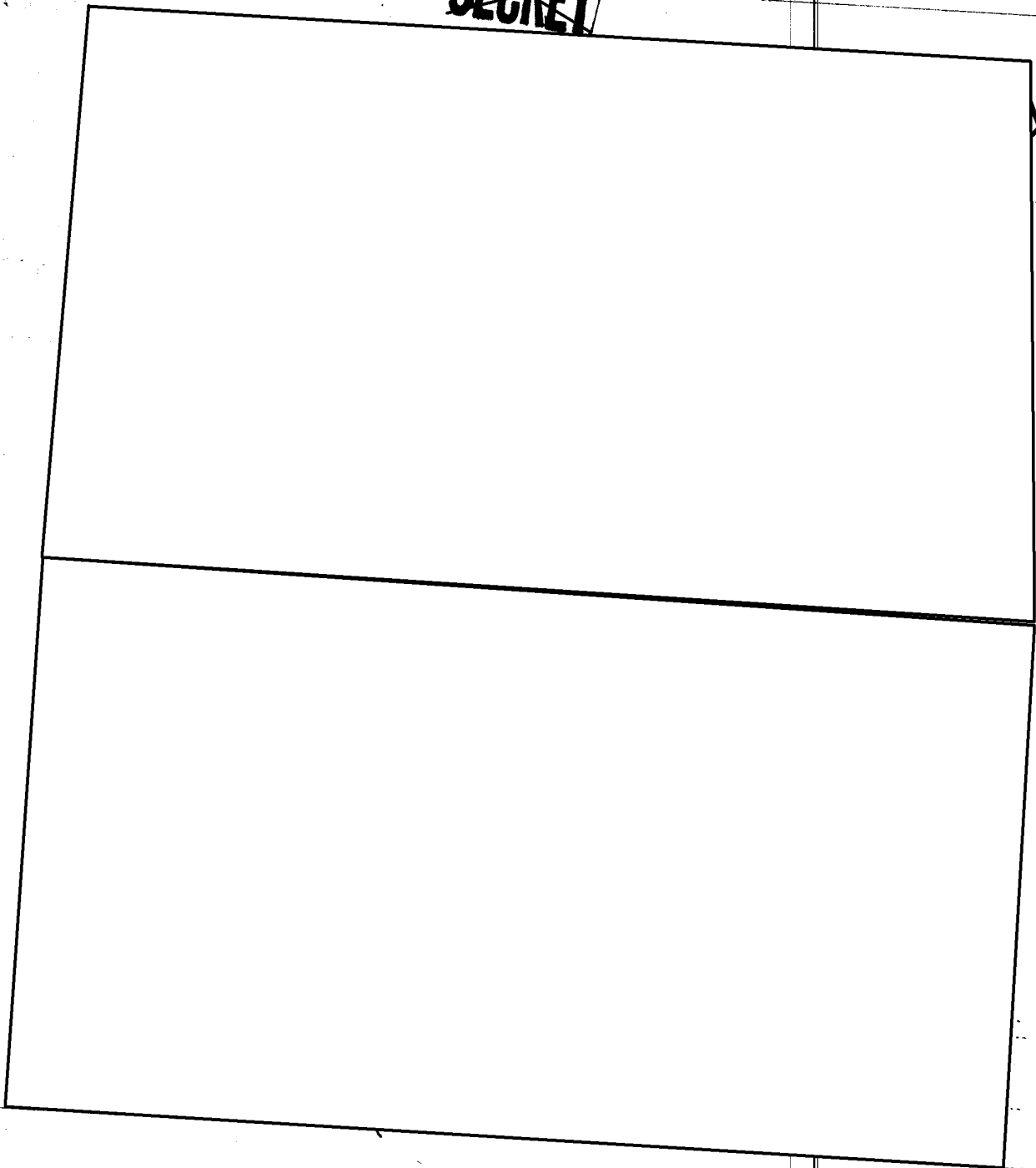
X

~~SECRET~~

X

~~SECRET~~

Date 6/5/68



b7D

On 5/31/68 at Pittsburgh, Pa.

File # Pittsburgh 97-123

SA /bac

Date dictated 5/31/68

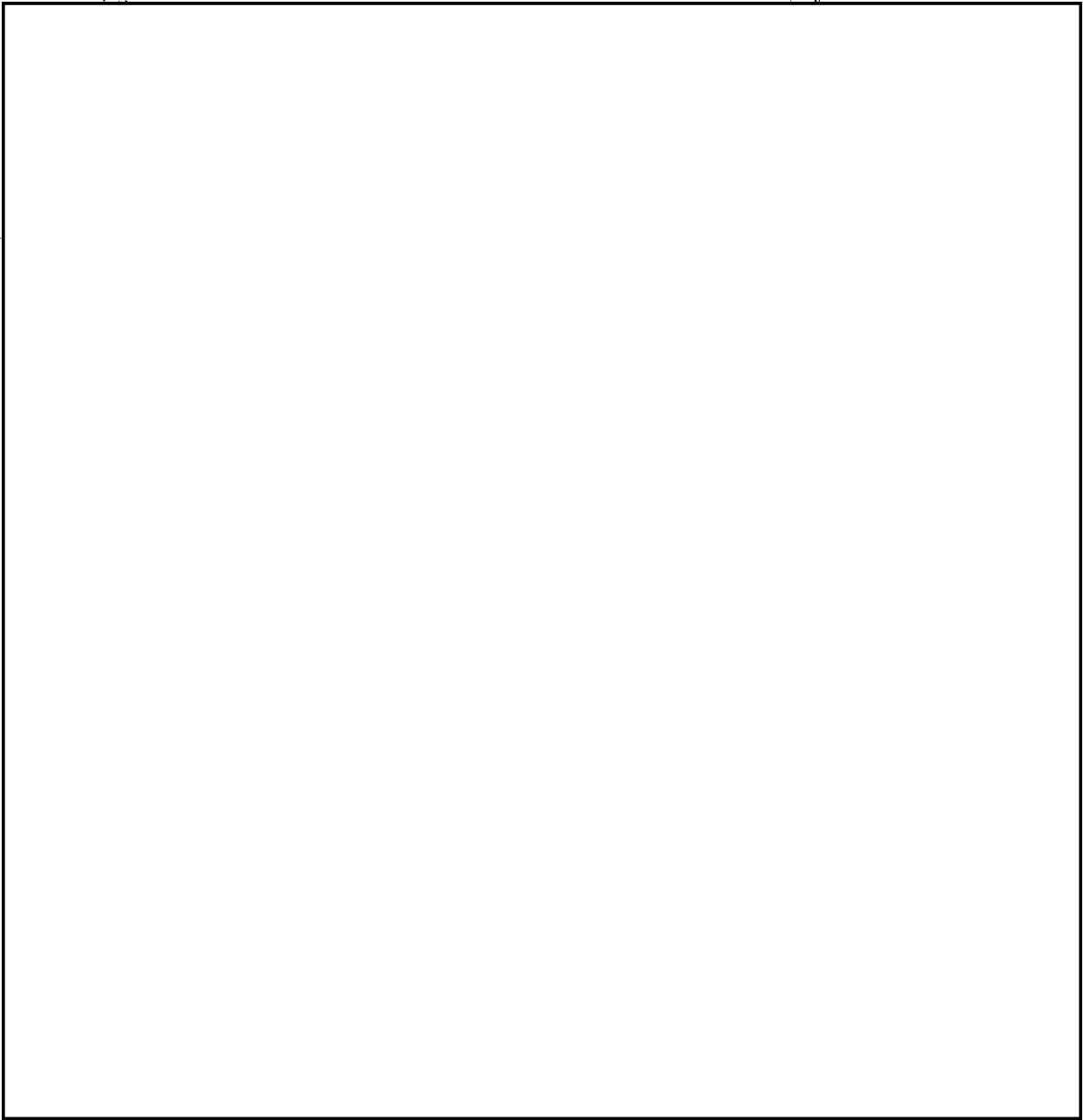
b6
b7C

This document contains neither recommendations nor conclusions of the FBI. It is the property of the FBI and is loaned to your agency; it and its contents are not to be distributed outside your agency.

~~SECRET~~

X

~~SECRET~~

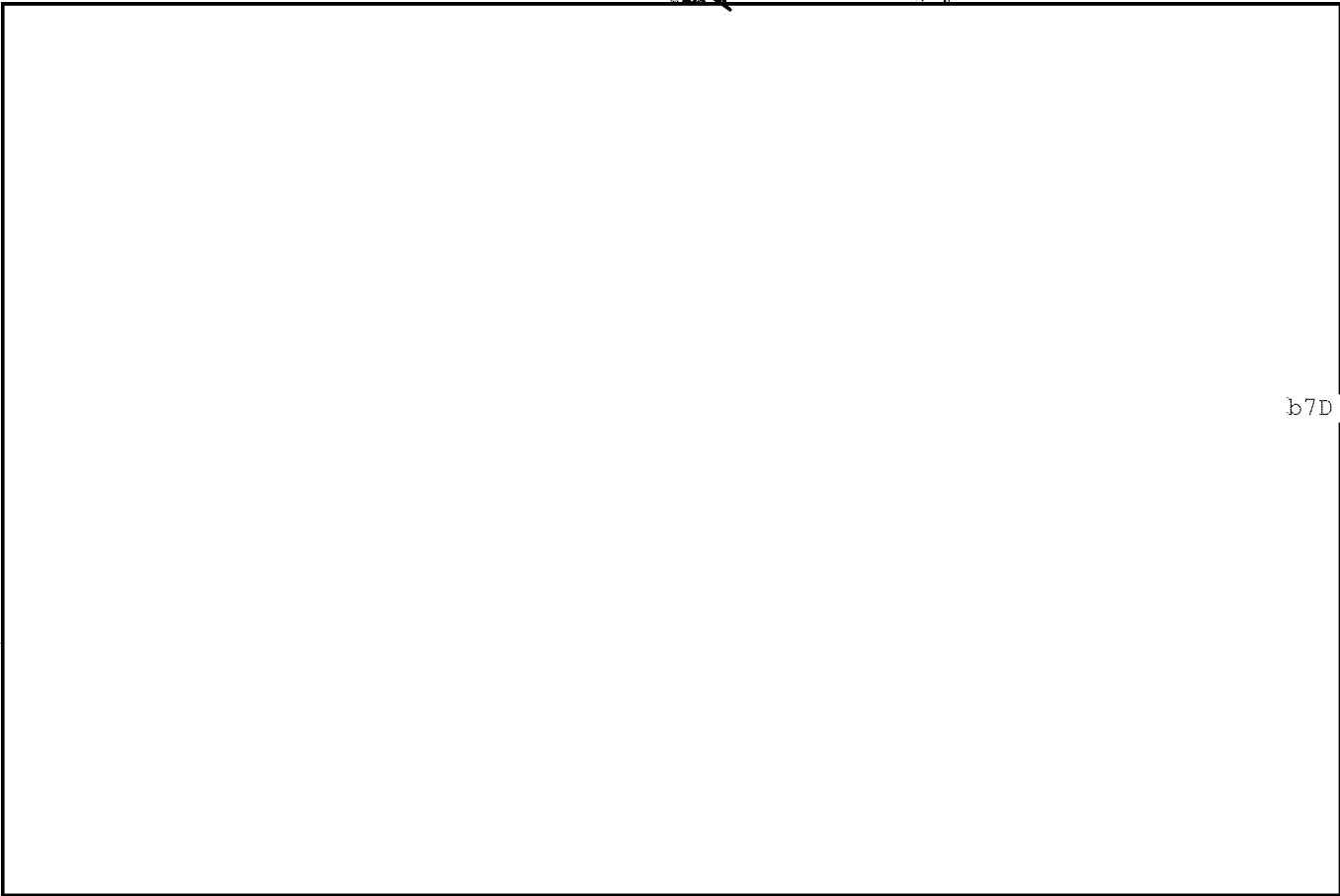


b7D

~~SECRET~~

X

~~SECRET~~



b7D

The above information is confidential in nature and should not be made public without the issuance of a subpoena duces tecum directed to the

[Redacted] Pittsburgh, Pa.

~~SECRET~~

X

~~SECRET~~

PG 97-123

(u) ~~(S)~~ ~~(X)~~ [On May 24, 1968, PG T-1 furnished the following information:]

OSCAR S. GRAY, Vice-President - Treasurer, was born in [] He is single and became associated with the corporation on April 1, 1957. He graduated from Yale College and Yale Law School and holds a B.A. degree and LL.B. degree. From 1951 until becoming associated with this organization, he was a member of the Legal Advisor's Office of the Department of State, Washington, D. C. He handles financial and legal matters for the corporation. Life insurance in the amount of \$100,000 is carried on his life for the benefit of the business. He is Secretary-Treasurer of NUMEC Instrument and Controls Corporation; and is Treasurer of Nuclear Decontamination Corporation; both subsidiaries of NUMEC.

LEONARD P. PEPKOWITZ, Vice-President, was born in [] and is married. He completed his formal education in 1943 and holds a B.S. degree from the University of Minnesota; earned his Ph.D. at Rutgers University. He was employed as Assistant Chemist of Rhode Island Experiment Station from 1943 to 1944; 1944 - 1945, Chemist, Los Alamos Atomic Laboratory; 1945 - 1946, Group Leader, Analytical Chemistry, Los Alamos Atomic Laboratory. In 1947, he was employed by Knolls Atomic Laboratory, and continued there until 1957, at which time he resigned. He served as Manager of Metallurgical and Chemical Analysis, and Manager of the Chemical Laboratory. He is author or co-author of over thirty papers and scientific journals, as well as many classified publications. He is a member of the American Chemical Society, A.A.A.S., and New York Academy of Sciences. He is in charge of chemistry. Life insurance in the amount of \$100,000 is carried on his life for the benefit of the business. He is General Manager of the Niagara Division, a subsidiary of NUMEC.

JACK R. NEWMAN, formerly Secretary - General Counsel of NUMEC, was born in [] is married and is a native of New York State. He is an attorney by profession and a member of the Bar of New York State.

- 11 -

~~SECRET~~

b6
b7c

~~SECRET~~

PG 97-123

NEWMAN is a graduate of Cornell University, School of Industrial and Labor Relations, and also a graduate of Columbia University Law School, Class of 1959. Prior to 1960, he was associated with General Counsel for the United States Atomic Energy Commission. Since 1960, NEWMAN had been counsel for the Joint Congressional Committee on Atomic Energy. NEWMAN served as a First Lieutenant in the United States Air Force from 1955 to 1957. He was elected to his present office about November 9, 1964.

FREDERICK FORSCHER, former Vice-President of NUMEC, was born in [redacted] and is married. He holds B.S. and M.S. degrees from Princeton University and earned his Ph.D. at Columbia University. He was assistant civil engineer at Princeton University, 1946 - 1947; Instructor, Mechanics and Material, Columbia University, 1947 - 1952; Supervisor, Mechanical Metallurgy, Westinghouse Electric Corporation, 1952 - 1957. He is a member of the Princeton Engineering Society; A.S.M. - S.L.A. Metallurgical Literature Classification Committee; A.S.M.; A.I.M.E.; S.E.S.A.; and A.S.M.E. He is in charge of metallurgical. Life insurance in the amount of \$100,000 is carried on his life for the benefit of the business.

[On July 16, 1968, PG T-2 advised that] FREDERICK FORSCHER terminated his employment with NUMEC during 1968 and is currently employed at Westinghouse Electric Corporation, Pittsburgh, Pa.

D. Residence

Records of the Credit Bureau, Pittsburgh, Pa., as reviewed on May 24, 1968, disclosed subject has resided with his wife, [redacted] Pittsburgh, Pa., since 1956.

Subject's residence is a modest home in a middle-class neighborhood.

- 12 -

~~SECRET~~

~~CONFIDENTIAL~~

b6
b7c

~~SECRET~~

PG 97-123

E. Status of Health

Sources familiar with subject have not furnished any information to indicate subject is not enjoying good health.

F. Foreign Travel

The files of the Passport Office, U. S. Department of State (USDS) reviewed December 1, 1965, disclosed that on June 25, 1965, subject was issued Passport F-753461 for proposed two to three weeks travel to England, France, Italy, Sweden and Israel for the purpose of business. He indicated that he would take another trip abroad within the next year. The passport will expire June 24, 1968, and may be renewed for two years.

SHAPIRO was previously issued Passport 754680 on August 12, 1955, to travel to Europe for the purpose of business.

In connection with his application for passport, correspondence from Westinghouse Electric Corporation indicated that subject's trip was being made at the request of the AEC in connection with Westinghouse Electric Corporation work in the field of atomic energy.

This passport was renewed on August 25, 1958. In a letter from subject, he indicated that he would travel to Switzerland to attend the Geneva Conference and to other European countries on business.

On February 2, 1960, he was issued Passport 1871659 for purpose of travel to France and Italy, for the purpose of business.

[On July 16, 1968, PG T-2 advised] that during the past seven years subject has visited Israel approximately three or four times a year and understood his last visit was approximately two months ago.

(U) [On December 14, 1968] PG T-3 [advised that subject visited Israel with his wife, EVELYN SHAPIRO, from November 28, 1968, to December 12, 1968.]

~~SECRET~~

X

X

PG 97-123

X

II. REGISTRATION ACT INVESTIGATION 1965

A. Predication

Investigation was instituted as the result of an undated memorandum from C. A. PALAZZOLO, Chief, Research Branch, Division of Security, AEC, disclosing that AEC had received information indicating subject and NUMEC, Apollo, Pa., have been negotiating with the Israeli AEC to establish a joint company in Israel. The company is to be known as the Israeli Numec Isotopes and Radiation Enterprises (ISORAD), Limited, and initially is to engage in the irradiation of citrus fruit. For this purpose, Cobalt 60 sources are to be imported from the United States.

B. Contacts with Israeli Officials

(S) J

(U)

(S)

PG T-4 advised that

(S)

[Redacted block with an 'X' mark]

b1

According to PG T-4.

[Redacted line]

[Redacted block]

(S)

(S)

PG T-4 advised that

(S)

[Redacted block]

(S)

X

~~SECRET~~

PG 97-123

X

(S)

[Redacted]

(S)

[Redacted] PG T-4 advised that on

(S)

[Redacted] PG T-4

(S)

[Large Redacted Block]

X

15 -
~~SECRET~~

X

b1

PG 97-123



(S)

b1

Credit records, Indiana Credit Bureau, Indiana, Pa., indicate [redacted] has resided at [redacted], and has been employed at NUMEC, Apollo, Pa., since [redacted]. He previously was employed by General Electric Corporation, Philadelphia, Pa.

b6
b7C

C. AEC Records (1965)

On June 9, 1965, Records, Division of Security, AEC, Germantown, Maryland, indicated that subject maintains an active "Q" clearance.

On September 29, 1965, AEC files, AEC, New York City, reflected that as of that date subject held a "Q" clearance with AEC.

The file contained a memorandum dated May 7, 1965, to HARRY A. WALSH, Director, Security and Property Management Division, New York, from C. A. PALAZZOLO, Chief, Research Branch, Division of Security Headquarters, concerning SHAPIRO. This memorandum reflects that subject and NUMEC have been negotiating with the Israeli AEC to establish a joint company in Israel to be known as ISORAD.

An AEC inspection file contained an AEC inspection report dated July 2, 1964, of the NUMEC, Administration Building, and Uranium Plants, Apollo, Pa. This report states in part that "NUMEC is a sales agent for the Government of Israel through its Minister of Defense, Division of Supplies, 830 Third Avenue, New York 22, New York. (S)(u)"

"NUMEC has a contract with Chemical and Phosphates Limited, Post Office Box 1428, Haifa, Israel, for calcium-zirconium production. This contract also involves a joint program in food irradiation." (S)(u)

*R 3, 4, 5, 6, 7
New York City
PW DOE letter
7-29-82*

X

PG 97-123

The inspection report also states that NUMEC has a contract with Japanese atomic firms and also contracts with the Australian Government to supply that government 330 plutonium-aluminum fuel elements. (S)(u)

The inspection report further states that NUMEC actively participates with foreign companies and foreign Governments in the field of civil nuclear energy. Further, NUMEC performs a wide range of classified and unclassified work for the AEC under various prime contracts and purchase orders. (S)(u)

The report also stated that located in the Administration Building of NUMEC, Apollo, Pa., is NUMINCO, a firm established to manufacture and market nuclear instruments and process control equipment. NUMINCO, according to this report, is owned by the Societe d'Applications Industrielles de la Physique, Paris, France, by NUMEC and by a group of private investors, each having about one-third interest. This commercial enterprise, according to this report, is completely divorced from NUMEC's AEC interests, either classified or unclassified. (S)(u)

D. Interview of Shapiro

Para 1, 2, 3 unclassified
Per DOE letter 7-29-82
566850/KP

X

~~SECRET~~

FEDERAL BUREAU OF INVESTIGATION

Date 6/21/66

Dr. ZALMAN HORDECAI SHAPIRO of [redacted] Pittsburgh, Pa., was advised by SA [redacted] that he did not have to make a statement, and that any statements that he made must be voluntary and could be used against him in a court of law. He was also advised that he had the opportunity to consult with an attorney prior to making any statements.

b6
b7C

Dr. SHAPIRO advised that he was born at [redacted] Ohio, and furnished the following information:

He is the President of Nuclear Materials and Equipment Corporation (NUMEC), Apollo, Pa. Approximately one year ago his company and the Government of Israel formed a company known as the Israel Numec Isotopes and Radiation Enterprises (ISORAD), Limited, on a partnership basis. NUMEC contributed one-third equity value and obtained 50% of the stock in ISORAD, and the Government of Israel owned the other 50% of the outstanding stock. The Board of Directors of ISORAD consisted of eight members, including four individuals appointed by NUMEC and four members appointed by the Israeli Government. Dr. SHAPIRO currently serves as Chairman of the Board of Directors of ISORAD. The other three members of the Board, are Pittsburgh area businessmen; namely, LEON FALK, President of a Pittsburgh re-development center; BENJAMIN ROSEN, prominent Pittsburgh realtor, and PHILLIP POWERS, past President of Western Pennsylvania Power Company who presently serves as Assistant Chairman of ISORAD.

The four Board members representing the Israeli Government occupy responsible positions in Israel, including the head of the Israel Atomic Energy Commission, head of the Research Branch of the Israel Atomic Energy Commission, and head of the Citrus Board of the Israeli Government, as well as a prominent Israeli banker. The last ISORAD Board meeting was held during October, 1965, and was attended by all the American Board members.

On 6/15/66 at Pittsburgh, Pa.

File # 97-123

by SAs [redacted]

Date dictated 6/21/66

This document contains neither recommendations nor conclusions of the FBI. It is the property of the FBI and is loaned to your agency; it and its contents are not to be distributed outside your agency.

~~SECRET~~

b6
b7C

~~SECRET~~

PG 97-123

2

Lengthy negotiations were undertaken by NUMEC with the Government of Israel for the purpose of organizing a company to undertake research in the field of atomic radiation. The radiation research was initiated with the hope that spoilage of citrus fruits in storage could be reduced by eradicating the bacteria which causes spoilage, and that irradiation would eliminate the transportation of live larvae of the Mediterranean fruit fly.

In addition to the citrus irradiation project, ISORAD is now engaged in research projects involving the irradiation of other agricultural products.

Prior to and subsequent to the formation of ISORAD, Dr. SHAPIRO and representatives of NUMEC discussed their plans relative to the organization of ISORAD with the United States Atomic Energy Commission, the Security Division of the Atomic Energy Commission, and with an individual of the United States Embassy in Israel, believed to be the United States Ambassador. Subsequent to the formation of ISORAD, news media in the United States were furnished details of the organization and plans of ISORAD.

As a result of his association with ISORAD, Dr. SHAPIRO has had business association with [redacted] Science Attache, Embassy of Israel, Washington, D. C., and the Purchasing Commission of the Israeli Government in New York City. In this connection, NUMEC has sold its manufactured products to the Government of Israel after securing a license from the Export Control Division of the United States Department of Commerce.

Dr. SHAPIRO has made every effort to comply with the laws of the United States in connection with his business venture with the Israeli Government. He stated that neither he nor NUMEC has registered with the Registration Section of the United States Department of Justice, Washington, D. C., considering NUMEC's business association with the Israeli Government as a bona fide business venture. He stated that, in his opinion, he has never operated or served as an agent of the Israeli Government or any other government. His records of shipments with the Department of Commerce are open to inspection. He considered his company's association

b6
b7c

~~SECRET~~

~~CONFIDENTIAL~~

~~SECRET~~

PG 97-123

3

with the Israeli Government and ISORAD as a bona fide business venture for the sole purpose of making a profit for NUMEC. His company prior to the formation of ISORAD had unsuccessfully attempted to establish business ventures with Spain and Germany. X

He stated that he desired to immediately review the statutes concerning the Registration Act of 1938 for the purpose of determining if he or his company were violating the law in any manner whatsoever. He pointed out that he had never considered the possibility that he or his company were violating the law.

~~SECRET~~

~~SECRET~~

PG 97-123

E. Prosecutive Opinion

J. WALTER YEAGLEY, Assistant Attorney General, Internal Security Division, Department of Justice, Washington, D. C., advised the Federal Bureau of Investigation, Washington, D. C., by letter dated September 14, 1966, that because subject's company, NUMEC, of Apollo, Pa., acquired an export license from the Department of Commerce on its own behalf rather than that of the Israeli Government, it appears that neither subject nor his company is constituted an agent of a foreign principal under the Foreign Agents Registration Act, as amended, so as to require registration thereunder.

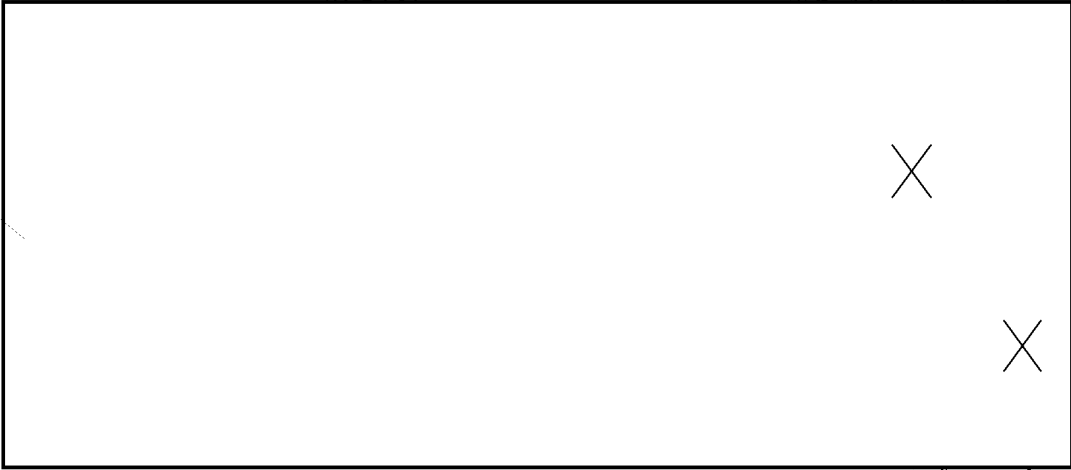
~~SECRET~~

III. SUBJECT'S SECURITY CLEARANCE

On February 14, 1969, [redacted] Supervisor, Central Index File, Defense Industrial Security Clearance Office (DISCO), Columbus, Ohio, advised that records of that office revealed subject, who is President and Director of NUMEC, Apollo, Pa., and a resident of 5452 Bartlett Street, Pittsburgh, Pa., currently maintains a "Secret" clearance which was granted on December 1, 1960, by Air Research Development Command, New York, New York (now DISCO).

On January 28, 1969, O. R. SIMPSON, Assistant Director, AEC, Security Division, Richland, Washington, advised subject has an active security clearance at most of all AEC facilities in the United States, including an active "Q" clearance at Richland, Washington. He advised that subject visits numerous AEC facilities throughout the United States and has had continuing access to sensitive data at these facilities since at least 1949.

On June 4, 1968, [redacted] Central Personnel Index, Division of Security, U. S. AEC, Germantown, Maryland, advised subject was granted a "Q" clearance by Chicago AEC Office in May, 1949, terminated May, 1967; granted "Q" clearance May, 1968, which is still active.



X

b6
b7C

*Para 2, 3 unclassified
Per DOE letter 7-29-82*

b1

(C)

X

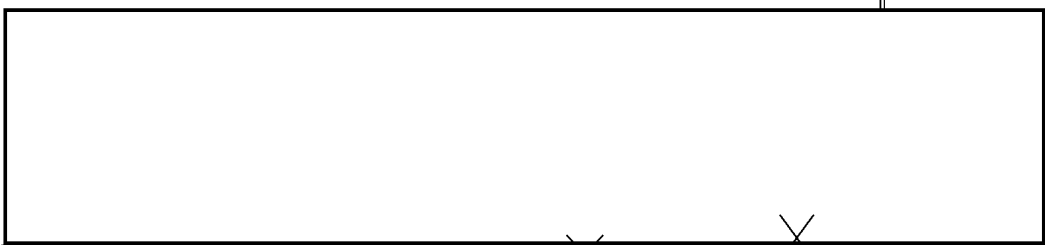
X

X

~~SECRET~~

PG 97-123

X



b1

(C)

(U)

(U)

On October 11, 1968, PG T-3 advised that on that date subject revealed to source that NUMEC was currently involved in the Savannah River Project and is negotiating with the Government of South Carolina regarding the disposal of atomic waste.

~~(S)~~

In connection with approved visits of a classified nature by subject to the AEC installation at Oak Ridge, Tennessee, records of that facility checked on July 8, 1968, indicate subject, between June 17, 1968, and July 18, 1967, made six visits to that facility.

The 1964 through 1967 issues of the "Nuclear Industry Magazine" contained information relating to the following projects in which NUMEC had an interest:

- 1964
- Boron plant contract
- Fish irradiators
- Hanford isotopes plant
- Hexafluoride
- Israel project
- Sefor fuel contract
- Shippingport fuel contract

- 1965
- Food irradiators R&D
- Hawaiian fruit irradiator
- Indian Point
- Israel, cobalt-60 shipment to plutonium fuel
- SNAP-25

- 1966
- Food irradiation
- Heart pacemaker
- Scrap recovery contracts
- SNAP Generators
- Uranium contract, Sohio

- 1967
- Medical electric equipment survey
- Bids for Hanford contract
- Irradiated Food Survey

~~SECRET~~

~~CONFIDENTIAL~~

~~SECRET~~

PG 97-123

IV. INTERVIEWS WITH FORMER NUMEC EMPLOYEES AND OTHERS

[On June 25, 1968, PG T-5 advised] that he is not personally acquainted with subject, however, has known of him since 1957, and has, on two occasions, visited NUMEC at Apollo, Pa. (S)(u)

[PG T-5 advised] that subject was formerly employed at Bettis Atomic Power Division, Westinghouse Electric Corporation, Pittsburgh, Pa., and at the time of his termination to set up NUMEC, his relations with Westinghouse supervisors were believed to be other than amiable. This source was not in a position to elaborate further on this remark. (S)(u)

This source stated that several years ago he read an article in the "Wall Street Journal," which related to the fact that NUMEC had sustained unaccountable losses of nuclear material. He said it was rather common knowledge among those individuals acquainted with the security aspect of nuclear work that security conditions at NUMEC were substandard. [PG T-5] said that subject was credited with being the engineering genius behind the development and manufacturing of U-235 at NUMEC. He went on to say that NUMEC has experienced financial difficulties which, in view of their apparent progress, is not quite understandable. This source said subject is known to be interested in the stock market and reportedly has done quite well financially in stock investments. Subject, [according to PG T-5], is reported to have many diversified financial investments and has maintained the reputation of placing his own interest before any company with which he is affiliated. (S)(u)

[On July 3, 1968, PG T-6 advised] that he is not personally acquainted with subject, but has been closely associated with NUMEC and in this connection has come in contact with subject at several nuclear meetings. This source advised that during 1946, AEC conducted an investigation at NUMEC in an effort to determine the cause for a loss of quantity of enriched uranium which occurred at NUMEC apparently for a period of several years. (S)(u)

24
~~SECRET~~

~~SECRET~~

FG 97-12E

X

(S)(u) [PG T-6 advised] that following the inspection at NUMEC, an article appeared in the Paris, France, edition of the "New York Times," entitled, "U. S. Plant Loses 100 Kilos of U-235." This article was dated Washington, September 18, 1956, and was written by JOHN W. FINNEY. This source advised that the article in general stated that AEC had recently discovered that one of its industrial contractors had lost more than 100 kilograms of enriched uranium and enough to fabricate half a dozen atomic bombs.

The article indicated that the loss of this enriched uranium indicated that possibly inadequate controls were being utilized in this country in connection with nuclear materials.

(S)(u) [PG T-6 advised] that following aforementioned news article, the Congress of the United States held hearings in Washington, D. C., and AEC promoted several meetings in connection with the problems of safeguards in nuclear materials management. At approximately the same period of time, an Ad Hoc Advisory Panel was established and during March, 1957, disseminated a lengthy report on the safeguarding of special nuclear materials, which was followed by the formation of the Division of Nuclear Materials Safeguard.

Following this action by AEC subject, (S)(u) [according to PG T-6] in an effort to improve security conditions at NUMEC, hired a former AEC inspector.

(u) (S) [PG T-6 advised] that NUMEC frequently sends individuals and groups of atomic scientists from NUMEC to other countries to assist these countries in the field of atomic energy.

(u) (S) [PG T-6 advised] that three or four years ago a group of atomic scientists from NUMEC were reported to have visited Israel for the purpose of assisting that country in their development of atomic energy facilities.

~~SECRET~~

~~CONFIDENTIAL~~

~~SECRET~~

PG 97-123

(u) ~~(S)~~ (u) X
[According to PG T-6] Westinghouse Electric Corporation of Pittsburgh, who has had contracts with NUMEC to handle its nuclear scrap, were invariably advised by NUMEC that Westinghouse had overestimated the amount of nuclear materials in the scrap. This source advised that it was common knowledge that Westinghouse's estimates were generally reliable and accurate. [PG T-6] speculated that over a period of several years, NUMEC was, therefore, in a position to accumulate a considerable amount of nuclear materials for which there was no accounting as far as the official records were concerned.

(u) ~~(S)~~ (u) X
[On July 16, 1968, PG T-2 advised] that the primary work of NUMEC is the manufacture of fuel for nuclear reactors and to reprocess fuel scraps left over after manufacture.

(u) ~~(S)~~ (u) X
[PG T-2 advised] that NUMEC also receives material from other firms for recovery of nuclear materials through its recovery and reprocessing machinery. [PG T-2] stated that an attempt in September, 1961, was made by NUMEC to effect a material balance, i.e., determine if all material being reprocessed was being accounted for. This balance was not obtainable, [PG T-2 related] because the methods and processes being utilized by NUMEC were not thorough enough. After a new processing method was installed which entailed the use of additional filters, [PG T-2] stated the losses were reduced considerably and a savings to the company resulted.

(u) ~~(S)~~ (u) X
[PG T-2] pointed out some of the firms that dealt with NUMEC would dispute NUMEC figures on the amount of material recoverable and stated as recovered by NUMEC. This source said litigation was initiated by some firms so their material would be either recovered or the firms would receive cash to compensate for their losses due to NUMEC's poor processes.

(u) ~~(S)~~ (u) X
[PG T-2] pointed out the two materials used in reactors, uranium and plutonium, are obtained from AEC installations for use in the various products and the nuclear materials left over on recovery from scraps and waste must be returned to the AEC establishment. A penalty is imposed on the firm if the nuclear material is not returned within a set period of time, usually 60 days. [PG T-2 related] The failure to reprocess and recover materials quickly, efficiently and thoroughly.

~~SECRET~~

~~SECRET~~

PG 97-123

(u) ~~(S)~~ [PG T-2] ~~(S)~~ ~~(u)~~ said, resulted in financial losses to NUMEC, which [PG T-2] advised he heard reached over \$500,000.

(u) ~~(S)~~ ~~(u)~~ [PG T-2] added that subject is an active supporter of Israel; has traveled there frequently; and has produced at least one large food irradiator for that country. This source pointed out subject has directed that all profits from NUMEC vending machines, candy, cigarettes, food, soft drinks, etc., would be used for CARE packages to Israel.

On August 13, 1968, PG T-2 advised that in discussing the shortages of enriched uranium at NUMEC over a five year period, that this source learned from a NUMEC employee that in 1966 the AEC conducted an inspection of the NUMEC facilities. [PG T-2] ~~(S)~~ ~~(u)~~ also learned from this employee who was in a position to establish a reason for large losses, that he was unable to explain the shortages. Employee advised [PG T-2] ~~(S)~~ ~~(u)~~ that he had no reason to suspect that subject or any employee of NUMEC stole the material, but no logical explanation could be offered by the employee.

[PG T-2] ~~(S)~~ ~~(u)~~ also related that an incident was brought to his attention by another NUMEC employee which involved the inventory of nuclear materials in the NUMEC vault. This second employee advised [PG T-2] ~~(S)~~ ~~(u)~~ that he was instructed to inventory the contents of the vault and after completing the task, gave his figures to a supervisor. The supervisor questioned the figures, asserting there should be more materials than the employee reported and when employee refused to change his figures, the superior discarded the inventory and had another employee recount the materials.

(u) ~~(S)~~ [PG T-2] ~~(S)~~ ~~(u)~~ also related that a fire occurred in the NUMEC vault approximately four years ago. [PG T-2] ~~(S)~~ ~~(u)~~ related that some nuclear materials and records were destroyed, but the exact losses were never ascertained. This source also pointed out that the AEC has inspected and inventoried NUMEC more frequently than average due to shortages arising at the plant.

~~SECRET~~

~~CONFIDENTIAL~~

X

X

~~SECRET~~

PG 97-123

X

On December 18, 1968, [redacted]

[redacted] advised that [redacted]

b6
b7C
b7D

He stated that NUMEC was a fifty per cent owner of a corporation known as ISORAD and the other fifty per cent was owned by the State of Israel. This corporation was organized for the purpose of experimenting and the production of radiation techniques. He stated that the use of radioisotopes was to be developed by this corporation for various purposes, including the inspection of the shelf life of oranges in Israel.

It would also be used for the radiation of fruit flies which, it was hoped, would develop in the destruction of fruit flies in Israel; \$25,000 was invested by NUMEC and \$25,000 was invested by the State of Israel in order to organize ISORAD. NUMEC got back most of the \$25,000 by selling to ISORAD a radiator developed by NUMEC. He added that ISORAD never accomplished anything beyond the experimental stage and experiments were conducted in Israel for the above stated purposes. He added that NUMEC was a totally independent corporation, of which the subject was President until April 17, 1967, when it was acquired by the Atlantic Richfield Corporation. He stated that the subject is a Vice-President of Arco Chemical Company, a division of Atlantic Richfield Corporation.

[redacted] continued that ISORAD had no personnel assigned to duty in the United States and had no building sites in the United States. Certain Israeli persons would have titles in ISORAD and conducted the above stated experiments in Israel.

b6
b7C
b7D

[redacted] went on to say that the subject was very friendly with Israeli Scientific Attachés at the Israeli Embassy in Washington, D. C., both professionally and on a social basis. He did not recall

~~SECRET~~

X

~~SECRET~~

PG 97-123

the names of any of the Israeli personnel with whom the subject was in association.

On November 22, 1968, DALE NIELSEN, Lawrence Radiation Laboratory (LRL), Livermore, California, advised that about three years earlier, he had partial responsibility for a project in the Special Materials Group (SMG) involving a research and development contract with SHAPIRO's firm, NUMEC, for the processing of nuclear material. SHAPIRO and his firm had been a source of concern to NIELSEN because LRL furnished NUMEC special nuclear material for processing and the firm had been unable to satisfactorily account for quantities of such material. NIELSEN noted that accountability is strict because of the cost, and toxicity of this substance. Past experience with processes of the type conducted by NUMEC had established average percentages of loss to be expected, but the firm rather consistently reported losses in excess of these criteria.

On January 17, 1969, [redacted] SMG, LRL, advised that for a period of about two and one-half years beginning four years earlier, he had been directly involved with the contract between LRL and NUMEC under which the firm processed nuclear material. During this time, he had occasion to meet with SHAPIRO at LRL on two or three occasions and met him at his company on a number of occasions.

Certain aspects of the performance of NUMEC under the contract had been unsatisfactory, particularly in the area of health standards expected of the firm in handling toxic materials, regarding routine handling and safeguarding of classified information furnished the company and regarding unexplained loss of nuclear material.

Under the contract, NUMEC was furnished highly sensitive information in the secret classification concerning operations at LRL. [redacted] had no reason to think that such information had ever been compromised in any manner through the actions of anyone in the firm. He did note, however, that security procedures in handling such information had been unsatisfactory and felt this would enhance the possibility of inadvertent compromise.

- 29 -

~~SECRET~~

~~SECRET~~

b6
b7c

~~SECRET~~

X

PG 97-123

V. CONTACT WITH ISRAELI OFFICIALS

(S) U

Meeting At SHAPIRO
Residence November 3, 1968

(S) (U)

(U) PG T-3 advised on November 3, 1968, that a meeting was held at SHAPIRO's home, Pittsburgh, Pa., on that date, which was attended by Dr. AVRAHAM HERMONI, Israeli Scientific Counselor, Washington, D. C., and persons named below. PG T-3 advised that among other things discussed at this meeting, it was brought out that Israel needs information regarding image intensifier tubes; information concerning the over-all field of reliability and failure rates of certain manufactured products including the training of personnel in this field; information concerning the training of personnel in the operation of pressurized water reactors, including the placement of such personnel in a training program in the Westinghouse Electric Corporation (WEC) at Pittsburgh, Pa.

(S) (U)

(U) In addition to the items mentioned above, PG T-3 advised on November 8 and 9, 1968, that HERMONI was also interested in a personnel detection device manufactured by WEC. According to this source, SHAPIRO also indicated on November 8, 1968, that Israel is also seeking information regarding water poisoning, especially how bacteriological or radiological poison would effect specific chemicals in a water system. PG T-3 was not able to furnish any additional data regarding specific items mentioned by HERMONI and others at the meeting but SHAPIRO, according to this source, indicated each person at the meeting was given a specific assignment to obtain information needed by Israel and should furnish the information to HERMONI either orally or in writing. SHAPIRO also expressed the hope that persons at the meeting who were given assignments by HERMONI will be patient and productive as HERMONI is probing in many fields and Israel needs the information on an urgent basis.

(S) (U)

~~SECRET~~

X

177

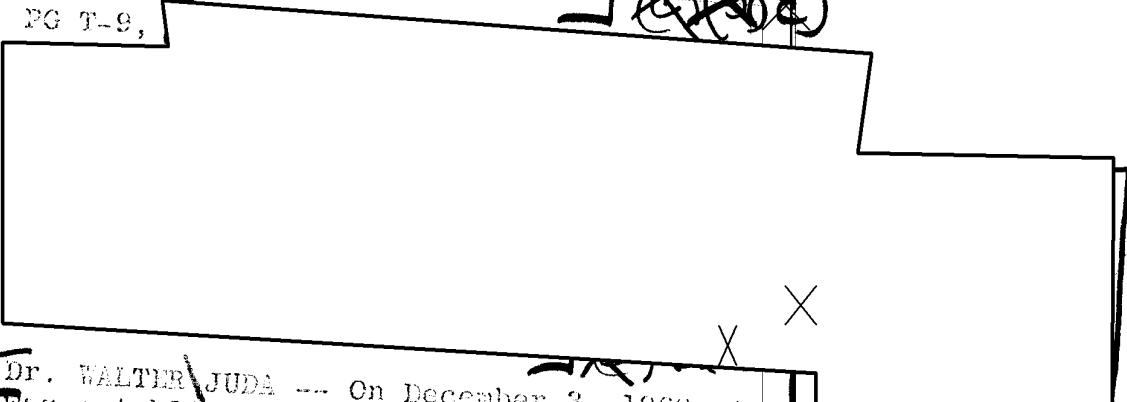
~~SECRET~~

PG 97-122



PG T-3 advised on [November 3, 1968, that the following persons attended the meeting at SHAPIRO's home on that date, and during the morning of November 3, 1968, Special Agents of the FBI observed these individuals enter SHAPIRO's residence at Pittsburgh, Pa. Background data concerning these individuals was obtained, in part, from "American Men of Science - a Biographical Directory," (1967 Edition) which will be referred to as AMS.

PG T-9,



(C)

b1

(C)

Dr. WALTER JUDA -- On December 3, 1968, it was established that WALTER JUDA is President of the Prototech Division, Bolt, Beranek, and Newman, Inc., 50 Moulton Street, Cambridge, Mass. He was born [redacted] at [redacted] Germany and became a United States citizen on [redacted]. He currently resides at [redacted] Lexington, Mass., is married and has four children. AMS indicates JUDA was a lecturer at Harvard University, was a Consultant at the Oak Ridge National Laboratory 1950-54. The Prototech Division, mentioned above, is engaged in chemical research, their main area of interest being fuel cells and air pollution, does not have classified contracts. It is noted PG T-3 advised on [November 3, 1968, that JUDA would stay at SHAPIRO's residence over night and visit NUMS on November 4, 1968.

b6
b7C

(U)

(U)

~~(S)~~

~~SECRET~~



197

~~SECRET~~

PG 57-123

X

Dr. BENJAMIN F. MILLER -- On October 30, 1968, records of the Personnel Office, University of Pennsylvania, Philadelphia, Pa., reflected that Dr. BENJAMIN F. MILLER is an Associate Professor in Surgical Research at the school. According to these records he was born September 10, 1907 at Fitchburg, Mass., and currently resides at Philadelphia, Pa. He is married to JUDITH WINTERSTEIN MILLER and they have four children. MILLER attended Harvard Medical School receiving an MD Cum Laude in 1933. He has been employed in various clinics and hospitals in New York, Chicago, Washington, D. C., Cambridge, Mass., and Cincinnati, Ohio.

(U)

JOSEPH LEMPERT -- AUS reflects that LEMPERT was born July 3, 1913, at North Adams, Mass.; was educated at Massachusetts Institute of Technology (BS) and Stevens Institute (MS); is married and has three children; and lives at 140 Spring Grove Road, Pittsburgh, Pa. LEMPERT has been employed at WEC since 1936 in various capacities at different WEC installations; he is presently employed at WEC Research and Development Center; that his special fields include x-rays, electronic beams, electronic welding and x-ray image intensification. PG T-5 advised on January 21, 1969, that LEMPERT received a Department of Defense (DOD) "Secret" clearance through Defense Internal Security Clearance Office, (DISCO), Columbus, Ohio, on November 19, 1938.

(U)

(U)

(U)

[redacted] -- AUS indicates [redacted] was born [redacted] at Vienna, Austria; obtained a PhD degree in Chemistry in 1948 from John Hopkins University. Pittsburgh Credit Bureau records reflect [redacted] resides at [redacted]

(U)

b6
b7C

~~SECRET~~

X

97

~~SECRET~~

PG 97-123

X

(U) [redacted] Pittsburgh, Pa., with his [redacted] that he has been a Professor of Chemistry at the University of Pittsburgh since 1964; that he was employed at the Aberdeen Proving Grounds, Maryland in the past. While at Aberdeen he was Supervisory Chemist and Chief of the Physical Chemistry Section. (S) (C) (U)

b6
b7C

(U) [redacted] was born [redacted] at [redacted] Pa.; obtained BS, MS and D of Science Degrees from Carnegie Institute of Technology (now Carnegie-Mellon University), Pittsburgh, Pa. He has been employed at the University of Pittsburgh since 1965 and is Chairman of the Department of Metallurgy and Materials Engineering at that school. Prior to coming to the University of Pittsburgh he was employed in various capacities in the Office of Naval Research at Washington, D. C. Pittsburgh credit records reflect he lives with his [redacted] and family at [redacted] Pittsburgh, Pa. (S) (C) (U)

(U) [handwritten marks]

(U) [redacted] was born [redacted] at Harrisburg, Pa.; obtained MA and PhD Degrees from Columbia University in Physical Chemistry. He has been employed at the University of Pittsburgh since 1953 in the Chemistry Department and is a full Professor at that school at present. He was employed by the AEC as a Fellow and Associate in Chicago 1948-53. Pittsburgh credit records reflect [redacted] lives with his [redacted] at [redacted] Pittsburgh. Records of the U. S. Department of State, Passport Office, Washington, D. C., as checked January 15, 1968, revealed that [redacted] in 1962 had a Research Fellowship at Technion, Haifa, Israel, which would require an eleven month stay by [redacted] in that country. (S) (C) (U)

~~SECRET~~

X

(97)

~~SECRET~~

PG 97-123

X

b6
b7c

[redacted] was born [redacted] AMS indicates [redacted] obtained the degree (Physics) from Massachusetts Institute of Technology in 1949. He has been employed at Cornell University, Ithaca, New York since 1949 in Engineering Physics and is now a full Professor at that school. In 1962-63 he was visiting Professor, Hebrew University, Israel. He is married and has three children. (S) (C)

(U)

[redacted] was born [redacted] at Brooklyn, New York, attended CCNY (BS), Duke University (MS and PhD), all degrees in Chemistry. He has been employed at Cornell University since 1947 and is now a full Professor of Chemistry at that school. In connection with his field of Chemistry, [redacted] has been to Denmark, Israel and Australia. He was a consultant to the Brookhaven National Laboratory, 1950-56. He resides at Ithaca, New York. (S) (C)

(U)

[redacted] -- This individual was observed by Special Agents of the FBI deplaning from TWA Flight 197 from LaGuardia Airport, New York City, at the Greater Pittsburgh Airport, on November 3, 1968, at 10:20 AM. He was observed in the company of Dr. AVRAHAM [redacted] BENJAMIN F. MILLER and [redacted] subject's wife, at [redacted] residence. [redacted] entered with the above named persons at 11:05 AM, November 3, 1968. (S) (C)

(U)

[redacted] In addition to the above mentioned individuals who attended the meeting on November 3, 1968 it is pointed out that PG 9-3 has advised that [redacted] were invited but were unable to attend. (S) (C)

(U)

[redacted] Pittsburgh Credit Bureau records reflect [redacted] resides with his [redacted] at [redacted] Pittsburgh, and is employed as a chemist at Carnegie-Mellon University, Pittsburgh, in Industrial Research. AMS indicates [redacted] was born [redacted] at [redacted] Ga., and obtained a BS and MA from Columbia University, New York City. He was also a visiting Professor at the Israel Institute of Technology during 1961 and 1962. (S) (C)

(U)

[redacted] (S) (C)

~~SECRET~~

X

197

~~SECRET~~

X

PG 97-123

b6
b7c

Dr. JACOB E. GOLDMAN -- According to press releases prepared by the Ford Motor Company, Detroit, Mich., GOLDMAN was Director of the Scientific Laboratory for the Ford Motor Company, entering on duty with that firm in 1955. He was born [redacted] New York; obtained degrees from Yeshiva University (BS) and University of Pennsylvania (MS and PhD); he was employed at WEC, University of Pittsburgh and Carnegie Institute of Technology. He was a Consultant to the U. S. AEC; he was invited to the USSR by the Soviet Academy of Science in 1960 as part of a United States Department of State sponsored program. (S)(X)(C)U

(U) [Others who attended the meeting at SHAPIRO's home on November 3, 1968, who were not among the original invitees, were the following, according to PG T-3. These persons were not observed by FBI Special Agents: (S)(X)(C)U

[redacted] -- AMS indicates [redacted] was born [redacted] Germany, obtained his degrees in Electrical Engineering from Cornell University in 1944 and obtained a PhD in Physics from the same school in 1953. He has worked at WEC since 1952, now holding the post of Advisory Physicist. Pittsburgh Credit Bureau records reflect [redacted] lives with his [redacted] at [redacted] Pittsburgh. Passport records, Washington, D. C., as checked January 14, 1969, reflect that [redacted] intended to travel to Israel, France and England in 1963 when he received his passport. These records also indicate that [redacted] was naturalized a United States citizen at Ithaca, New York, [redacted] PG T-5 advised on January 21, 1969, that [redacted] received a DOD "Secret" clearance through DISCO, Columbus, Ohio, January 13, 1956. (S)(X)(C)U

(U) [redacted] AMS indicates [redacted] was born [redacted] Germany, obtained B of S Degree from Pratt Institute, New York City, 1951, MS Degree 1956 from NYU. [redacted] has been employed at WEC since 1958 and is presently General Manager, Pressurized Water Reactor Plant Division, Atomic Power Division, WEC. (S)(X)(C)U

~~SECRET~~

X

197

X

PG 97-123

b6
b7c

(U) Pittsburgh credit records reflect [redacted] lives with his [redacted] at [redacted] Pittsburgh, Pa. It is noted [redacted] was consulted regarding pressurized water reactors and the training of personnel to operate them in conjunction with this meeting. ~~(S)~~

(U) [redacted] With regard to this meeting, it is also pointed out SHAPIRO, according to PG T-3, [redacted] discussed the water poisoning information with ELIJAH A. SHAPIRO, on November 5, 1968. ~~(S)~~

(U) [redacted] AMS indicates [redacted] was born [redacted] Colo.; obtained an AB Degree from John Hopkins (1941), Master of Engineering University of California (1949). He was visiting Professor at the Israel Institute of Technology 1965-66. The 1967-68 University of Pittsburgh Faculty and Staff Directory reflects [redacted] is Professor of Environmental Health, Department of Public Health Practice, Graduate School of Public Health, University of Pittsburgh. Pittsburgh credit records reflect [redacted] resides at [redacted] Pittsburgh, with his [redacted] that he formerly resided, year not indicated, at [redacted] Haifa, Israel. ~~(S)~~

(U) [Contact With Colonel AVRAHAM EYLONIE] ~~(S)~~

(U) PG T-3 advised [redacted] on October 10, 1968, that SHAPIRO discussed with one EYLONIE (phonetic) that EYLONIE planned to leave the United States from New York City to return to Israel on October 12, 1968. EYLONIE and SHAPIRO, according to this source, discussed the impending sale of United States jet fighter planes to Israel and EYLONIE appeared optimistic, believing the deal would go through. SHAPIRO thought the United States would hold the planes as a bargaining tool in the Israeli-Arab negotiations, and he was not optimistic about Israel's chances of getting the planes. SHAPIRO, according to this source, said he would like to celebrate ~~(S)~~

X

X

PG 97-123

(U) the fact that Israel obtained the planes when and if they do. ~~(S)~~ ~~(S)~~

(U) According to PG T-3, [SHAPIRO pointed out to ELONIE that he was working on certain problems regarding unnamed materials of interest to Israel. In connection with these materials, SHAPIRO related he had written to the United States AEC for general information regarding availability of materials for domestic and foreign uses. Source indicated SHAPIRO said he requested speedy action on his letter as sales and developmental matters depended on the AEC's reply.] ~~(S)~~ ~~(S)~~

(U) [SHAPIRO indicated, source advised, he would be in contact with ELONIE in Israel when he visits that country in November or December, 1968.] ~~(S)~~ ~~(S)~~
(U) According to PG-3, [SHAPIRO indicated he had discussed the whole matter with AVRAHAM HERSHKOWI and EMBATH BIEGNER and they are also anxious to move ahead in these matters.] ~~(S)~~ ~~(S)~~

PG T-9, [redacted]

(C) (S) [redacted] b1
[redacted] According to PG T-9, [redacted] PG T-9 (C)
[redacted] (S)

(C) [redacted] it is pointed out AEC, Washington, D. C., made available a copy of SHAPIRO's letter to that agency. SHAPIRO's letter dated October 8, 1968, generally, made inquiry regarding availability, handling, shipping and uses of Plutonium 238 (Pu 238). His letter also specifically asked for information regarding microwatt and milliwatt thermo-electric generators powered by Pu 238 and the sale of ~~(S)~~ ~~(S)~~ ~~(U)~~

X

~~SECRET~~

Y

PG 37-123

these items to foreign and domestic customers. ~~(S)~~ ~~(S)~~ (u)

AEC Chairman Dr. GOVNN T. SEABORG, by letter dated November 20, 1968, advised SHAPIRO that Pu 238 can be used for foreign and domestic applications; that criticality of Pu 238 is the determining factor in the use of that material in generators and other uses; that licensing by the AEC would dictate what producers would use Pu 238 in certain products for either foreign and domestic users. ~~(S)~~ ~~(S)~~ (u)

(U) [On February 16, 1969, PG T-3 advised that subject's wife, [redacted] contacted AVRAHAM HERMONI on that date to advise that subject would be unable to meet with HERMONI as planned. [redacted] explained to HERMONI that a personal emergency had arisen, and that subject would contact HERMONI and reschedule the meeting for a later date. ~~(S)~~ ~~(S)~~ (u)

(U) PG T-3 advised on February 16, 1969, that SHAPIRO cancelled his appointment with HERMONI because [redacted] was in difficulty. ~~(S)~~ ~~(S)~~ (u) b6 b7c

(U) PG T-3 related [redacted] SHAPIRO according to PG T-3, has contacted [redacted] ~~(S)~~ ~~(S)~~ (u)

~~SECRET~~

X

~~SECRET~~

PG 97-123

(U) [Dinner at Israeli Embassy, Washington, D.C.] ~~(S)~~

(U) PG T-3 advised on November 8, 1968, that SHAPIRO indicated that he and his wife, [redacted] would attend a dinner at the Israeli Embassy, Washington, D.C., on November 26, 1968. SHAPIRO related he had received a written invitation from the Israeli Ambassador to the United States, YATZHAK RUBIN, the dinner being held to honor the Israeli Defense Minister. ~~(S)~~

(U) [SHAPIRO] according to PG T-3, [redacted] would be able to discuss with the Defense Minister the matter of image intensifier tubes and the exact nature of Israeli problems in that field. ~~(S)~~

Miscellaneous Contacts

(U) PG T-3 advised on October 6, 1968, that subject told his sister, Mrs. ALMA (SILBERMAN) COHEN, who was preparing to visit Israel October 10, 1968, that she should contact [redacted] (phonetic) while she is in that country and extend his greetings to [redacted] SHAPIRO pointed out to his sister that she would find [redacted] interesting and extraordinary. SHAPIRO also advised his sister to be sure and get in touch with [redacted] (phonetic), a native of Argentina presently in Israel, who is also very interesting. ~~(S)~~

b6
b7c

(S) PG T-9 [redacted]

[redacted] ~~(S)~~ (C)

b1

~~SECRET~~

X

~~SECRET~~

X

PG 97-125

On September 6, 1968, [redacted] Security Office, AEC, Germantown, Maryland, advised that AEC, New York, had recently been requested by the following individuals to visit NUMEC, Apollis, Pa. (S)(u)

b6
b7c

AVRAHAM HERMONI,
Scientific Counselor,
Israeli Embassy,
Washington, D.C.

Dr. EPHRAIM BIEGUN,
Department of Electronics,
Israel
born - [redacted] London 1/15/1911

AVRAHAM BENDOR,
Department of Electronics,
Israel
born - [redacted] Israel

RAPHAELE BITAN,
Chemist,
Ministry of Defense,
Israel,
born - [redacted] Israel

Per DOE letter
7-29-82

(S)(u)

(U) On September 6, 1968, CLEM PALAZZOLO, supra, advised that NUMEC Security Manager indicated that HERMONI and BIEGUN would visit NUMEC to discuss with SHAPIRO thermoelectric devices; the proposed date of visit to be September 10, 1968. (S)(u)

(U) On October 7, 1968, PALAZZOLO advised that HERMONI, BENDOR, BITAN and BIEGUN, Israeli citizens, visited NUMEC September 10, 1968. (S)(u)

~~SECRET~~

~~CONFIDENTIAL~~

~~SECRET~~

PG 97-123

X

(S) [redacted] PG T-9 [redacted]

(S) [redacted]

[redacted] advised that [redacted] (S) [redacted]

(S) [redacted]

b1

(C)

(U) PG T-3 advised, on December 15, 1968, that on that date subject was in contact with individuals in the Pittsburgh area concerning his visit to Israel which began November 28, 1968, and ended December 12, 1968. According to PG T-3 [subject informed JOSEPH SWARTZ, an attorney and long-time personal friend and business associate, that in addition to appointments with Israeli people, he attempted to conduct some NUMEC and ISORAD business. Subject indicated he had discussed several business opportunities with people in Israel.]

(U) According to PG T-3, SHAPIRO also discussed his recent trip to Israel on December 15, 1968, with OSCAR GRAY, an attorney from Washington, D.C., and Vice President of NUMEC. According to this source, SHAPIRO indicated his two-week visit to Israel was hectic but it was also fruitful in that he gained a better understanding of the current political situation in Israel and in addition, was furnished information concerning several business opportunities of mutual benefit to Israel and himself. Source indicated SHAPIRO believes Israeli officials are disorganized and discouraged; that they are skeptical about receiving jet fighters from the United States; that WILLIAM SCRANTON's visit for President-Elect NIXON did not hold the authority to make any final decisions on the Middle East.

~~SECRET~~

X

~~SECRET~~

PG 97-123

X

(U) PG T-3 [related that SHAPIRO pointed out to GRAY that Israel's immediate need is financial and at this stage the government appears to be unable to trust anyone. It was the subject's opinion that Israel is capable of building fighter planes but their lack of knowledge in the new technologies prevent them from going ahead in this field.] (S)(C)

(U) [SHAPIRO, according to PG T-3, pointed out to GRAY that one business proposition was of interest to him in particular. He said it involved building a testing laboratory in Israel and the Israeli Government is willing to guarantee two million five hundred thousand dollars if five hundred thousand dollars can be raised by the subject. Subject indicated he is interested in attempting to raise that last-named amount. Subject also mentioned to GRAY that the Israeli Government is interested in starting an aluminum extrusion facility, but this would take a two million dollar investment. SHAPIRO said this is a sound investment inasmuch as an investor could get ownership of half of the extrusion plant for two million dollars.] (S)(C)

(U) PG T-3 said subject also discussed other business opportunities, including a complete aluminum industry, nuclear centers, drilling techniques for use with diamonds. Subject indicated, however, that the most attractive deal appeared to be the Laboratory, and he was going to pursue this matter further.] (S)(C)

(U) OSCAR SMALON GRAY, a Yale University graduate, when filing a DSO in connection with a government inquiry in 1959, indicated that he was on the mailing list of the Progressive Citizens of America, Student Group, formerly known as the Independent Citizens Committee (S)

~~SECRET~~

X

~~SECRET~~

PG 97-123

of the Arts, Sciences and Professions, (ICCASP) in 1944. GRAY also indicated he was formerly associated with the New Haven Civil Liberties Association (NHCLA) which was headed by Yale Professor THOMAS I. EMERSON. (S) (u)

In 1954, GRAY listed one Professor [redacted] Yale University, New Haven, Connecticut, as a reference in connection with an application for government employment. (S) (u)

It is noted in the House-Committee on Un-American Activities Book (HCUA), dated December 1, 1961, the ICCASP was cited by that Committee as a Communist Front. (S) (u)

b6
b7c

Professor [redacted] was identified in 1950 by LOUIS SUBERSZ, former Managing Editor, "Daily Worker," east coast communist newspaper, as a concealed CP member.

Professor [redacted] Yale University, was named as a member of several organizations which have been cited by the HCUA or the Attorney General, in accordance with Executive Order 10450, as Communist fronts, such as, to name a few, Emergency Civil Liberties Committee; American Committee for Protection of Foreign Born; National Lawyers Guild; Communist "Peace Petition" Campaign. According to HCUA publication cited above, [redacted] also active in various CP causes and activities beginning in 1953.

- 43 -

~~SECRET~~

~~SECRET~~

X

PG 97-123

PG T-3 advised on December 15, 1968, that on that date, subject, while in contact with [redacted] a NUMEC employee, indicated that his trip to Israel gave him the opportunity to get some overdue rest. SHAPIRO pointed out to [redacted] he had no close calls while in Israel. Subject pointed out to [redacted] according to PG T-3, that as long as the Russians remain in the Middle East, they provide an apron behind which the Arabs can hide and that nothing is going to prevent the Arabs from their continued sneak-attacks on Israel. It was the subject's opinion that the Arab nations do not intend to negotiate for peace because the Russians prefer to keep that area of the world in turmoil. Subject said that he learned in Israel that Arab guerrillas have been trained in Jordan by North-Vietnamese and Chinese.

b6
b7C

(U) PG T-3 advised on December 21, 1968, that SHAPIRO's wife, [redacted] requested [redacted] wife of JOSEPH SWARTZ, mentioned above, to carry a package on her trip to Israel and deliver this item to [redacted] (phonetic) who is connected with Israeli Atomic Energy Commission.

(C)

[redacted] PG T-9. [redacted]

[redacted]

b1

On September 25, 1968, PG T-8 advised that on June 16, 1968, [redacted]

(C)

[redacted]

~~SECRET~~

X

~~SECRET~~

X

PG 97-123

(C)



b1

[On April 26, 1960, PG T-10, another Government agency which conducts security investigations, advised that on April 4, 1960, [redacted] Senior Metallurgist, WEC, Pittsburgh, was contacted regarding subject. [redacted] pointed out that he was formerly the subject's Superior at WEC prior to the time SHAPIRO founded NOMEK. He pointed out that SHAPIRO had done quite an extensive amount of traveling abroad in connection with his work for the United States AEC while at WEC and has also traveled considerably in his present position. He said that SHAPIRO has foreign connections, including Israel, and he recalled that SHAPIRO had been an officer in the organization known as Technion, which is a group supporting the University of Israel. He said he also knew that SHAPIRO was a member of a Zionist organization, exact name not recalled.]

(S) (4)
KEM/

b6
b7c

~~SECRET~~

X

~~SECRET~~

PG 97-125

(U) VI. COMMENTS REGARDING SHAPIRO'S MIGRATION TO ISRAEL

PG T-3 advised on October 6, 1968, that SHAPIRO's sister, Mrs. ALEX (ZIPPORAH) SCHWARTZ, while discussing her then impending trip to Israel, asked SHAPIRO where his property in Israel is located. According to PG T-3, SHAPIRO did not reply to the query.

PG T-3 advised on October 16, 1968, that SHAPIRO told JACK GOLDMAN, then Vice President of Ford Motor Company, Detroit, Michigan, that he had given some consideration to resettling in Israel on a permanent basis. GOLDMAN, who left Ford to become Group Vice President of Research and Development for the Xerox Corporation, Rochester, New York, also indicated he had given this matter some thought in the past. According to source, GOLDMAN and SHAPIRO agreed that with the situation as it is in the United States, what with GEORGE C. WALLACE running for President, and the general unrest in the country, conditions here were similar to those in Germany in the 1930's.

Both also expressed the belief that if fighting became necessary, they would prefer to fight in Israel where a just cause existed, source advised.

On October 26, 1968, PG T-3 advised that SHAPIRO indicated he learned of an interesting business opportunity in Israel. He said Allied Chemical Corporation (ACC), is building a chemical facility between Dimona and Arad near the Dead Sea, and ACC has encountered labor troubles; and as a result, construction has been very slow. According to source, SHAPIRO, who believes ACC may want to get out of the job, said that since Israel needs chemical facilities, the Israeli Government is offering very generous terms both as to financing and ownership of the plant. SHAPIRO indicated he believed he could raise the necessary money, and he would head a syndicate which would operate the plant.

PG T-3 also related that SHAPIRO said the main product of the facility, if it is constructed, would be 60-100 tons of uranium annually with other main products including boric acid.

~~SECRET~~

197

~~SECRET~~

PG 97-123

(U) ~~itrium oxide and hydrobromic acid. SHAPIRO said he would contact one [redacted] (phonetic), an acquaintance who has been with ACC for several years, and who will be in Israel at the same time as SHAPIRO in late 1968. (X) (S) (C)~~

(U) ~~On December 9, 1968, it was established that [redacted] is the Chief Engineer, Specialty Chemicals Division, ACC. He resides at [redacted] New Jersey, and has been employed by ACC since October, 1949. He has a DOD, "Secret" clearance and an AEC QX clearance. (X) (S) (C)~~

(U) ~~PG T-3 has advised [redacted] that no additional information regarding the ACC deal has been obtained from SHAPIRO. (X) (S) (C)~~

(U) ~~PG T-3 advised on November 8, 1968, that SHAPIRO, while discussing the possibility of living in Israel permanently, was advised by [redacted] that he is of more value to Israel if he continues to reside in the United States where Israel's problems can be more readily resolved. (X) (S) (C)~~

(U) ~~[redacted] On November 8, 1968, PG T-3 advised [redacted] that on that date SHAPIRO's sister, Mrs. SCHEFFIN, mentioned above, remarked that her recent vacation in Israel was "fantastic," due to her relationship to the subject. She related that everyone in Israel knows ZALMAN SHAPIRO. (X) (S) (C)~~

(U) ~~PG T-3 advised on December 15, 1968, that on that date SHAPIRO indicated to JOSEPH SWARTZ, attorney and personal friend, that he is seriously considering the possibility of settling in Israel within the next five years. He made this comment, according to PG T-3, as a result of his recent trip to that country, having returned from Israel on December 12, 1968. With regard to this move, SHAPIRO indicated he is not positive of the type of work he would pursue should he migrate to Israel. Source indicated that SHAPIRO said he had discussed several business opportunities with people in Israel, but he had reached no conclusion in this regard. (X) (S) (C)~~

~~SECRET~~

X

PG 97-123

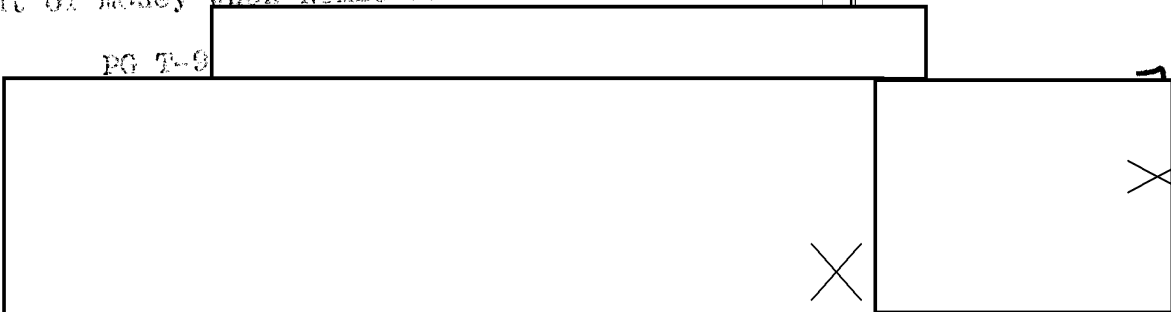
VII. MISCELLANEOUS

(u) (S) [PG T-7] advised on June 5, 1968, that DAVID LOWENTHAL is a long-time personal friend of SHAPIRO. According to [PG T-7] LOWENTHAL is President of Raychord Corporation, which has its facility immediately adjacent to NUMEC at Apollo, Pa. This source has pointed out that Raychord Corporation, a steel fabricating firm, occupied the same building with NUMEC prior to the time NUMEC moved to its new location on the outskirts of Apollo. This source also pointed out that LOWENTHAL is also an officer of Apollo Industries, and this company was instrumental in establishing NUMEC through the investment of a substantial amount of money when NUMEC was formed.

PG T-9

b1

(S)



(C)

(u) (S) [PG T-7] in addition to the information furnished above, has advised that LOWENTHAL has traveled to Israel frequently during the period [PG T-7] has been acquainted with him, which is over three years. Same source has pointed out that LOWENTHAL has been active in the United Jewish Appeal (UJA), and is one of its principal officers in the United States.

(U) PG T-3 advised on [October 31, 1968, that LOWENTHAL tried but was unable to get in touch with SHAPIRO. Reason for this attempted contact was unknown to the source.]

Records of the United States Department of State, Passport Division, Washington, D. C., as reviewed August 1, 1968, indicated that LOWENTHAL visited Israel in 1965, 1969, and 1966. In 1966, when applying for his passport, LOWENTHAL indicated he would attend the World Zionist Congress in Israel for one month. In 1966, LOWENTHAL indicated he would be traveling in Italy, France and Israel on a UJA Study Mission.

X

~~SECRET~~

PG 97-123

X

Passport records mentioned above also reflect that LOWENTHAL was born September 14, 1921, in Dobroszil, Poland; home address - 5721 Bartlett Street, Pittsburgh, Pa., [redacted] born in [redacted] that his parents were both born in Poland.

b6
b7C

Records of the Immigration and Naturalization Service, Washington, D. C., as checked July 31, 1968, reflect LOWENTHAL was awarded derivative citizenship on August 2, 1936, on the basis of his father's naturalization.

(u) ~~(S)~~ PG T-7 advised on July 3, 1968, and January 13, 1969, that a few days prior to those two dates LOWENTHAL left Pittsburgh enroute Europe and Israel. Source did not know the purpose for these two visits to Israel.

PG T-4 advised on [redacted]

b1

(S)

[redacted]

~~(S)~~ PG T-4

[redacted]

(S)

[redacted] PG T-4 [redacted]

(S)

[redacted]

On February 7, 1948, ZALMAN MORDECAI SHAPIRO executed a Personnel Security Questionnaire for the AEC on which he indicated that he was a member of the Independent Citizens Committee of the Arts, Sciences and Professions in 1946-1947.

The ICCASP characterized above.

(u) ~~(S)~~ [In September, 1946, PG T-11] observed a list of names ~~(S)~~

~~SECRET~~

X

~~SECRET~~

X

PG 97-123

(u) ~~(S)~~ at Communist Party Headquarters headed, "Contact List." The name, Z. SHAPIRO, 951 Brooks Lane, appeared on this list. PG T-11 advised that he did not know the significance of this list. ~~(S)~~

It is noted that subject indicated on his P30, executed on February 7, 1949, that he resided in Apartment 3-F, 951 Brooks Lane, Baltimore, Md., from 1945 to 1949.

(u) ~~(S)~~ [In September, 1947, PG T-12] advised that the subject and his wife desired to become active in the ward clubs of the Progressive Citizens of America (PCA). [According to PG T-12, #104] the PCA in Baltimore, MD., was dominated and controlled by the Communist Party, USA. ~~(S)~~

X

~~SECRET~~

~~SECRET~~

VIII. PHYSICAL DESCRIPTION

(u) ~~(S)~~ The following description of subject was obtained from PG T-1, PG T-3 and through observation of subject by Special Agents of the FBI in 1948: ~~(S)~~

Name	ZALMAN MORDECAI SHAPIRO
Sex	Male
Race	White
Date of Birth	[Redacted]
Place of Birth	[Redacted] Ohio
Height	5'9"
Weight	170 pounds
Build	Slender
Eyes	Brown
Hair	Brown, graying at temples but recently dyed brown
Complexion	Medium
Scars and Marks	None Known
Characteristics	Wears dark horn rimmed glasses
Peculiarities	Long thin nose, erect posture, due to dyed hair appears younger than age
Residence	[Redacted] Pittsburgh 17, Pa.
Marital Status	Married
Wife	[Redacted] date of birth [Redacted] Baltimore, Maryland, housewife resides [Redacted] Pittsburgh 17, Pa.
Known Relatives	[Redacted]

X

[Handwritten scribbles and signatures on the right margin]

b6
b7C

~~SECRET~~

X

~~SECRET~~

PG 87-123



Father - ABRAHAM SHAPIRO,
deceased
 Mother - MINNIE SHAPIRO,
deceased.
 Sister - ZIEBORA SCHEFFIN,
born 1916, Passaic, New Jersey,
resides 235 Lexington Avenue,
Passaic, N. J.
 First cousin of wife:
 [redacted], resides Jaffa,
 Israel
 [redacted] resides
 Tel Aviv, Israel
 [redacted] Tel Aviv,
 Israel

b6
b7c

Education

Graduated 1948, John Hopkins University, Baltimore, Maryland

Degrees

BA 1942
MA 1945
Ph.D. 1948

Employment

Since February, 1957, President, Nuclear Materials and Equipment Corporation, Apollo, Pa., a subsidiary of Atlantic Richfield Company of Philadelphia, Pa., since 1967

Social Security Number

[redacted]

Arrest Record

None Known

Drivers License Number

1966056 - Pennsylvania

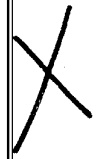
Photograph

Available

Organization Membership

American Chemical Society,
American Association for the Advancement of Science,
American Technion Society, 6326 Forbes Street, Pittsburgh, Pa. - Full member support of Engineering School,

~~SECRET~~



~~SECRET~~

X

PG 97-123

Zionist Organization of America,
Pittsburgh, Pa. B. F. Jones
Building Annex,
American Society for Metals,
American Electrochemical Society,
American Nuclear Society

Automobiles

1968 Ford Sedan, Registration
Number 22171H, Pennsylvania
1969 Buick Sedan, Registration
Number 22170H, Pennsylvania

- 35 -

~~SECRET~~

X

(U)

IX. INDEX

X

b6
b7c

(C)	[REDACTED]	.....	22	
	[REDACTED]	.....	23	
	BENDER, ABRAHAM.....		37, 40, 41	
	BERGMANN, DORRIST.....		39	(C)
	BIEGEL, ABRAHAM.....		37, 40, 41	(C)
	[REDACTED]	.....	42	
	[REDACTED]	.....	43	
(C)	[REDACTED]	.....	23	
	[REDACTED]	.....	40, 41	(C)
	EMERSON, THOMAS I.....		43	
(C)	[REDACTED]	.....	14, 15, 16, 19, 22	(C)
	EYLONIE, ABRAHAM.....		36, 37	(C)
	PARK, LEON, JR.....		8, 13	
	PONDZILAK, WILLIAM.....		6	
	PORSCHER, FREDERICK.....		8, 9, 13	
	[REDACTED]	.....	43	
(C)	GOLDMAN, DR. JACOB E.].....		34, 35, 46	(C)
	GRAY, OSCAR S.....		9, 11, 41, 42, 43	
	[REDACTED]	.....	52	
	[REDACTED]	.....	43	
	[REDACTED]	.....	29	
	HEIMON, DR. ABRAHAM.....		30, 31, 34, 37, 38, 40	(C)
	[REDACTED]	.....	33	
	[REDACTED]	.....	34	(C)
(C)	[REDACTED]	.....	47	
	[REDACTED]	.....	31	(C)
	[REDACTED]	.....	44, 45	
	[REDACTED]	.....	32	(C)
	[REDACTED]	.....	33	(C)

(u)
~~(C)~~
~~(S)~~

X

(U)

~~SECRET - NO FOREIGN DISSEMINATION~~

PG 97-123

(C)	[REDACTED]	44	
	LEMPERT, JOSEPH	32	(S)
	LEVITT, I.F.	8	
	LOWENTHAL, DAVID LUZER	48, 49	
(C)	LUBIN, DRENSI	39	(S)
	[REDACTED]	45	
	[REDACTED]	8	
(S)	MILLER, DR. BENJAMIN F.	32, 34	(S)
	MILLER, JUDITH WINTERSTEIN	32	(S)
	NEWMAN, JACK R.	9, 11	
	NIELSEN, DALE	29	
(C)	[REDACTED]	14, 44	
	[REDACTED]	8, 11	
	[REDACTED]	3	
	[REDACTED]	52	
(C)	NOBLES, PHYLLIS	18	
	[REDACTED]	15, 16	
	ROSEN, BENJAMIN	18	
(C)	[REDACTED]	33	(S)
	[REDACTED]	32	
	[REDACTED]	52	
	RUBIN, YATZHAK	39	(S)
(S)	[REDACTED]	33	(S)
	[REDACTED]	33	
	SCHERFIN, MRS. ALEX (ZYPORAH)	39, 46, 47, 52	
	[REDACTED]	34	(S)
	[REDACTED]	34	
	[REDACTED]	28	
	SHAPIRO, ABRAHAM	3, 52	
(C)	[REDACTED]	47, 38	
	[REDACTED]	39	(S)
	[REDACTED]	51	
(C)	SHAPIRO, EVELYN	12, 13, 34, 39, 44, 51	
	[REDACTED]	51	
(C)	[REDACTED]	37	(S)
	SHAPIRO, HIRSH	52	
	[REDACTED]	34	(S)
	[REDACTED]	36	(S)
	[REDACTED]	35	(S)
	[REDACTED]	35	(S)
	[REDACTED]	35	(S)
	SWARTZ, JOSEPH	41, 41, 47	
	SWARTZ, REVA	44	

b6
b7C

(U)
(S)

~~SECRET~~

~~SECRET - NO FURTHER DISTRIBUTION~~
UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
Pittsburgh, Pennsylvania

X



In Reply, Please Refer to
File No. 97-123

February 10, 1953

Title: DR. ZALMAN MONDSCAL SHAPIRO
(U) Character: [IS - ISRAELI] (C)
ATOMIC ENERGY ACT
Reference: Report of Special Agent
[redacted] dated and
captioned as above, at
Pittsburgh, Pa.

b6
b7c

All sources (except any listed below) whose identities are concealed in referenced communication have furnished reliable information in the past.

This document contains neither recommendations nor conclusions of the FBI. It is the property of the FBI and is loaned to your agency; it and its contents are not to be distributed outside your agency.

- 56 -

~~SECRET - NO FURTHER DISTRIBUTION~~

~~SECRET~~

X 1978
Source B