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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

MAR 4 1961

*Recd 3-7-61
11:45 am.*

Mr. James T. Ramey
Executive Director
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Ramey:

used
In your letter of February 15, 1961, you request a report on the safeguards inspection of the Israeli Research Reactor. This inspection was made on June 9, 1960, by an inspection team consisting of staff members of the Atomic Energy Commission and was conducted pursuant to the safeguards provisions of our Agreement for Cooperation with the Government of Israel.

The Israeli Research Reactor, located at Rehovoth, is a 5 MW(t) pool-type reactor, fueled with 7,304 grams of uranium, enriched to 90% in the U-235 isotope. Both fuel for the reactor and assistance in its construction were obtained from the United States. The inspection consisted of a visual inventory of the fuel elements and certain reactor components containing fissionable material. In addition, an audit was conducted of the material accountability records associated with the facility. From the information obtained with these procedures, the inspection team concluded that Israel's usage of the material and reactor was in accordance with the provisions of the Agreement for Cooperation.

The Atomic Energy Commission considers the information in the foregoing paragraph unclassified. You will find attached a copy of the Israeli inspection report dated July 6, 1960, prepared by the inspection team. Your attention is invited to the fact that the attachment is designated Official Use Only (Limited Distribution). As you will appreciate, the continued effectiveness of our safeguards efforts requires the cooperation of our bilateral partners which, in turn, depends heavily on maintaining the confidential nature of such reports.

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AUTHORITY: DOE-DPC
BY R. E. O'BRIEN, DATE:
9/14/89
208
41/ATTACHMENTS

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Mr. Ramey

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Also attached is the supplemental memorandum (Secret) referred to in the report which contains information discussed by U. S. Embassy officials with the AEC safeguards team at an Embassy meeting in Tel Aviv. Your attention is called to paragraph (b) of this memorandum which refers to unconfirmed reports of joint French-Israeli atomic energy activities in or near Beersheba, Israel. You will recall that Dr. Herbert Scoville, Assistant Director, Office of Scientific Intelligence, Central Intelligence Agency, in discussing this matter before the Joint Committee during its Executive Session of December 9, 1960, noted that the CIA over a period of about six months had had a few rumor type reports relating to Israeli atomic energy activities. The information in the attached memorandum falls in the category of the reports to which Dr. Scoville referred.

Sincerely yours,

A. R. Sueddeke
General Manager

Attachments:

1. Report - Safeguards Inspection
2. Supplemental Memo dtd 6-16-60

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John V. Vinciguerra
Assistant Director for Safeguards, DIA

July 6, 1960

John J. Downing
Acting Chief, Operations Branch, DIA

SAFEGUARDS INSPECTION - ISRAEL

The safeguards inspection of the U.S. built reactor and U.S. supplied fuel was conducted on June 9 by an inspection team of John J. Downing, James H. Herring with John V. Vinciguerra observing.

The U.S. safeguards interest in Israel centers about a 5 MWT pool-type reactor built by AMF and a nuclear material inventory of 7,304 grams of uranium enriched up to 90% in the form of fuel elements (leased), 5 1/2 grams of 90% uranium in the form of fission counters and a 160 grams of plutonium in plutonium beryllium neutron sources. Both counters and sources were sales. There is a total of 5 kgs nominal uranium and 8 kgs thorium transferred under commercial licenses. The source material was not inspected.

After a brief conference in the American Embassy, Tel Aviv with Messrs. John F. Shaw and J. M. Kalum, we proceeded to the reactor station near Rehovoth with Mr. Regberg, Director Administration, Israel AEC. Dr. Israel Pelah, the director of the reactor, was the source of all technical data we requested. Reactor inventory was inspected and consists of 28 standard elements at a nominal 196 grams of U-235, 2 partial elements at 98 grams and 9 control elements at 98 grams. These elements were fabricated at Sylcor, and their transfer was confirmed in New York by J. H. Herring in February 1960. The reactor was not critical at the time of our inspection. Criticality was scheduled for June 15 at which time the reactor will be operating for 2 months at 100 W, the following month 100 KW and full power after a year of reduced operating power. The reactor cycle will be 2 weeks consisting of 10 days operating at 5 MWT with a 4-day shut down. The fuel cycle is estimated at two years. Sylcor has suggested a joint reprocessing program with European users, but no firm decision has been made at this time.

After a tour of the reactor area, we met with Dr. Dostroccky, Director of Israeli Nuclear Center now located at Weizmann Institute but is scheduled to move to the reactor site in the

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Mr. Vinciguerra

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near future. During this conference, Mr. Herring examined IAEA records of U.S. supplied material and found them in agreement with the USAEC. At the present time, the only records for the reactor are kept at the Center and these are based on piece count only. These records reflected the receipt of the fuel elements and sources and also the removal to the reactor of the same quantity. It was suggested to Mr. Regberg that immediately some records should be established for the reactor proper including burn-up and production. Discussions were held as to the particular type record and details were furnished by Mr. Herring. At this meeting, in addition to the USAEC people, there were Dr. Dostrovsky, Dr. Palah, Mr. Regberg and Dr. Steiger of the Technion Institute, Haifa. Dr. Steiger is the custodian of one plutonium beryllium source containing about 80 grams of plutonium. He is responsible to Dr. Dostrovsky. Peaceful use of the reactor was described by Dr. Palah of being entirely for research purposes and training. The first work of the reactor will be conducted by Dr. Palah and studies will be conducted in inelastic scattering. Hot laboratories are under construction and will be able to handle about 100 curies of activity. At this meeting we discussed the frequency of reporting and advised the Israelis that we would make a formal request upon our return to the U.S. (We have since requested quarterly reports.) A classified discussion with the American Embassy, Tel Aviv was separately reported in a memo Downing to Vinciguerra June 11, 1960. It is available upon request in Operations Branch, DIA.

Conclusion

It is the conclusion of the safeguards inspection team that the Israel's usage of U.S. material and reactor is in accordance with safeguards provisions and that the scope of the inspection and access to reports and inventories warrant such a conclusion.

cc: AAWells - MBKratzer
Nelson, Div. of Insp.
BWHenke, DIA
TOJones, DIA

APPROVED:

J. V. Vinciguerra, AD/S

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Meeting American Embassy Tel Aviv

A meeting was held in the American Embassy Tel Aviv Saturday, June 11, 1960. Present were:

From the Embassy:

Murat William - Charge d'Affaires
John F. Shaw - First Secretary and Economic Officer
John L. Bender - Second Secretary - Political Officer
Col. Connel, USAF - Air Attache
James H. Ealum - Third Secretary

From the USAEC:

J. V. Vinciguerra - Assistant Director, DIA
J. J. Downing - Chief, Operations Branch, DIA (Acting)
J. H. Herring - Operations Branch, DIA

Mr. Vinciguerra began the meeting with a statement that the safeguard inspection was complete and everything was in order. He mentioned that the inspection frequency formula called for two inspections per year but that the actual frequency was as yet undecided. Mr. Williams and Mr. Shaw spoke strongly for the application of the maximum called for. The discussion then hinged upon (a) the need of Israel for maximum effect weapons and (b) questions about French nuclear assistance, (c) Israel's capability to become an Nth power. Briefly stated these problems are:

(a) Israel is surrounded by enemy states whose avowed purpose is not only to defeat, but to annihilate her ("drive into the sea" was Bender's phrase). The Arab states regardless of their previous armament, lack of intelligent direction and will to fight are getting stronger. The Embassy considers that Israel is taking all steps to maintain or improve the status quo. Nuclear weapons, either developed by Israel or supplied by France, are the most effective means of self-protection.

[Redacted]

The current reactor presents essentially no risk of material diversion except for the production of isotopes for radiological warfare since (a) fuel elements are visible and can be inspected at any time and (b) 5 MW in theory could produce 5 grams of unseparated plutonium per twenty-four hour day; however, in practice the amount would be much less.

FOIA (b) (3) - 42 USC 2168 (a) (1) (C) - FRD DOE

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(b) There were reports of a joint Israeli-French team doing something in atomic energy in or near Beersheba. The AEC people were asked for any information they might obtain. (The AEC people had heard nothing up to their departure from Israel.) The AEC people promised to take this matter up with the Division of Intelligence upon their return.

(c) As discussed under (a) it was stated that especially with new separations techniques Israel could, in some time, become a nuclear power. It would be difficult, however, in so small a country to keep this effort secret.

The subject of the cablegram regarding support of the U.S. position at Vienna next September came up. Mr. Williams emphasized the Embassy's lack of technical capability and requested some support. He said they were certainly able to present the U.S. views as expressed in the cablegram but would be unable to respond to any Israeli questions of a technical nature.

Note:

(The Embassy has no scientific personnel and in theory calls upon American Embassy New Delhi for support. It is suggested that Rouleau be asked to contact the Tel Aviv Embassy and help out on this and other matters.) Mr. Shaw mentioned a forthcoming conference on exploitation of national resources to be held in the near future at the Weizmann Institute. He requested our support for U.S. representation. The AEC personnel promised, upon receipt of its agenda, to obtain qualified U.S. representation.

John J. Downing
Chief, Operations Branch, DIA
(Acting)

Rome Amembassy 6-16-60

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