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Draft 3/9/67

IAI files:
AC-Dimona

HA

To : NEA - Mr. Rodger P. Davies
From : INR - Thomas L. Hughes
Subject: Nuclear Developments - Israel

Overall Evaluation.

INR can neither prove nor disprove the allegations in Tel Aviv's A-478 concerning Israel's nuclear program EO25X1 CIA that Israel has a chemical separation plant. There is no physical evidence or first-hand observation to support these documents. At the same time, the allegations are plausible and we cannot lightly dismiss them.

Major Allegations.

Embassy Tel Aviv's sources claim that: (1) Israel either has or is about to complete a separation plant, (2) the plant is located at Dimona; and (3) the Dimona reactor has been operated at full capacity. EO25X1 CIA

EO25X1 CIA a separation plant has been established (it does not specify the location) with a capacity of 250 KG per day.

Separation Plant Assessment.

If Israel has, indeed, acquired a separation plant, it would be logical to locate it at Dimona in order to reduce problems of transporting the highly radioactive fuel elements from the Dimona reactor. One of the US scientists who visited Dimona in April 1966 estimated that a small chemical separation plant could be installed there in 12 - 18 months without any new construction visible to external observation. A relatively small plant of this sort could handle perhaps 100 KG per day of spent fuel, sufficient to process material for one or two nuclear bombs a year. A plant which could process 250 KG per day would be much larger and ^{probably} could not be physically concealed within the Dimona complex as it existed in April 1966. Nearly a year ago,

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US inspectors saw no evidence of separation facilities at Dimona; the waste treatment plant they did see was too lightly shielded to process the radioactive effluent from a separation facility. These observations can no longer be relied upon because the Israelis have, in theory at least, had enough time to install separation facilities and to increase the shielding. Only another inspection of Dimona could resolve this issue.

Operation of the Dimona Reactor.

The allegation that the reactor has been operated at full capacity is ambiguous in its technical implications. In broad terms, two possibilities exist: (1) if the reactor were run at full power and the fuel elements were not changed frequently, the resulting plutonium would be degraded. (2) If, however, the reactor were run at full power and the fuel elements were changed frequently, maximum output of weapons grade plutonium would result. This is where the missing 80 tons of uranium concentrate reportedly purchased from Argentina comes in. As long as this is not accounted for, the Israelis at least theoretically have the capability for using the reactor in the second way listed above and a reasonable chance of not having this detected. The Embassy's sources did not volunteer any information on the timing of the fuel element changes, however, so that the information as it now stands tells us only that the reactor has gone up to full capacity whereas last year it had not. The difficulty of evaluating this information is apparent from the fact that the reactor can and has been operated at various power levels, short of full capacity, and that weapons grade plutonium can be extracted at these levels over a period of time. It is, therefore, the possible combination of full

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power operation, frequent fuel element changes, and the employment of the unaccounted-for Argentine concentrate that would point definitively to an Israeli intention to accumulate the maximum amount of weapons grade plutonium as soon as possible.

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Other Points In Question.

We share the Embassy's doubts about Israel's capability for producing a nuclear weapons in 6-8 weeks. The technical problems involved in warhead design make it unlikely that Israel could telescope the estimated two year time interval unaided. We cannot, however, exclude the possibility that France

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might be willing to test an Israeli device without attributing it to Israel or that Israel on its own might assemble and stockpile a small number of untested devices.

We attach no special significance to the separation of the Atomic Energy item in the Israeli budget and note that the sum involved (\$13.7 million) is well within the annual outlays estimated in NIE 4-66 (Table II, page 17).

Dr. Bergmann's resignation as chairman of Israel's AEC is reassuring rather than ominous since he reportedly was a hawk on the subject of nuclear weapons for Israel. Thus his policy differences with ~~xxx~~ Prime Minister Eshkol logically should find the PM on the other side of the issue. Moreover, the increase in the Israeli AEC's membership from three to 14 also may indicate that Eshkol is willing to share his policy making responsibilities with a larger group--something he would be unlikely to do if the group were involved in covert designing or stockpiling of nuclear weapons. It is, however, also possible that the expanded AEC membership does not participate in policy determinations concerning nuclear weapons and that this responsibility is reserved for a far smaller group higher up in the government.

Evaluation of Sources.

Finally, insofar as the various sources of this most recent intelligence are concerned, the Committee for Nuclear Disarmament has been in existence and crusading against nuclear weapons for Israel since 1961. The committee's membership is composed mainly of professors at Hebrew University and Technion, and it is possible that they have professional and/or family associations with personnel working at Dimona. For this reason, even though its members are

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biased on the subject and they are not members of the government's "inner circle," they should be cultivated and attempts made to obtain further information from them of a more specific nature.

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We have discussed the above evaluation

We understand that all the steps of an intelligence nature that can now be made are being made. From an intelligence viewpoint, of course, it is of greatest importance that the next US inspection of Dimona take place without further delay. When the report of the inspection is in, a USIB assessment would be in order.

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