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*John
Eckel*

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X-Ref: AE - 1

April 8, 1971

*Taipei
AE 11-2
Shmidt*

William W. Thomas, Jr., Esquire
Counselor for Political Affairs
American Embassy, Taipei

EO25X1 CIA
EO25X6 CIA

Dear Bill:

Thank you for your letter on the GRC's nuclear research program. Over the years I have seen a steady stream of [redacted] on the subject but have never really understood what it was all about. It was useful to have Bruce Billings' insights into what the actual potential of the Chung Shan Science Institute is.

As you commented, we can all take comfort in the GRC's inefficiency in this direction. It is a bit discouraging though, to contemplate the waste of talent and resources involved in the program.

Sincerely,

Declassified
Authority: 28684
By: Theresa Ackerman
Date:

Thomas P. Shoemith
Country Director

TPS/bds

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EMBASSY OF THE
UNITED STATES OF AMERICA

Taipei, Taiwan

*Copy sent INE -
Mr. Lake*

CA

March 11, 1971

OFFICIAL-INFORMAL

Thomas P. Shoesmith, Esquire
Country Director, EA/ROC
Department of State
Washington, D.C. 20520

(2)

*Taipei
from - Thomas*

Dear Tom:

This report is really a Bruce Billings report "as told to" me. Bruce and I discussed the GRC's nuclear research program for a couple of hours one afternoon, and this is the gist of what Bruce has to say. He unquestionably knows a great deal more, and you and others in Washington may wish to use this paper as a basis for discussions if you can pin him down. Given the intent they have, Bruce is sure we can all take comfort in the inefficiency of the program.

AE 11-2 Christ

Sincerely

Bill
William W. Thomas, Jr.
Counselor of Embassy for
Political Affairs

(3)

Enclosure: as stated.

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SUBJECT: GRC's Atomic Weapons Program

In summary, the GRC has an atomic weapons program, but at the earliest could not possibly obtain any nuclear weapons capability for five years. In all probability the time required would be much longer.

At the present time the GRC has no active intent to construct a nuclear weapon, but does intend to attain the capability to manufacture such a device. It has concentrated the staff, equipment and research in its Chung Shan Research Institute near Hsinchu.

STAFF

The staff of the Chung Shan Research Institute is headed by General Tang Chun-po, who has headed the Chung Shan Research Institute since its founding. Tang was trained as a mechanical engineer at Cambridge prior to World War II. Tang's scientific education is badly out of date, but he has hired a staff of new PhD's trained in the United States who are perfectly capable of the research and technology necessary to produce nuclear weapons. One shortcoming of the staff of the Chung Shan Research Institute is in its administration; it is probably incapable of an efficient research effort.

EQUIPMENT

The equipment Chung Shan Research Institute is generalized, up-to-date and adequate to produce atomic device if properly used. Like many other laboratories in Taiwan, the Chung Shan Research Institute's laboratories have much more equipment than is needed for current research projects, and their equipment very often duplicates equipment available in other nearby laboratories. The Chung Shan Research Institute laboratory shows clearly that, as far as its research is concerned, money has never been an important obstacle. The Chung Shan Research Institute has long wanted a research reactor of its own, and prior to 1969 intended to buy a 50 megawatt heavy water reactor

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from the Siemens Company in Germany. The Siemens reactor was one whose salient characteristic was an unusually high production of plutonium and was opposed by the GRC's scientific and economic community as an unnecessary and inefficient expenditure whose usefulness would be limited. Only two persons in the GRC, General Tang and Chiang Ching-kuo, favored this reactor. The leader of the opposition was President Chiang's Science Adviser, Dr. Wu Ta-yu, who led a spirited and successful campaign against the Siemens reactor in 1969. The GRC now is purchasing a 40 megawatt boiling water reactor from Canada that should be more generally useful than the Siemens reactor. Work on the site of this reactor is well under way and a large and capable staff is being trained in Canada to operate it. It is interesting to note that both the Canadian and Chinese Governments made it very clear that Canada's recognition of Peking would have no effect on the sale of this reactor. Canada may have been as interested in the \$40 million to be paid for it as the GRC was in acquiring the reactor.

RESEARCH

Research as carried on at the Chung Shan Research Institute at present is not directed toward the production of a nuclear weapon; as far as we can tell, it has no direction at all. Most research is now on topics which were thoroughly explored as much as 20 years ago. This is partly due to the fact that General Tang's own education in physics is badly out of date and partly to inefficient research direction. It is clear, however, that no decision has been made on research toward any sort of nuclear weapon.

TIMING

If the Canadian reactor goes critical in 1973--the earliest possible date--the GRC could, by dumping the core of the reactor, have adequate fissionable material for a nuclear weapon. It has the capability, staff and equipment for producing such a weapon. It does not, however, have a research

program well enough organized to carry out the necessary research and apply the technology necessary to build a bomb. The best estimate of the minimum time necessary for production of a nuclear weapon in the Republic of China is that it would require at least five years. With the present research program, it is likely that the time required would be substantially in excess of five years.

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