

April 14, 1977

Memorandum of Conversation, 'Non-Proliferation and Reprocessing in Japan,' with Attached 'Possible Basis of Japan-US Understanding of Nuclear Fuel Cycle'

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Summary:

The memorandum describes Japan's hope that the US will recognize an importance of plutonium technology for Japan and its desire to continue plutonium research and development activities.

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DEPARTMENT OF STATE

Washington, D.C. 20520

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MEMORANDUM OF CONVERSATION

April 14, 1977
1:00 p.m.
8th Floor Dining Room

SUBJECT: Non-Proliferation and Reprocessing in Japan

PARTICIPANTS: Japan

Ryukichi Imai, Consultant to The Ministry
of Foreign Affairs
Hiroshi Ohta, Ministry of Foreign Affairs

United States

Joseph S. Nye, Deputy to the Under Secretary
for Security Assistance
Lawrence Scheinman, Senior Adviser - T

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The objective of the meeting was to hear the broad outline of a possible way in which to resolve issues related to the Tokai facility.

The Japanese approach to the problem consisted of a number of elements:

1. a belief that it would be difficult to solve the plutonium and spent fuel transfer problems at present for an extended period of time and the consequent desirability of seeking a solution that would contribute to management of the problem for the shorter term.
2. Japanese acceptance, in the form of public support, of the US view that there is a strong linkage between plutonium and the potential for nuclear weapons proliferation; that there is no need at the present time for plutonium which in the present situation is not an economic fuel; that the near-term commercialization of plutonium technology is neither possible nor necessary. In addition, Japan could agree that the commercial utilization of plutonium would not be undertaken until such time as it may prove to be economically justified.

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The United States participants expressed appreciation for such a view, pointing out that this conformed closely to the view taken by the President in his recent nuclear policy statement and that the support of a country such as Japan for these conclusions reflected very favorably on what the United States regarded as an important element in the international effort to make nuclear power a continuing and safe component of the energy mix in many countries. It was further noted that in the absence of widespread agreement on such points as those expressed above there was a risk of strong adverse public opinion developing on the continued use of nuclear power, the result of which would be detrimental to our collective interests and to the ultimate role of nuclear power in future energy development. It was essential at this time to take stock of the future development of nuclear technology and to explore alternative fuel cycle technologies that would enhance public support for the continued development of nuclear energy.

3. a commitment by the United States to sell Japan three years extra stockpile of enriched uranium.

The United States participants indicated a willingness to explore whether and in what ways such an assured additional supply of low enriched uranium might be made available to Japan. The participants also noted the general importance of fuel assurances to achieving a favorable outcome in the present international discussions related to nuclear fuel cycle activities.

4. a US commitment to assist Japan in her efforts to acquire independent enrichment capabilities as well as in her efforts to have assured supplies of natural uranium.

The United States participants acknowledged the importance to Japan of security of fuel supplies, both in terms of enrichment capacity and feedstocks. They indicated interest in exploring ways in which to enhance, stabilize and assure uranium supplies and said that the United States hoped to enter serious discussions with major resource countries in order to effectively address that problem. They also expressed interest in helping Japan in her effort to secure greater access to enrichment capacity and services and mentioned among other things

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such mechanisms as cross-investment, equity participation and multinational facilities. It was pointed out that solutions entailing direct technology transfer would be difficult for the US in the near term because of the desirability of avoiding precedents which would catalyze widespread development of nationally controlled sensitive facilities, but was a possibility over the longer term.

5. a US agreement not to object to retransfers of spent fuel from Japan on the assumption that non-military plutonium in the world would be under adequate international control.

The United States participants noted that there were two aspects to this question: retransfers of US-supplied spent fuel for reprocessing or alteration outside Japan, and retransfers within Japan to the Tokai facility for similar disposition. In the former case, the issue related to countries other than Japan with whom we have agreements for cooperation. It is currently before the President and there was obviously little they could say regarding such transfers until the President had made his decision. It is clear however that the US would want to avoid long-term commitments regarding the disposition of US-supplied fuels while at the same time doing whatever we could to alleviate problems of spent fuel storage. In the latter case involving Tokai, the US participants stated that they hoped the US would not be forced into invoking the legal provisions incorporated in article VIIIc of the US-Japan agreement for cooperation since if the US were now called upon to make a safeguardability determination in order to permit the reprocessing of US-supplied fuels in that facility it would have extreme difficulty making a positive finding. Hence, other solutions were not only appropriate but necessary. 1 2

6. the Japanese would like recognition by the United States that plutonium technology remains important and that its extraction, handling and burning should be the continued subject of Japanese research and development activities; that the two countries would agree that such technology should be confined to the US, USSR, EC and Japan and that within those areas countries would be free to pursue industrial technology related to plutonium.

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The United States participants noted that such an approach created a number of problems. In the first instance we felt it would be inappropriate to make a frankly discriminatory statement that effectively excluded all countries not designated in the agreement whether that agreement was public or private in nature. More importantly, the Japanese formulation created both a domestic and an international problem. Domestically, the President has just determined that reprocessing would not take place in the United States and it would be politically difficult for him to turn around and say that while US origin fuels could not be reprocessed in the United States they could be reprocessed unconditionally abroad. Internationally, it would be detrimental to US non-proliferation goals for the first major policy decision following the Presidential policy statement to be one where the US says it is perfectly all right for a country to go ahead and to do so. Essentially the US must take every reasonable step to avoid setting a precedent for the reprocessing of spent fuel for recycle purposes.

This did not mean that the United States rejected the notion that the Japanese should continue their R&D programs for future reactor types even if they involved plutonium. Indeed, the United States would be willing to explore various possibilities of enabling the Japanese advanced reactor programs to continue, perhaps by finding some way in which to provide the required plutonium to those programs. In addition, the US participants felt that there were a number of ways to facilitate a useful role for the Tokai plant. In this regard, the US participants suggested that it might be useful to bring appropriate technical personnel together to explore viable alternative modes of running the Tokai plant. In particular, it could be mutually beneficial if the plant could be run to explore alternative means of extracting value from spent fuel other than the separation of plutonium and the United States likely would welcome bringing the Tokai facility into the framework of our proposed international fuel cycle evaluation program to test some of those alternatives.

In any event, the US participants were operating under instructions permitting them to explore various alternatives with the Japanese, to hear their ideas, and to report back to the President. They were not in a position to make any commitments, but only to hear and understand

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the parameters of the problem and ways in which it could be resolved to mutual satisfaction.

In terms of possible areas for a mutually acceptable solution, all participants appeared to agree that a solution must emphasize US-Japanese cooperation, must not prejudice President Carter's non-proliferation policy, and avoid setting unfavorable precedents and should respond to the Japanese political problems and short and long-term energy needs. In this context it appeared fruitful to explore means by which to make the Tokai facility an effective and constructive element in an international nuclear fuel cycle evaluation, to emphasize its utility for experimental purposes and the opportunities it provides for exploring various methods of handling spent fuel. In such a framework Japan could continue to explore for sites for spent fuel storage while maintaining a viable and operating program on plutonium-based research and development. The consideration of a larger reprocessing plant would in such a framework be confined for the present to design studies, with actual construction only taking place once commercialization of reprocessing would have been justified. This decision, in turn, would be a function of assessment of the fuel cycle evaluation program itself.

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POSSIBLE BASIS OF JAPAN-US UNDERSTANDING
ON NUCLEAR FUEL CYCLE

April 15, 1977

Both countries recognize that any understanding involving nuclear fuel cycle should be based on a broad based co-operative formulation for the long-term benefit of the two countries. In this spirit the following general principles are agreed upon:

- 1) Japan agrees and supports the basic premises of the new US fuel cycle policy, namely:
 - a. Plutonium is very much related to the proliferation of the long term weapons potentials, and that this is the common concern of the advanced industrial world.
 - b. Plutonium is not immediately needed as fuel and cannot be used as economical fuel for the time-being, as long as enriched uranium is available as light water reactor fuel.
 - c. Immediate commercialization of Plutonium technology is not possible nor is it necessary.
- 2) The United States agrees that technology of Plutonium extraction, handling and burning (fast breeder reactor) is an important technology option for Japan's energy strategy in the long term and therefore Japan has perfect right to pursue its development. Both countries agree that such technology should not be allowed to proliferate outside of the advanced industrial world, namely US, USSR, EC, and Japan, who are technically and economically qualified to pursue this long term energy option.
- 3) Japan agrees that commercial utilization of Plutonium will not be undertaken until such time as may be economically and otherwise justified.
- 4) As an effort to emphasize the importance of uranium fuel for light water reactors, the United States agrees to sell to Japan three years equivalent stockpile of enriched uranium in addition to the current arrangements. The United States also agrees to assist Japan in her efforts to acquire uranium enrichment capabilities as well as in her efforts

to have assured supply of natural uranium. These items are not only to give Japan assurance of supply but also in recognition of the desirability to establish multiple sources of enriched uranium supply to the rest of the world.

5) The United States will not object to retransfer of spent fuel from Japan as long as there is an undertaking that all non-military Plutonium of the world will be placed under an adequate international control.

The foregoing five items constitute the basic understanding between the two countries and should remain secret. Specific arrangements about reprocessing will be guided by the following considerations:

- i) The United States will refrain from invoking Article 8C and not act in such a manner that might jeopardize Japan's nuclear power program, taking into consideration political and public acceptance situation in Japan which is also related to the past nuclear policies of the United States.
- ii) In view of the proposed International Nuclear Fuel Cycle Evaluation Program, to which Japan is willing to participate when its scope is better defined in some multilateral forum, it would not be adequate to spell out detailed understanding between the two countries beyond the general time frame of about three years. Anything beyond such time frame may be guided by the outcome of the evaluation program.

Specifically, the following steps will be taken:

1) Japan announces that while Tokai reprocessing plant has completed construction, she is undertaking re-evaluation of the role of Plutonium and has determined that commercial recycle of Plutonium in light water reactors is not justified for the time being. At the same time, Japan regards Plutonium based fast breeder to be a very important long term energy option of the country. Until such time as it is proven otherwise, Japan intends to pursue FBR-related technology development until such time as her industrial technology level catches up with those of other advanced industrial countries.

Tokai reprocessing plant will be operated as a technology development facility within such context. In addition Japan will offer this plant for an international opportunity to i) determine limits of safeguards efficiency on Plutonium facilities, ii) design related considerations of physical protection, and iii) possible technology of fissionable material recycle without separating Plutonium in elementary form.

As Tokai plant will go into hot operation soon, there will be a detailed technical consultation with the United States to incorporate the above programs so that their outcome may be properly reflected to an international evaluation program.

2) The United States will issue MB-10 to Japan's retransfer of spent fuel for the time being until domestic spent fuel storage pond can alleviate Japan's difficulties regarding nuclear power plant operation. Such MB-10 shall be conditional on adequate storage of Plutonium under an international control regime. Regarding longer term contractual arrangements between Japan and European countries the United States shall refrain from invoking Article 8 of the Japan-US bilateral agreement as a means to persuade UK and France from expanding their reprocessing capacities. This is partly based on the recognition that US involvement in such contracts will not take place until the actual time of retransfer, which is beyond the postulated period of international fuel cycle evaluation program. The United States is of course free to other methods of persuasion vis-a-vis these two countries. This understanding, however, will not be announced. | 7.

3) Japan will continue her efforts to look for sites for her central spent fuel storage pond, which, in the event reprocessing technology development in much larger scale is determined to be feasible, may be utilized for that purpose also. Japan is of course free to pursue design study regarding larger reprocessing plant. Japan, however, will make clear if so requested by the United States that actual construction of such larger plant will not take place until after the commercialization is justified for use of Plutonium in which the above-mentioned international evaluation program is expected to play an important role.

Ryukichi Imai