# June 4, 1980

# Memorandum, Gus Speth to Secretary of State Edmund Muskie, 'Implementation of the President's Non-Proliferation Policy'

## Citation:

"Memorandum, Gus Speth to Secretary of State Edmund Muskie, 'Implementation of the President's Non-Proliferation Policy'", June 4, 1980, Wilson Center Digital Archive, NARA, RG 59, Muskie Subject Files, box 3, Non-Proliferation
https://wilson-center-digital-archive.dvincitest.com/document/145128

## Summary:

The memorandum describing Gus Speth's recommendation to Secretary Muskie to abide by President Carter's 1977 policy.

## Original Language:

English

## Contents:

Original Scan

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

PERSONAL AND PRIVATE

June 4, 1980

MEMORANDUM FOR EDMUND S. MUSKIE
SECRETARY OF STATE

FROM: Gus Speth, Chairman

SUBJECT: Attached Non-Proliferation Policy Memorandum

The preferred course, in my judgment, is to postpone the review of U.S. non-proliferation policy until after the November election. There are no compelling reasons to have such a review at this time.

Should the PRC review process continue, however, I believe it is essential that the option discussed in the attached memorandum be considered in that process. It sets out our views as to the preferable course for the U.S. to take.

If a second PRC meeting is scheduled on this subject, my plan then would be to recast the enclosed memorandum as a memorandum to the PRC participants and to request that it be reflected in any memorandum prepared for the President.

cc: Leon Billings

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

SECRET

June 4, 1980

MEMORANDUM FOR EDMUND S. MUSKIE
SECRETARY OF STATE

FROM: Gus Speth, Chairman Gus Speth

SUBJECT: Implementation of the President's Non-Proliferation Policy (U)

My May 16, 1980 memorandum addressed certain recent proposals to change our nuclear non-proliferation policy. I argued for a different course, a full implementation of the President's non-proliferation policy as set forth in 1977, and as strengthened by substantive developments since that time. This memorandum sets forth for your consideration more specific suggestions on implementing the President's policy. (U)

The President's 1977 policy, which confirmed and extended President Ford's policy change of October 1976, rested on three tenets:

1) the international security risks posed by civilian nuclear technologies involving direct access to large quantities of weapons usable (nuclear explosive) material;

2) the lack of a compelling economic or energy security basis, not only for the U.S. but also for our major allies and developing countries, to commit to these technologies for many years;

3) our ability to influence, significantly, the technological choices of other nations, through the still potent force of U.S. example and the central U.S. role in technology markets. (U)

Three years of additional experience have lent weight to the correctness of the first two tenets of our fundamental policy. I maintain that, despite appearances to the contrary, the third remains true as well and that there is little reason either to changes our basic policy or to seek marginal changes in relations with our major allies at the price of our non-proliferation principles. Instead, I would propose the following actions to implement our basic policy more fully and more consistently: (U)

SECRET
classification derived from
State Dept. memo dtd May 12, 1980

SECRET

- With respect to the danger of weapons usable material, clear U.S. opposition to separation or use of plutonium and weapons usable materials and to cooperation with foreign programs of this kind. This would include 1) an eventual refusal to grant MB-10's for reprocessing or for plutonium use commitments made after our 1977 policy announcement, based on the frank and explicit recognition that safeguards, as presently constituted, do not work for plutonium and highly enriched uranium; 2) a U.S. policy designed to discourage the expansion of foreign reprocessing capacity; 3) active U.S. opposition to International Plutonium Storage unless the objective were substantially redefined; 4) phase-down of domestic R&D on fuel cycles involving the separation and recycle of plutonium, including a continuation of the pattern set in the Administration's FY 81 budget for breeder R&D funded at lower levels.

- With respect to the deferrability of commitments to dangerous technologies, a large and comprehensive domestic and international commitment to major improvements in once-through LEU technologies.* This would include 1) offers of joint development with countries that abjure the use of plutonium fuels; 2) fuel assurance initiatives for natural uranium or LEU that will make that fuel substantially more energy secure than plutonium fuels; 3) government participation in a multi-reactor series of improved light water reactors (LWR's) that will demonstrate a safer and more uranium efficient technology to be marketed in the 1990's; and 4) a refocusing of the breeder R&D program to a long term effort based on less dangerous once-through LEU fuels such as the fast mixed spectrum reactor (FMSR) concept. (C)

Our policy must also provide for expanded, near-term cooperative efforts to provide technical and other assistance for storage and subsequent disposal of spent fuel, including renewed efforts aimed at providing the means to return from abroad and store in the U.S., spent fuel of U.S. origin when it is in our non-proliferation interests. (U)

- With respect to the force of U.S. example and technological influence, a willingness to pursue an independant path from some of our major allies while we work to secure acceptance of our security and energy policies. This includes an understanding that an unproliferated world is in the interests of all countries; that nuclear power is important to our allies but not plutonium fuel, that our allies are not truly "committed" to the use of plutonium, and that allied efforts to match our once-through initiatives may divert resources away from plutonium. In fact, we need not fear international isolation once we set firm and consistent directions for our policy. (C)

---

* Low enriched uranium or LEU, unlike plutonium or highly enriched uranium, cannot be used directly to make nuclear explosives. Reactors fueled with LEU (which would subsequently be disposed of directly as radioactive waste) are referred to as once-through reactors. (U)

SECRET

SECRET

Details of these suggestions follow. The potential impact of these plutonium and once-through initiatives could be complemented by associated measures with respect to the "hard case" proliferators; some tentative ideas along this line appear in the attachment. (C)

It is now time to capitalize on the substantive strengths of our non-proliferation policy and on the public impatience with approaches that would undercut that policy by a byzantine series of proposed compromises. The stage has been set for U.S. leadership once again to determine the course of nuclear energy development. (U)

I. Phase-down of U.S. involvement with plutonium fuels

A single breeder reactor reload would contain enough plutonium for hundreds of nuclear weapons; after three years of intense research we have found no way to render this plutonium "safe". No "evolutionary" agreement with our allies to allow ever increasing plutonium use could assure us of reciprocal actions on their part that would be decisive enough to justify the awesome proliferation risk involved in a worldwide move toward plutonium as a fuel. On the contrary, we would be drawn into a world of ever wider demands for access to weapons usable material and of diminished attention to more proliferation resistant technologies. We therefore need a clear public declaration that the U.S., for one, will phase down its involvement with or acquiesence in civilian commerce in weapons usable (nuclear explosive) material and will take action along the following lines: (S)

A. International

1. Restriction of plutonium breeder reactor R&D and other cooperation to pre-1977 commitments. We should clearly delineate our opposition to new ventures involving plutonium fuels. At most, we should "grandfather" specific breeder reactor R&D facilities to which commitments were made in Europe and Japan prior to our 1977 policy and which are either operating or under construction today.* (S)

---

*These are the following reactors currently in operation or under construction:

In the U.K., the Dounreay breeder reactor; in France, the Phenix and one Super-Phenix breeder reactor; in Germany, the SNR-300 breeder reactor; and in Japan, the Fugen thermal reactor and the Joyo breeder reactor. The Japanese Monju breeder reactor has been planned for several years and is budgeted for a construction start in this fiscal year; however, we understand that a site for Monju has not been selected. Grandfathering the Monju breeder will be a matter for negotiation and decision on tactical grounds. (S)

SECRET

U.S. policy would then support the provision of adequate plutonium to run these R&D facilities, including the use of U.S. origin material when it cannot otherwise be obtained. (S)

2. U.S. post-INFCE MB-10 policy. Pursuant to existing policy we should continue to approve MB-10's for pre-1977 contracts for reprocessing but not plutonium use in cases where there is spent fuel storage congestion. These approvals should cut off by 1985, which will provide adequate time to enlarge storage capacity. (S)

The same policy would apply to reprocessing contracts that antedate our 1977 policy change. However, we should not approve any requests for reprocessing in new or expanded reprocessing plants unless and until it is clear that plutonium for the grandfathered projects cannot otherwise be obtained from existing stocks or facilities. In no case would the U.S. approve reprocessing significantly in advance of the time of actual need. (S)

Beyond this limited plutonium cooperation, which would phase itself down over the coming decades, we should neither approve new MB-10's nor engage in technical cooperation or exchanges of any kind concerning Pu recycle or highly enriched uranium. Traffic in plutonium and highly enriched uranium is a form of commerce we should decisively reject. (S)

3. Firm opposition to new or expanded reprocessing facilities. We should continue to seek to convince foreign policy, military and economic constituencies among our major allies of the dangers of increased commitment to plutonium production. If necessary, we should employ incentives and leverage to head off the new reprocessing facilities in the U.K. and Japan and, with less expectation of success, in France. Full use of our MB-10 leverage on Japan, Spain, Sweden and Switzerland would reduce potential revenues for the proposed French and British reprocessing facilities by about 40 percent, not by the lower figure cited in the State Department PRC paper with respect to Japan alone. This may not dissuade France from its breeder-oriented expansion; but it would act as a disincentive to the U.K., which is in the business for foreign revenues. It would also stongly discourage the proposed Japanese facility, which would be dependent on U.S. MB-10 approvals for years to come. (S)

Because in the U.K. and France the same organizations (BNFL and COGEMA) perform both enrichment and reprocessing services, the U.S. might offer additional incentives for them to defer their currently planned reprocessing expansions: e.g., a U.S. offer to enlarge and share future enrichment business through joint planning, adjustment of tails assays, and possible creation of LEU stockpiles for energy security purposes (see below). (S)

SECRET

4. Possible active opposition to IPS. By its participation in the International Plutonium Storage discussions the U.S.--in spite of its avowed "agnostic" position--is creating the impression that it might well participate in an international regime to distribute plutonium fuels. This activity is not only ill-advised but goes beyond the NNPA, which only calls for international storage of spent fuel and which directs that "formost consideration" will be given to the "timely warning" criterion, which plutonium fuels cannot meet. (C)

The U.S. should immediately correct any misapprehensions by insisting that its future positive participation in IPS discussions is contingent on a restructuring of the objectives of an IPS system. Plutonium would only be stored in nuclear weapon states; and, to the extent that an IPS engaged in distribution of nuclear fuel to non-weapon states, that fuel would only be low enriched uranium. If the U.S. cannot secure substantial support for this position, it should begin active opposition to IPS in the plenary meeting in December, 1980. (S)

5. 1990 deadline for HEU phase-out. The excellent and successful U.S. efforts to secure acceptance of conversion of HEU reactors to LEU should now be supplemented by a deadline. The U.S. should announce that it will not export significant quantities of HEU for use in reactors or research facilities after 1990. (S)

B. Domestic

In order to move U.S. nuclear development off of the "plutonium standard" the President should (1) stress continued Administration opposition to commercialization of plutonium technologies, (2) stress that U.S. nuclear development efforts will henceforth focus primarily on thermal and fast reactors employing the once-through use of LEU fuels as the reactors of the future, (3) continue the pattern set in the FY 81 budget toward contained breeder R&D funding, and (4) call for a refocusing of the breeder technology program onto less dangerous once-through LEU fuels and as the fast mixed spectrum reactor concept (see below). (U)

II. Commitment to once-through technologies

Recent analyses by U.S. agencies and their contractors indicate that low enriched uranium can serve as our exclusive nuclear fuel until at least several decades into the next century; that stockpiled low enriched uranium would provide energy security sooner and at a lower cost than would plutonium fuel; and that, even if the assumptions underlying these analyses turn out inaccurate, there will still be decades of time to take action and no more than small economic penalties. We can increase worldwide confidence in these conclusions and meet Congressional demands for nuclear hardware development by the following initiatives for once-through technologies:* (U)

A. International

1. Joint reactor development. The United States should undertake a major program to develop a light water reactor with substantially improved safety features and uranium efficiency approximately twice that of present systems.** We could offer such reactors on the world markets in the 1990's. Because of their price advantages over breeder reactors and because of their embodiment of the best of American nuclear technology they can be expected to undercut the market for breeders much as U.S. wide bodied jet aircraft destroyed the market for supersonic transports. Joint development of and access to this technology would be attractive to the more realistic nuclear officials in other countries. Such joint development should be offered to countries that phase down, as the U.S. would do, the civilian use of weapons usable material. (C)

---

* We are talking about four major classes of technology: 1) More uranium efficient LWR's and possibly other thermal reactors, 2) once-through fast reactors including the preliminarily developed concept of the fast mixed spectrum reactor, 3) large uranium resources available at prices up to 10 times current levels (which would still compete economically with breeder reactors), and 4) improved enrichment technologies that could extract up to 20 percent more nuclear fuel from a given quantity of raw uranium. The first three technologies could be widely disseminated; the last, even though it and present enrichment technologies are more amenable to "timely warning" than are plutonium facilities, should continue to be confined to a few sites in the world that produce nuclear fuel. (U)

** Nuclear engineers say that this is a reasonable uranium efficiency objective for the year 2000. Light water reactors and advanced enrichment technologies have already been defined that can, together, achieve this objective. (U)

SECRET

Like the U.S. breeder program, foreign breeder technology programs can be kept alive by reorienting them toward the once-through use of LEU fuels. Similarily, current economic circumstances and updated technology--such as the application of new U.S. ion exchange technology to the extraction of uranium from seawater--are beginning to promise a multiplication of economical uranium resources by factors or even by orders of magnitude. The U.S. should offer international cooperation on these technologies, the ultimate commercial importance of which is more uncertain than is that of the improved LWR, to countries that abjure the use of plutonium fuels. (C)

2. Secure uranium or LEU supplies. There are several proposals to clearly demonstrate that LEU fuels are more "energy secure" than are plutonium fuels: 10-year export licenses for enrichment services, life-of-reactor licenses for such services, or the export of life-of-reactor stockpiles of uranium or LEU to countries with good non-proliferation credentials. Each of these proposals involves a tradeoff between the loss of possible U.S. leverage (i.e., the ability to embargo nuclear fuel exports) and the loss of an opportunity to make LEU fuels more energy secure than plutonium fuels. Clearly there are a number of countries with good non-proliferation credentials for which a U.S. embargo threat would not be a significant consideration in a hypothetical future decision to develop nuclear weapons. These are the same countries, Japan and the nations of Euratom, most intrigued with plutonium fuels because of their distant promise of making a marginal contribution to energy security. Without prejudging the tradeoffs, we should sympathetically explore an LEU energy security initiative. An offer of LEU stockpile sales (not necessarily drawn from existing government stocks but rather from new uranium and enrichment supplies) has potential political attractions: a means of enlarging the world enrichment market so that the French and especially the British could develop an alternative source of foreign revenues to the sale of reprocessing services, increased uranium sales to benefit a depressed U.S. uranium industry, and increased enrichment sales to benefit U.S. localities in which construction of enrichment facilities has been slipped. (S)

B. Domestic

1. Multi-reactor series of improved LWR's. There is continuing Congressional and vendor pressure for a breeder demonstration project, either CRBR or an updated version. Our economic and non-proliferation analyses tell us that this would be a waste of resources and would undercut the U.S. example of restraint with respect to plutonium fuels. Once-through fast reactor fuels would be somewhat more appropriate for such a demonstration but will probably not be ready before the 1990's. (U)

It would make more sense from an economic and non-proliferation point of view to budget a portion of the funds required for one breeder demonstration reactor to a new program that, sharing the cost with industry,

SECRET

would build a series (perhaps five) of new LWR's incorporating the most advanced safety and uranium efficiency improvements. Utility participants would be expected to underwrite most of the costs, reflecting the nuclear energy value of these facilities. These reactors would be the most visible embodiment of our policy change and the most visible commercial threat to allied countries that persist in allocating their nuclear R&D funds to breeder reactors. (C)

The political attractions of such a program could be complemented by a stockpile initiative (described above) that was coordinated with domestic uranium and enrichment interests. (C)

2. Redirection of breeder R&D to once-through LEU. The President in 1977 promised to "restructure the U.S. breeder reactor program to give greater priority to alternative designs of the breeder and to defer the date when breeder reactors would be put into commercial use." The concept of a once-through fast reactor using LEU, favorably reviewed in 1979 by a DOE technical committee, is the only significantly proliferation resistant concept using breeder technology that has yet been developed. The concept requires the design and proof testing of long-lived fast reactor fuels--a multi- year undertaking for which the U.S. FFTF facility is uniquely appropriate. The breeder program should be restructured with funds left over after the LWR initiative is budgeted. The redirected breeder technology program should move forward at a much slower pace of development with central emphasis given to the qualification of LEU once-through fuels and associated physics design. We cannot guarantee at this time that a proliferation resistant fast reactor can be developed. But we should insist that proliferation resistance is one prerequisite for U.S. acceptance of fast reactors. (U)

3. Clear directives for the FY82 DOE budget and the Conceptual Design Study. DOE needs time to substantially redesign its programs in light of domestic initiatives (1) and (2) described above. Major changes in FY82 programs will be difficult to design and cost out after this summer. In addition, DOE is moving into the final phases of the Conceptual Design Study on a larger breeder reactor, a study that is due to Congress in March of 1981. Early policy guidance with respect to both of these processes is essential if we are to avoid a disconnect between non-proliferation initiatives and domestic activities. (U)

Other non-proliferation aspects of the budget should be defined early and negotiated with Congress as part of the package: a termination of reprocessing programs (especially Barnwell), more emphasis on large but higher cost uranium resources, etc. Adequate congressional support does exit for R&D on advanced isotope separation technologies, but we need to assure that safeguards development and proliferation resistance reviews are coordinated with this R&D. (U)

III. U.S. willingness to act independently

The success of our efforts to defer commitments to thermal recycle was largely due to our willingness to get out ahead of our allies and to change our domestic and international policies in line with our non-proliferation concerns. Unfortunately, certain changes in our non-proliferation policy now being proposed would seek harmonious relations with our allies by enshrining into policy the lowest common denominator thinking of their nuclear bureaucracies. We should understand that our strongest lever on our allies and the strongest incentive for those in their governments sympathetic to our views is our ultimate willingness to move independently in technological directions that make economic and non-proliferation sense. The force of U.S. example and our influence on world technology is still such that, if we are ever alone, it will not be for long. (C)

We should discontinue the U.S. declaratory policy that emphasizes the interim nature of our non-proliferation actions, the special justification for plutonium fuels in nations without indigenous uranium resources, and the waning U.S. leverage. Instead, we should adopt a new declaratory stance emphasizing the following: (C)

1. The interest of all countries in non-proliferation. The U.S. should no longer suggest that it might trade access to dangerous technologies for nominal allied support for non-proliferation policies. We should widen our communications beyond our allies' nuclear bureaucracies and steadfastly insist that allies pay attention to their long run security interest in an unproliferated world. (C)

2. The lack of justification for weapons usable material in civilian programs anywhere. Our analyses make clear that, assuming free international trade in nuclear material, LEU on a once-through basis is the preferred fuel throughout the world until at least well into the next century. Similarly, our fuel assurance initiatives should undercut the energy security arguments that we have treated as giving Europe and Japan a special dispensation to proceed with a plutonium economy. (S)

3. The lack of allied commitments to plutonium. Partly as a result of the INFCE process the U.S. has backed into an occasionally declared acceptance of a world divided between "breeder nations" and "non-breeder nations". In fact, only a limited element of the international nuclear community -- unfortunately that element with which we communicate most often -- considers the world committed to breeders or plutonium fuels. France, the nation with the most advanced breeder program, will not make a commitment to follow-on breeder projects for several years. Chancellor Schmidt, in a Time interview of June 11, 1979 said, "I think the fast breeder question, linked as it is with a question of reprocessing, should not be decided right now. We need some more years to decide that one. In the meantime we have to keep that option open." The most salient nuclear issue for our allies is not plutonium fuel but rather the continued acceptance of major nuclear programs at all. Our improved LWR initiative can address this all-important concern. (C)

4. Alternatives to plutonium technologies on the international reactor market. The second greatest nuclear concern of our allies is continued reactor sales in the limited and competitive international market for nuclear energy hardware. We should make it clear that our improved LWR initiative is a commercial challenge to those countries that persist in focusing their reactor development resources on plutonium breeders. We should structure our offers of cooperation in LWR improvements to sharpen up a choice that our allies will need to make in any case: investing in an economically dubious technology for the 2020's versus investing in a technology with many decades of growth potential that will begin to dominate the market in the 1990's. (C)

SECRET

ATTACHMENT

TENTATIVE COMPLEMENTARY APPROACHES
WITH RESPECT TO "HARD CASE" NUCLEAR PROLIFERATORS

There is little evidence that U.S. capitulation on plutonium issues will decisively improve allied cooperation with respect to "hard case" proliferators. Indeed, some allied nations have violated at least the spirit of the Non-Proliferation Treaty, the Nuclear Suppliers Agreement, and the agreement to defer "major moves" during the INFCE period by offering sensitive exports to such countries as Argentina and Iraq. We should stiffen our opposition to such reckless behavior and dramatize our stronger non-proliferation policy by such actions as the following: (S)

1. Heavier pressures for allied export control. In line with the Kansai modifications of our MB-10 policy we should not only limit our approvals for retransfers or reprocessing as described in section I, above, but should also insist that the countries in question be supportive in non-proliferation efforts. For example, Swiss and Italian participation in the French breeder program relies on approval of U.S. MB-10's; we should deny such MB-10's until those countries make the best possible non-proliferation fixes to their Argentina and Iraq deals. If necessary, we should be willing to publicly reveal the specifics of involvement between suppliers and would-be proliferators. (S)

2. More visible preparation to deal with destablizing cases. We should begin to discuss publicly preparations for sanctions against countries that acquire nuclear weapons. In addition, the Administration should publicly direct the Department of Defense to prepare to prevent proliferation or to deal with its consequences in the cases of such nations as Libya, Iraq, Pakistan, and India. (S)

SECRET