

## September 24, 1973

# Memorandum from Helmut Sonnenfeldt to Henry A. Kissinger, 'Nuclear Cooperation with France -- Gallery-Schlesinger Meeting September 25, 1973'

#### Citation:

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### **Summary:**

Overview of Foster's meeting in France on September 10, and a memorandum of points and observations to be touched upon in the upcoming meeting on the 25th. There are six areas of consultation, with the area of MIRV being the most urgent issue.

## **Original Language:**

English

#### Contents:

Original Scan

#### MEMORANDUM

#### NATIONAL SECURITY COUNCIL

TOP SECRET/SENSITIVE EXCLUSIVELY EYES ONLY IMMEDIATE ACTION September 24, 1973

MEMORANDUM FOR MR. KISSINGER

FROM:

Helmut Sonnenfeldt

SUBJECT:

Nuclear Cooperation with France -- Galley-Schlesinger Meeting, September 25, 1973

At Tab A is Foster's account of his meetings in Paris on September 10.

At Tab B, is a Memorandum for the Record, prepared in Defense, which sets out a program of consultations and cooperation to be ratified in the Schlesinger-Galley meeting on September 25. It also lists the names of seven military and AEC people, in addition, to General Wickham and Schlesinger himself who will be involved on the US side. Foster also plans to use selected people from industry who would be called on a one-byone basis on individual aspects. YOU SHOULD BE SURE TO READ TAB B, and TAB A, if you have time.

There are six areas of consultation and advice set out in the proposed program. Although only item e, Underground test assistance, involved specific positive assistance, the other five items involve various forms of advice, "negative guidance" (trigger for fusion warhead) and "preferences" (penetration aids). However, item c, S-3 MIRV in 1980, could lead to requests for design assistance. All six items involve a brisk schedule of meetings over the next few months; the most time-urgent is the S-3 MIRV, since the French want to make a policy decision by January 1, 1974.

Unless the papers are misleading, Foster has so far explicitly agreed to one missile item -- the rest remaining to be confirmed by Schlesinger-Galley. This is the item on Penetration Analyses (page 4 of TAB A and pp 5-6 of TAB B). This is fundamental to the future development of the French forces as to numbers and types. Foster wants to proceed within 4-6 weeks. It has also been agreed to provide "negative guidance" in mid-October on the trigger for the French nuclear warhead.

You need to decide whether this program (1) is too extensive and fast-paced for your purposes and (2) commits us too far for the future.

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[P. 1 of 14]

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As regards the scope and pace, it appears to fit what you said in San Clemente. However, there is no reason why items b (Warning) and f (Penetration aids, as distinct from the basic penetration analysis) could not be strung out, if you want.

As regards the commitments implied for the future in this program (especially on item c, MIRV, and f, Penetration Aids), they would be substantial but not irreversible. At the same time, they would establish a degree of French dependence and permit us subsequent control of the pace and volume of advice. (Galley has again stressed he wants no information or details on actual US warheads; but his limitation seems less clear on other aspects of missile technology.)

#### RECOMMENDATION

- 1. That you review the materials at Tab A and B.
- That you approve the approach in Tab B.
- that

3. That you or General Scowcroft or I reiterate to Schlesinger
this must be an operation totally controlled as to pace and
Approve Disapprove
That no meeting must go forward at any level without prior
notification and approval from Scowcroft (or myself, if at NSC or at State).
Approve Disapprove
That no forward commitments must be made in any one meeting, the results of each of which must first be reviewed by yourself before follow-on activities are scheduled. (The only exception are follow-on activities which are approved as part of a position for a given meeting.)
Approve Disapprove,
In future we need (1) fuller and more timely records of all meetings and (2) fuller and more timely availability of position papers for

held projected meetings.

> Approve Disapprove [NLN 00-10/7:2]

## TOP SECRETSENSITIVE

THE SECRETARY OF DEFENSE WASHINGTON

#### MEMORANDUM FOR THE RECORD

(TS) The intent of this memorandum is to record and approve the current substance and extent of the strategic missile cooperative exchanges with France, and to name the key individuals responsible for execution of the program.

(TS) Exchanges to date have been in accordance with the authorization contained in NSDM 103, as amended and expanded by Dr. Kissinger's memorandum of March 9, 1973. These exchanges are continuing and have been mutually agreed with France to cover authorized areas of and assistance on the French sea-based missiles M-1, M-2, and M-20, and land-based S-2 and S-3.

(TS) Recent policy discussions in the United States, in particular the luncheon meeting between Kissinger, Schlesinger, and Foster on August 24, 1973, and a further U. S./France meeting with Dr. Kissinger at San Clemente on August 31, have provided for some increased scope of cooperation. In consonance with these meetings, and the U. S./France meeting in Paris on September 10, 1973 (reported in Dr. Foster's memorandum to the Secretary of Defense of September 15, 1973, and attached hereto), the following additional cooperative exchanges are authorized:

a. Comparison/critique of penetration and analytical techniques and results. A U. S. team of 2-3 people will assess and critique French assumptions, methodology and analyses of their strategic missile force. Exchange may progress to a full exchange covering evaluation and assessment of their objectives and programs.

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- b. Warning. A U. S. team of 2-4 people will provide basic "educational" information to France on radar and satellite warning capabilities and the possible deterrent value to France of adoption of some form of strategic warning. No details of the 647 satellite or its ground station will be exchanged.
- c. MIRV for the S-3 missile in 1980. A U. S. team of 2-4 people will assist France in assessment of feasibility of their developing a MIRV for the S-3 missile possibly of limited flexibility, in time for 1980 deployment. Assistance to be scheduled so as to permit French policy decision by January 1, 1974. (Affirmative decision by France implies a subsequent request for actual design assistance in implementation of the MIRV objective.) No U. S. design information will be provided prior to January 1, 1974.
- d. Atomic assistance. U. S. will provide "negative" guidance to assist France in selection of technical approach to "trigger" for their fusion warhead; later discussions may expand into more general warhead problems. Dr. Foster will handle this item personally. First meeting is proposed for mid-October 1973.

## SANITIZED Per 3.3(b)(5)(6) Ltr. 20 Nov 2007

- e. Underground test assistance. U. S. will provide assistance in the form of test equipment and techniques for vertical hole type UGT. We will explore, if there is a need to, underground tests.
- f. Penetration aids. U. S. will review French concepts and technology in penetration aids, including any plans for test and evaluation. The U. S. team is authorized to indicate preferences among the French technological approaches, but not the transmission of U. S. technology without prior description to and approval by the Secretary of Defense.

(TS) To insure a clear record is kept, and readily available to authorized DoD and White House officials, a single complete and current file will be established which records all policies, transactions, plans, approvals, lists of individuals, etc. This file will be prepared and maintained by Captain Carrier, and will be held in custody by Brigadier General Wickham.

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[NLN 00-10/7:11]

(TS) To insure that an opportunity is provided to reflect rapidly any changes in U. S. policy, it will be the responsibility of the U. S. single point of contact (Mr. G. R. Barse, named below) to advise General Wickham, at least two days prior to departure, of the visit of any U. S. team to France including the nature and purpose of the visit.

(TS) The conduct of the exchanges will necessitate the employment of a few selected industrial experts in various appropriate disciplines. A specific listing by name, organization and subject material will be presented for approval by the Secretary of Defense before disclosure of any kind is made to the individuals concerned. Disclosure to these individuals will be limited solely to that information necessary for proper performance of their assigned responsibilities.

(TS) The following key personnel are expected to function in the capacities noted:

Dr. J. S. Foster, Jr. - Generation of alternative U. S. positions, for approval by the Secretary of Defense.

Conduct of policy exchanges and agreements with appropriate French representatives, as approved by the Secretary of Defense.

Mr. John B. Walsh - Within the DoD, supervisory review and control of the overall conduct and content of the exchanges to insure compliance with policy, including prescribed limits.

Mr. G. R. Barse

- U. S. single point of contact with French.

Planning, implementation, conduct of
actual exchanges. Insure exchanges and
technical information are within policy
guidance.

Mr. Donald Cotter - Discussions with M. Barron on safety techniques and specific devices, to the extent the French will not infer U. S. warhead design approaches.

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Capt. F. A. Carrier, USN - Maintain complete and current records of policies, transactions, exchanges, plans, approvals, lists of individuals, etc., in a single file, to be kept in custody of Brigadier General Wickham. Escort officer for M. Galley and M. Blancard while in the United States.

Col. James Hall, USAF (Proposed)

- On-the-spot monitor in France, assigned to science attache office in Embassy. Attend all exchange meetings to insure adequacy of U. S. information, and that it stays within authorized limits. Forward reports of each exchange meeting to Mr. Barse.

Dr. Charles Gilbert (AEC) - Control of AEC coordination on safety and underground testing.

Gen. Brent Scowcroft (White House)

- Any requests for changes in policy or scope will be processed through Gen. Scowcroft's office.

(TS) With one exception, the general ground rule regarding the information that has been transmitted, or is authorized to be transmitted to the French, is that the information be U. S. CONFIDENTIAL or unclassified. No U. S. SECRET information is authorized for transmission.

(TS) The exception is the information on Soviet ABM. Transmission of information on this subject has been handled separately.

APPROVED:	
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#### **MEMORANDUM**

#### NATIONAL SECURITY COUNCIL

August 16, 1973

#### SECRET/SENSITIVE/EYES ONLY

MEMORANDUM FOR MR. KISSINGER

FROM:

William Hyland

SUBJECT:

US-French Missile-Nuclear Cooperation

The Galley list (Tab A) is very technical and must be examined in detail with the experts. It clearly raises some momentous political issues. It is an opening bid, of course, but it is an invitation to cooperation on developing a generation of French MRV/MIRV, with high yield thermonuclear weapons. It could take us beyond the level of cooperation with the British, if actually carried out.

#### On the missiles:

- -- First, there is the project of improving the current French SLBM by hardening its warhead, adding penaids and possibly an MRV; would we respond to "inquiries" on improving the efficiency of decoys and chaff, and information from underground testing of the affect of X rays on RVs.
- -- For the next generation French SLBMs, (the M4), we would provide information and "technology transfer" for MIRVs, for solid propellants and accelerometer (the device that measures performance data).

#### On the nuclear side:

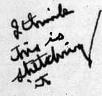
- -- Improving the yield of a thermonuclear warhead, and reducing weight and size;
  - -- "Inquiries" on small, clean, tactical warheads;
  - -- How to set up underground testing;
- -- Acquisition of CDC 7600 computer (currently denied by our definition of advanced computers).

#### SECRET/SENSITIVE/EYES ONLY

#### SECRET/SENSITIVE/EYES ONLY

The French are presenting these as the subject for "inquiries", i.e. a theoretical exchange so that they will avoid dead ends. To this extent, we can probably give them some critical guidance in avoiding major pitfalls.

#### Some Background



It is fairly clear from an internal Defense document, that we have encouraged the French to believe we would be responsive. In fact, the French could claim that the Galley mission was at our initiative and that we raised the question of MIRVs. (Tab B).

#### The Next Steps

Presumably, after your meeting, there will have to be a follow-up with Foster. You may want to let Schelsinger and Foster know of your general approach -- a forthcoming initial response, with the option of regulating the flow if other objectives should so dictate.

But the main point is that by accepting in principle that we can cooperate on these extremely sensitive issues:

-- MIRVs and warhead design and yield -- we are clearly crossing a line that was drawn in all previous cooperation.

#### Questions of procedure that you may want to work out are:

- -- In the French list, what would be a prudent starting point, one that might seem to flow most naturally from the existing agreements?
  - -- Should we now, give them anything on MRV/MIRV?
- -- What should we give them in the nuclear fields, i.e. what is a safe opener?
- -- Should this particular project be kept entirely separate from the existing channels of cooperation (probably it has to be).
- -- How can it be a ccomplished without involving a major part of the Defense bureaucracy, and safeguarding against leaks?

#### SECRET/SENSITIVE/EYES ONLY

- Advices on the overall conception and particular design of the payload of the improved missile SSBS S3 wich will succeed to the SSBS S2 (warhead disposition, hardening, penaids). Inquiries allowing to replace the single nuclear warhead, now foreseen, by three multiple warheads. Providing informations required to develop in France the devices and equipments useful for multiple reentry vehicle.
- Inquiries allowing to improve the efficiency of our decoys and chaffs.
  - Nuclear underground testing for X rays hardening.
- Advices (on an operationnal and technical point of view) on the dispositions that have to be adopted for the M4 missile payload (POSEIDON type) wich will succeed to the first submarine based missile generation (this cooperative work had been suggested by Dr. J. FOSTER). The warhead of these missile is foreseen to be a M. I. R. V. or an equivalent one.
  - Technology transfer for multiple warhead development.
- Technology transfer for performance and aging improvement of french solid propellants.
  - Technology transfer for

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per sec 3.3(b)(2)(4)

Improvements in French thermonuclear formulae for strategic weapons, especially by means of new formulae investigations.

Inquiries allowing to reduce weight and size of triggers in order to improve their hardening and to reach "autosafety".

Inquiries allowing to improve the power stage behaviour (weight, size, yield).

Inquiries allowing to obtain low weighted, clean and adjustable powered tactical weapons.

Inquiries making easier realisation of an underground nuclear site (drilling methods, equipments for measurements, containment and confinement) - Possibility to purchase measurement means and eventually some other items for this test facility.

Inquiries about components, materials (porous fissile material hydrogenated materials, explosives having better properties...) and equipments (neutronic sources, safety devices, firing devices...) for nuclear weapons.

General inquiries about performances which are to be expected with up-to-date nuclear weapons (yield, laws of similitude mass-energy, ratio between the different components weights, hardening thresholds, fiability, reasonable surrounding stresses...).

Purchase of an X Ray generator for high speed radiography (outstanding business).

Purchase or hiring of a CDC 7600 computer (or of an equivalent one).

Purchase of special codes (outstanding bus. ass) and of their up-to-date expansions in order to improve our nuclear weapons (mesh, re-mesh and interface problems, opacity, instabilities...).

Classified complements omphysical data available in opened litterature: behaviour of materials in the high pressure and elastoplastic ranges, equation of state at high pressures and temperatures, cross sections, interaction between photons and matter, interface instabilities...



## TOP SECRET REMSITIVE

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING WASHINGTON, D. C. 20301

2 1 MAY 1973

MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: Ballistic Missile Cooperation with France

I met with M. Blancard, French Ministerial Delegate for Armaments, on Monday, May 7, to discuss the ballistic missile cooperation program. Dr. Currie and Mr. Barse were also present, for the U.S., as were M. Brunet and M. Baron for France.

M. Blancard expressed his appreciation for the U.S. responsiveness to his requests for expanding our missile discussions into new areas. He referred specifically to the four areas cited in Mr. Richardson's April 16 letter to M. Galley -- information on nuclear effects simulators; sale of small simulators; information on hardening of missiles, silos and RVs; and information on Soviet ABM. (These are the areas authorized in Dr. Kissinger's memo of March 9, 1973, to SecDef.) He asked whether it was satisfactory for Mr. Barse and M. Brunet to move forward into these new areas, proceeding in the same question and answer manner as has been customary to date.

I agreed, but raised a point which I felt to be of joint interest. The point concerned the possibility that the present, seemingly openended series of technical questions and answers might lead eventually to undesirable and unintended problems for our joint cooperation while, at the same time, perhaps might not be the most effective means for helping France. The gist of the issue is as follows:

 Present U.S./France agreements call for U.S. assistance in helping improve the operability, reliability, etc., of current French missile systems.

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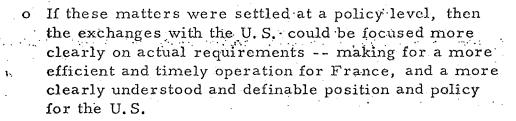
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- and the state of t We have had authority (by Dr. Kissinger's March 9 memo) to go beyond our original charter, to render assistance on improved French systems. We still do not know, however. French goals and objectives, and where to draw the line between what may be regarded basically as improvements to current systems and what are truly next generation systems. An analogy was given in terms of our submarinelaunched FBM system -- noting that the POLARIS A2 was basically an improvement of the Al; that the A3 POLARIS was also generally in the same category, although borderline in the reentry vehicle area because of its multiple RVs; but that POSEIDON was definitely a new, next generation weapon system, carrying a MIRVed reentry system.
- o The present series of questions appears to be an attempt by groups of technical specialists in France to explore all possible avenues of improvement open for succeeding generation missile systems. Intrinsically, such an approach tends to be broad in scope, seeking to develop as many options as possible. It could include -- potentially in fact, even if not explicitly stated -- information pertinent to multiple RVs, including MIRV; MARV; penaids; accuracy etc.
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- o Some topics, such as MIRV, are particularly sensitive in the U.S. A resultant restraint in these areas might be misconstrued in France as lack of U.S. responsiveness. On the other hand, lack of restraint would mean release of information which might not be in our best overall interests -- and could be very troublesome in the Congressional area, for example.
- o Such an exploration of technical avenues seems to ignore the more basic dual questions concerning,
  (a) French Strategic Force objectives, and (b) the missile and system characteristics required to satisfy these objectives. It could well be that many questions sensitive to the U.S. are not necessarily vitally germane to French objectives.

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o These dual questions should be addressed at the top political/military level in France, with requirements flowing down therefrom -- rather than the opposite approach, as now appears to be the case. Furthermore, the existence of the technical exchange may tend to delay timely consideration of the larger, more



important and essential issues at a high level.

I noted that the issue was raised as one of joint interest, to seek his views, with the intention of mentioning it to you as a possible topic to discuss with M. Galley. I raised further the possibility that, if the French Government wished, the U.S. might agree to a high-level joint meeting -- with U.S. representatives such as yourself, the Chairman, JCS, and perhaps several others -- in which France would present its strategic objectives, for the purpose of obtaining a considered U.S. view as to the best means of achieving those objectives. It was emphasized that this was not an offer or commitment on my part, but a suggestion of a potentially helpful move which would require guidance from you as to its feasibility.

M. Blancard understood and concurred, but noted that determinations of French strategic policy are not within his jurisdiction and he would have to refer such matters to his Defense Minister, M. Galley. He then made the following comments/proposals:

- o The French have adhered strictly to the letter and spirit of our original agreements, including the constraints to deal only with current systems.

  This has constituted a severe restriction at times.
- o The French Government has already decided on a series of improvements for both land and sea based strategic systems and they are working now toward these specific objectives.

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- These decisions include a sequence of modifications quite analogous to our POLARIS sequence. Briefly, they plan a new second stage for the sea-based system, and subsequent incorporation of the same second stage in the land-based missiles. Also included is incorporation of a thermo-nuclear warhead (single -- not multiple) into the sea-based system and, somewhat later, into the land-based. The updated land-based missile will go into a new third division (consisting of 9 missiles) at the Plateau d'Albion (for a total of 27), with eventual backfit of the first two divisions. There will be hardening improvements -- and possibly some penaids -incorporated into these systems also. These improved systems will be phased in over the period 1974 or 1975 through approximately 1980.
- They also are planning a major new sea-based missile system, referred to as the for deployment in 1984 or 85. Characteristics and requirements for this are just now under discussion in France and have not been settled. Present thinking is that it will have multiple RVs -- but whether MRV or MIRV is not yet known. There may be a comparable land-based system also, but planning here is completely vague and no decisions relative thereto have been taken at all.
- They propose that we draw the line between current systems and new systems at the above-described -- that our present agreement be construed to include those systems described above which precede the and therefore that we continue to operate generally as at present on these presystems. It is recognized that, with this clearer definition of objectives, our efforts in turn can be focused and understood more clearly.
- M. Blancard will seek guidance from M. Galley (in which decision General Maurin will participate) on the possibility of a high-level meeting between

# per sec 3.

## TOP SECRET SENSITIVE

France and the U.S., at which France presents its aims, objectives, limitations (such as funds, etc.) and the U.S. then makes recommendations. He sees and proposes this as applicable to the missile -- and possibly beyond -- but not the preceding ones.

M. Blancard and I had a short, pleasant meeting with M. Galley at which we discussed briefly the same topic. M. Galley appeared to be interested and generally to agree, but made no substantive comment.

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M. Blancard would like to discuss these matters further with M. Galley as soon as possible and wishes to know the U.S. position. There are two fundamental U.S. decisions he seeks:

- (a) Do we agree to "draw the line" as described above, construing our present agreement to include those systems prior to the
- (b) Could we agree to consult with them, if his government agrees, and make recommendations on and possibly beyond?

Regarding (a) above, it appears quite straightforward to me and an excellent solution. I therefore recommend we proceed accordingly.

I believe also that (b) is a good suggestion. Although it was raised in the context of "drawing a line" between current and future French systems, my real concern is deeper: the viability of the French strategic posture; the validity of its deterrent; the fulfillment of an implied moral obligation on our part to speak up if they appear to be doing unnecessary things; and to seek to accomplish our mutual cooperation program with release of no more U.S. information than is actually required.

There appears to me a real possibility that France will be "trapped by technologists" -- that enchantment with new technology, possibly coupled with a "keeping up with the Joneses" attitude, could lead to development and deployment of systems which do not respond to the fundamental realities of their situation. A case in point is MIRV.

They are thinking in terms of a MIRVed reentry system for their missile. It is not at all clear that this is the optimum, or even an appropriate, move.

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Another case is pre-launch survivability of their land-based force.

The small number of missiles they have could easily be overcome by a Soviet first strike. With this the case, the deterrent value of their force is relatively low. An obvious step -- other than nuclear hardening of silos and missiles, which is never apt to be sufficient in itself -- is to deploy a warning system, to provide an option for launch on warning. This they have not done. Perhaps a solution would be to tie them in to our own satellite warning system.

Since, generally speaking, it seems in our interest, and also in consonance with our national policy, to make the French strategic systems as credible as possible, mutual examination of the French problems, objectives and proposed solutions is recommended -- presuming, of course, agreement on their part. These are the thoughts underlying my recommendation on (b) above.

I might note that M. Blancard is quite anxious to hear from us as soon as possible.

Request your guidance.

John S. Foster, Jr.

## COORDINATION:

The views of ISA on this matter are attached. You will note that they concur with "drawing the line" as recommended in (a) above.

They do not concur, at present, in the recommendation (b) above not because of an intrinsic disagreement, but because they view it as going beyond the limit of current Presidential guidance. They recommend it be forwarded to the President for consideration. I have no quarrel with such a procedure. It is probably true that the move is beyond our current written guidance; it seems doubtful that it is beyond current Presidential intent, however. In any event, my memo requests your guidance and I prefer to leave it in that context.

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