MEMORANDUM OF CONVERSATION

PARTICIPANTS: Robert Galley, French Minister of the Armed Forces
Jean Blancard, Ministerial Delegate for Armaments
Henry A. Kissinger, Assistant to the President for National Security Affairs
Dr. John S. Foster, Jr.
Helmut Sonnenfeldt, NSC Senior Staff
General Vernon Walters, Dep DCI (interpreter)
General Brent Scowcroft, Deputy Assistant to the President for National Security Affairs
Peter W. Rodman, NSC Staff

DATE AND TIME: Friday, August 31, 1973
10:15 a.m. - 12:45 p.m.

PLACE: The patio of Dr. Kissinger's Office
The Western White House
San Clemente, California

Kissinger: If anything should get out to the press, we'll just say that you stopped here on your way back from Tahiti.

Galley: We took every precaution to insure secrecy. I'm sure no one knows on our side.

Kissinger: The trouble on our side is that the Air Force people see your plane.

Walters: We can just say the plane landed here because the other field was closed. It was to land at March but it had to go to El Toro instead.

Kissinger: We'll say you are an old acquaintance, your plane was diverted to El Toro, you called to pay your respects, and I asked you down. There is very little possibility that this will happen, but I like to be prepared.

Galley: The press is not interested in things on weekends.
Kissinger: Here they're focusing on personnel for the State Department! I'm sure you are not interested. [Laughter]

Mr. Minister, we've had several discussions here and today we will give: you our general thought. I understand you will be here September 23 for a visit with our Defense Minister; you can reflect on what we've said here by then.

We have taken on Foster as a Special Consultant to the Secretary of Defense to handle this proposal. You know him.

Galley: And we appreciate it.

Kissinger: So we're all dealing among friends.

Let me first give you some of our general views--our strategic assessments--and then I will ask Mr. Foster to give you some specific observations. That is, if we may. Would you like to say anything first?

Galley: There are two small things. First, our President in the last meeting with me put a very big importance to our meeting. Second, as I told Dr. Foster, we are more prepared after our last tests to discuss the subject, because it seems to us now that we are more prepared to have another step, after tests--particularly

Kissinger: Good, I'm delighted.

I will be very open with you on our general approach. As our President said to your President, and as I explained last time, we are sympathetic to your program. A strong France, no matter how difficult it may be sometimes, is in our interest--a strong France that is interested in its own defense--and we are particularly disquieted by trends in other countries to neutralism. And if the French program fails, and if France were driven to a sense of impotence, it would be to the disadvantage of all of us. This is in the context of overall agreement between us on political issues and a generally favorable relationship between our two countries.

Let me give you our general assessment. As we work together, we will have to refine our joint strategic assessment. Because we can't be very helpful on projects unless we know what you're trying to do.

Our assessment is that the Soviet offensive capability is growing rapidly. When the Soviets have deployed accurate MIRVs, in the late 70s and early 80s, the vulnerability of all land-based forces will increase, especially without warning. So one of our preliminary assessments is, if one looks at your problem as a
system, we think--subject to your comments—that finding some method of warning will become of some consequence. Mr. Foster will have some observations on that.

Galley:

Second, I have the idea that everything is in the grasp of French but early warning. And I told our President this many times.

Kissinger: That was our assessment. We are in principle willing to discuss some ideas we have in a preliminary way.

Today I thought we'd discuss categories. And we are prepared to have Dr. Foster come over.

Galley: Thank you.

Kissinger: We see no possibility for you—and decreasing possibility for ourselves—of achieving a counterforce capability. Therefore we look at your force as a deterrent force. This is our analysis. We're prepared to hear a different view.

Galley: That is the view of our force and our President. But it seems to us that we have to be prepared to have deterrent forces at every level. Not just strategic deterrence. This may be an error.

That's why in '76 we will stop new submarine-based systems.

Kissinger: Why?

Galley: We'll have six by then. But the priority by then will be tactical, multipurpose, to prepare our air and ground forces for this.

Kissinger: You don't have an Admiral Rickover. Then you would never stop building submarines.

Galley: You were very lucky to have Admiral Rickover.

Kissinger: But the trick is to get great men to retire at the appropriate point!
Galley: This orientation of defense policy will not only have to take the strategic deterrent but rest. The necessity is really to have four deployed--120 missiles. The seventh submarine is not totally excluded but it is up in the clouds.

Kissinger: That is considerable. Will you be able to put larger missiles on it?

Blancard: Our missiles have a diameter of [redacted] We can get up to 1.92 meters, which we foresee for multiple warheads, starting in 1984 when we will begin rebuilding.

Kissinger: You can get a longer range in your submarine missiles.

Foster: Or more payload.

Blancard: [redacted] As the Minister said, the favorable result of the test campaign just taken place enables us to make considerable gains in range. One of our handicaps was that our warheads are much heavier than yours. But it will improve—even with the present systems.

Galley: I am completely convinced that the weakness of our submarines is the short range missiles, and we need to go to [redacted]

The first objective for distance and range is the distance from [redacted] the Soviet Union. It will be obtained only by the lightening of the warheads of the present systems. [redacted]

Kissinger: But it means you need some warning.

Galley: Exactly.

Kissinger: We believe it is within your capacity to achieve a deterrent system. The key improvements you need are the removal of certain vulnerabilities of design, some tactical warning, and selection of various penetration devices—such as decoys, chaff and maybe some cruise missiles.

We can't get our own Air Force to build them. Because if they do, they are afraid we will kill their new bomber. Not until 1980!

We think we can intensify some of our present exchanges, to have discussions on general strategic objectives, to discuss frankly what we consider your weaknesses and what can be done to overcome them, and to help on some specific projects to be mutually agreed. For example, as we discussed the last time, we are prepared to agree now to let you use our underground testing facilities.
It will require an exchange of information on what you want to test, and we have to tell you about our facilities.

One problem is, before we do it-- and it is agreed we'll do it-- but we'll have to brief a few Congressmen. We don't think it will create an enormous uproar. And it needn't go further than that we are exploring the possibility of your use of our underground facilities. No other subjects will be the subject of briefing.

Kissinger: When are your next atmospheric tests?

Galley: Next year.

Kissinger: As long as you keep Mr. Whitlam's moral energies absorbed, it's in our interest. [Laughter]

Galley: That fact that the French are continuing tests is itself a form of deterrence. Many people see that we don't care. Yesterday I told the press in Tahiti that we would not agree to stop our atmospheric test program.

Kissinger: I think that's right. If one has an international position that one is unyielding, the other has to make concessions. Just don't try it with us! I, too, was a student of DeGaulle. [Laughter]

Galley: Excellent. It's why your meetings with Jobert are so interesting. [laughter]

Kissinger: And fruitless! [Laughter] [Laughter]

Our assessment is: 38 SS-11s could remove your land-based forces, with a 95% probability--unless you obtain tactical warning, and a certain amount of intelligence information as to targets, will also be useful.

On multiple warheads, our own preliminary view is that the advantage of MIRV is really primarily in accuracy. Multiple warheads are better than penetration aids and chaff, but whether a deterrent force needs a high degree of accuracy we're not sure about. This is our judgment. You know this is a Protestant country, with a certain missionary streak. So when some of our experts talk,
it may be that they can't resist saying they know best. If that happens, you can get in touch with me. But it's our honest judgment—including my own—that if one doesn't aim for counterforce, MIRV may not be necessary but MRV is necessary.

Galley: We understand that the deterrent power of an MRV relative to a single warhead is tremendous, because of the difficulty of stopping all of them. But whether MIRV adds to the deterrent power of the MRV isn't clear.

Kissinger: Yes. Unless the target is a silo.

Galley: [draws diagram] With MRV, and a certain trajectory, the defender can know something about where it comes and can prepare the defense. But with MIRV, the trajectories are all different and it is much harder to prepare the defense.

Kissinger: That's a very interesting point. We should discuss this. MIRV, even in a deterrent mode, increases the problem of unpredictability for the defense.

Galley: As a deterrent. Independently of accuracy.

Kissinger: [to Foster:] That is an interesting point.

Foster: Let me give you a slightly different view. If we want to attack it's a big area—we have two choices, one warhead or many, say 10. If we use one, it's large—The warhead and many other objects—chaff—are used. So the defense doesn't know where the warhead is. Also we release many other clouds of chaff, all into the target area, one after the other. The enemy doesn't know which one has the warhead. If we make many warheads, each one again can have a chaff cloud—but there also are many warheads with many chaff clouds, MIRV or MRV. In both cases the enemy has to shoot down every object to have a high confidence.

Kissinger: That's the difference between one warhead and MRV. What about between MIRV and MRV?

Foster: MIRV permits us to send one of these objects to another city.

Galley: It is very important for us to have the possibility to launch an appreciable number of missiles before the submarine is destroyed.

Foster: A good point.
Galley: The number of submarines then will be limited. We have no Admiral Rickover. The problem for our type of deterrent is that it is better to have a small number of missiles but [missiles which are] very difficult to intercept or destroy.

Kissinger: MRV can only increase the possibility of destroying one target, while MIRV permits you to attack more targets. And you can package some chaff even with MIRV.

Foster: Oh yes.

Kissinger: Foster's point is that if you have 10 targets, with MRV you would give each target to a missile, and each missile with several warheads has an increased possibility of hitting. With MIRV, each missile can hit several targets and they would cross over.

Foster: Yes. It is a more complicated way of doing the same thing.

Kissinger: I would like to see an analysis. Isn't the damage different?

Foster: About the same.

Galley: It is a very important point for us.

Kissinger: Orally it's impressive but it must be subject to analysis. There must be a numerical answer.

Galley: Exactly.


Foster: Certainly.

Galley: This is something we French can't answer ourselves because we need to know the defenses.

Kissinger: We will work with you on it.

Blancard: We believe we cannot go beyond three MRV's because the lack of precision might go beyond the boundaries of a large city.

Foster: We can work that out.

Kissinger: We can't solve it here.
Galley: We will have a complete discussion on what is appropriate for French forces.

Kissinger: Exactly.

Galley: Thank you.

Kissinger: We will need this before we can consider what information you and we need.

Galley: We need to know about MIRV and MRV. We need to increase the diameter and lighten the load. Probably our capability now is to make seven MRVs in one warhead, after our recent tests. MIRV is different.

Kissinger: What accuracy with seven?

Galley: [Blacked out]

Sonnenfeldt: [Blacked out] One-half of them in that range.

Blancard: The question of chaff: I am very anxious to know where in this technique I should spend my money to get the greatest efficiency. I fear that to develop decoy and chaff technology will cost a great deal of money, because it will take a great many tests and I will never have definite proof that what I have is effective.

[Dr. Kissinger goes inside his office for a moment.]

Foster: We will probably have an opportunity to help you on this problem. As Dr. Kissinger mentioned, we have not only Rickover but many technical zealots. We have had a single warhead with decoys and chaff; and we have had multiple warheads with decoys and chaff; and MIRV with decoys and chaff. When you look back on it and see the cost, sometimes you wonder whether you should have done it differently. But you still have to live with your technical zealots—and you may not be able to use our experience. You may have to do what you want to do!

[There was a brief discussion between Galley, Scowcroft, and Walters on arrangements for their staying overnight in Los Angeles. Dr. Kissinger then returned.]

Kissinger: We should get it analyzed numerically. You give us the basic information; we will give you the information on defenses--so you can judge for yourselves too. It is not a question of judgment. If we make certain assumptions of
of accuracy and defenses, [it can be analyzed].

You will factor in your targets. If you don't want to give us all your targets, you can give us more than you have! The analysis will be the same.

Galley: What is important is not the targets but the objective of defense.

We are interested in your SALT because some Soviet cities will not be defended.

Sonnenfeldt: None will be, except Moscow, and that only with 100 missiles.

Galley: Why aim at defended cities?

Foster: Exactly.

Kissinger: The British always tell us they have to hit [redacted] I don't know why.

Galley: I am not sure that in ten years other cities won't be defended.

Kissinger: I agree. They are not prohibited from testing and research and development. So it is not impossible that they will develop something and deploy it very rapidly. We will know. We will know whether they are developing and deploying. But the problem is whether they can do it so rapidly that we can't do anything about it. Now it takes three to five years to build a radar. If we see them building radar in areas that are prohibited, we would have a reasonable lead time. [Foster nods yes.] But suppose they develop transportable radar. They could deploy it in three months.

So if I were designing a force, I wouldn't do it on the assumption that only one city would be defended. [to Foster:] Do you agree?

Foster: Yes.

Kissinger: It is our problem. You have the same problem, and less information.

Let Johnny talk more precisely.

Foster: Let me start by saying I believe, from the discussion of Minister Galley and Dr. Kissinger, that we are in for a change in the way we look at this joint effort. Let me review the kinds of things we have done in the past. For example, we have exchanged some information on propulsion, the propulsion of missile
systems, where we were able to assist French technicians in bonding the propellant to the case. There was a problem about navigation systems, gyros; it was a problem of reliability. If the gyro begins to drift off target, the submarine must surface, to look at the stars -- which makes the submarine very vulnerable. It can be crucial to the survival of the force. We think that is fixed. There was a problem about the high-pressure nitrogen tanks and corrosion of the tanks. That is fixed. There was concern over the safety of the missile while in the submarine -- accidental launch. We have had the same concern. We think that that problem has gone away. There were problems with electrical connectors and hydraulic systems. Our exchanges have been helpful. The most difficult area has been the question of vulnerability of systems to nuclear effects. It is difficult because we have to know what we are talking about, and that requires tests that are unique to the problem that one thinks one has. We are just starting that, and it is much more difficult than the others.

We think you have gained: Your anxieties have decreased in a number of areas, for example, reliability, safety, deterioration, vulnerability, and hardening. Second, we have highlighted in your mind the problem of Soviet defenses, and we believe we have saved you some time and some money.

Galley: In telling us about Soviet defenses, which was unknown, you have encouraged us.

Blancard: Dr. Foster's information helped us to clarify on many points we hadn't known. We will use this in the third group of missiles, and later redo the others.

Foster: In these exchanges, the objectives I have in carrying out Dr. Kissinger's instructions are that we provide what is authorized and follow through on our commitments, that we don't give you more than you can digest, and that the information not become generally known.

Kissinger: While we are on this subject -- we have a weird governmental setup -- I am maintaining supervision of this in my capacity as Assistant to the President, not in State. So this is not in normal channels. The executive agency for the President is the Department of Defense, but we will pass it on to Defense. General Walters will represent intelligence, and Sonnenfeldt will represent me, and Scowcroft is my deputy.

So keep it in this channel.
Galley: Jobert does it for us, not because he is Secretary of State but because he was formerly Secretary of the President. In the Department of Defense, the only people who know of it are the people who were in Debré's office. Boidevaix.

Blancard: The question of organization you have brought out is fundamental to this, so I want to be sure. We had a certain organization since our agreement, the agreement between Blancard and Foster in November 1971. There was a pivot in each country. Dr. Kissinger will conduct this as Assistant to the President. What is the role of the American Minister of Defense?

Kissinger: He is bureaucratically in charge, under the authority of the President, which I exercise. The basic policy questions I am responsible for. But once policy is set, the majority of exchanges will be conducted by the Minister of Defense. If any policy question comes up, refer it to me.

Galley: On our side, I am responsible for the complete job.

Sonnenfeldt: It is important to get communications straight.

Kissinger: Communications should come to my office. There is no other way to keep the communications restricted. Just keep using the channels you are now using. Send it to me; I'll get it to Schlesinger and Foster.

Foster: In these exchanges we have had so far, discussion was straightforward. But what we have outlined here will lead to a substantial broadening of the range of information involved. In the United States, 100,000 people are working in the area on which you will have a number of questions. So the problem is to take from all of the information of the last fifteen years, plus the information that comes every day from the 100,000, to find what you really need and supply that to you.

Galley: It's a major problem for everybody. Let me give you my approach. The subject is the fabrication of warheads; it is out of the question that more than two or three French will be in contact with your people, if we want to keep security in each category. In warheads, only two people...
Kissinger: And in some cases we may not be able to give you information, but we can critique what you are doing. We can say "That's the wrong way." So there are many ways to give you the information. Because we have to be in a domestic situation we can defend. It can be like a seminar; you can say you have three possibilities and we can tell you, "That's wrong; that's complicated," etc.

Galley: We tested two different triggers, and both were successful.

Foster: That's no good!

Kissinger: The Russians are testing two missiles that are alternatives.

Blancard: We had agreed with Foster that contacts would only take place on the state-to-state level and never on an industry-to-industry level. Is this still correct?

Foster: Generally yes.

Dr. Kissinger mentioned your concerns -- warning, and vulnerability of missiles to very long-range nuclear effects. If an explosion takes place in outer space, the nature of the electronics is such that a missile could go crazy even if it is 1000 miles away and the missile is still deep in the atmosphere. This phenomenon is well understood. We can fix it provided we know what it is we want to fix. We have to submit to tests. Our technical people tend to put it off until very late. Maybe you have this problem too. Solid-state electronics is very vulnerable. Any burst makes currents run up and down the missile.

Kissinger: A French missile exploding in the Soviet Union may affect a follow-on French missile, or a Soviet missile exploding in France?

Foster: Yes. It is not hard to fix. Airplanes have to fly through lightning; we've fixed it. It can be done through underground tests or simulators. It can be done better in tests in the atmosphere.

One area is penetrating Soviet defenses. Have to know, one, what effect the defenses will create and how to get through. And, two, to have enough payload flexibility in the missile to do it. You will have to choose where to make the weight reductions. The technicians will have their own ideas of how to do it.
Galley: The question is whether to take weight from warheads or chaff.

Foster: Yes, and to find the correct balance.

Let me go back to the question of management. This [schedule chart] is a plan of your sea-based missiles. In a few years you will make new a missile with new second stage. Then the new system will come in.

Blancard: By 1976 we will have decoys. But no chaff.

Foster: We have agreed to have exchanges in this area. And still another development, multiples. This is similar to the plan for land-based force.

My problem is: We have the problem of vulnerability of the present force, which we have to solve. And we have to solve the problem of a new system in an orderly way. And the system in 1984 that we have to look at.

In each area -- an example is RV's -- there are problems on seven different systems simultaneously -- operational ones that relate to our experience ten years ago and ones with respect to 1984 that relate to problems we're still suffering. So it's very harmful to try to help a man with problems with a currently operational system by telling him the whole world of technology.

Kissinger: Let's discuss between Foster and Blancard about what you have to mind, what problems we see, and spend the next weeks to work out the correct methods. John?

Foster: Perfect.

Kissinger: You have to know what really will help you, and we should work it out between the experts. What do you think?

Galley: Exactly. I understand you are decided to help us as much as possible, so that at the end, we will be able to make more deterrent weapons. But also that we will be able to make in 1978 and 1979 the weapons otherwise we would make in 1984. And the third objective is to make it less expensive. So we cannot fix our objective without a complete discussion. For example, you say MIRV: If you tell us you can't help us in this, we would chose another objective that is less ambitious, because we are alone. So we should use the next six weeks to find out how far you are prepared to go.

Kissinger: On MIRV and MRV, the question has first a technical aspect and second a political aspect. The technical aspect we will handle with the
experts. The political aspect we have to handle in the context of West-West relations. If we gave you MIRV, that would affect our relations with the Soviet Union. If we helped you speed up your own development, the inhibition would be less. We have to assume our cooperation will sooner or later become known, and it has to be such that we can survive its becoming known. We have no fixed idea. So we should look at the technical side first. You may decide you can achieve your objective without MIRV. Then the problem will disappear. If you decide on MIRV, then we will have a frank political discussion. I'm not saying we won't do it. There are Congressional constraints. It is always easier to transfer information than hardware.

Galley: Discussions between Foster and Blancard won't have to be submitted to Congress.

Kissinger: No, absolutely not. It would be better if we operated within limits that don't have to be submitted to Congress. This is a bad year. It may be better later. This is why it is important to keep the channels we mentioned. Nothing has leaked from my office.

On underground tests, we will have to inform Congress.

Foster: But only that we are considering it.

Galley: We will meet all the conditions to avoid having to use it.

Kissinger: No, we are prepared to consider it; we are prepared to go beyond what needs Congressional approval. But not for the next three to six months. At that point we don't object to doing it.

Galley: For the next months, we have to discuss our objectives.

Kissinger: Second, after that, the passing of intelligence information, information on early warning, critiquing your program -- none of this requires the approval of Congress.

Galley: For example, choosing between two ways of triggering doesn't need Congressional approval.

Foster: I don't think so.
Sonnenfeldt: And there is a distinction between getting approval and just informing.

Galley: And you use this method, I understand, in passing on information to the French and the British.

Foster: Yes, and they've been good.

Kissinger: I don't think any of this requires Congressional approval.

Galley: What is critical will be to be able to buy in your country equipment for underground testing.

Foster: Diagnostic equipment.

Kissinger: I think that's a bureaucratic decision. If Schlesinger and I agree, given the President's attitude, I don't think it's difficult. I'll have to look into it.

Foster: It's unclassified information.

Blancard: We have a number of programs underway, 1976, 1980, 1984.

Sonnenfeldt: Those are presidential elections years!

Blancard: We have presently fission nuclear weapons. From 1976 on, we will have thermonuclear warheads, single warheads, with decoys -- of which we are not terribly proud. We forecast for submarines in 1984 multiple warheads, which we don't know whether it will be MRV or MIRV. We are anxious to talk about this. For land-based weapons, it will be very expensive. Debré decided a change in silos. In 1980, the same warheads, with decoys and perhaps chaff.

Sonnenfeldt: Why do you call your missile Albion?

Blancard: It's a plateau in Haute Provence. It has nothing to do with England.

Kissinger: Sonnenfeldt will sent to diplomatic school.

Blancard: Single but thermonuclear warheads in 1980. It would be important to know if in 1980 we can have, with your help, a multiple warhead. It is worrying for us not to have it in 1980 a multiple warhead you had in 1963.
**Kissinger:** Draw up in the next weeks the questions on which you have to make decisions, and the dates by which you need our answers. Then we can tell you whether we can give you an answer, and then we will undertake to give you an answer by a specific time. But our attitude will be the one I've described -- to attempt to be positive and make your decision easier.

[Dr. Kissinger was then called to the President's office. The discussion continued in his absence.]

**Sonnenfeldt:** When the information gets into your system, I assume the source of it is "caché" [concealed].

**Galley:** Absolutely. It will be presented as our reflections on the results of our studies of our tests this year. And the general conclusions from the tests will be restricted. It is harder to do this on the technical side than on the scientific side.

**Sonnenfeldt:** [to Scowcroft:] That's what I'm getting at. It's much harder to do this on the missile side.

**Blancard:** To be frank, it is more applicable to the atomic area than to the technical. One reason I've kept it through Brunay -- because if a technician says, "We've got 3 possible ways to do it," Brunay can say "I want it done this way."

**Galley:** I think one way to solve it is to explain to our people that we have a good intelligence service.

**Sonnenfeldt:** We'll have to catch a few French spies and try them!

**Blancard:** [to Foster:] I have a question I meant to put to Dr. Kissinger. You remember our agreement of November 1971. It says exchanges of information will be only on existing systems.

**Foster:** "Not be directed at developing the next generation."

**Blancard:** But that's what we are now asking.

**Foster:** As I understand Dr. Kissinger, MRV and the single warhead are the
same system. But whether we have to revise the agreement depends on our review of objectives in the next six weeks. It may be that you don't need it. If you decide you want MIRV, we can consider it. That's what we will jointly review.

Blancard: We will have as soon as possible general discussions of our objectives, and then we will see what are our needs.

Foster: Right.

Galley: It might be a good idea for Dr. Foster to come to France for 10-15 days, to spend 1 to 3 days with us-- before I come back here. So we can answer a number of questions. So we can have the first step by Christmas. Because by then we will be making decisions for our 1974 test campaign. For example, on the triggering in September.

Foster: Of course. I am not employed at the moment, and I have to arrange it between Mr. Schlesinger and my new employer. But I anticipate no problem.

Galley: You are not employed?

Foster: Not at the moment.

Galley: May I make you an offer? [Laughter]

[The meeting then broke up. When Dr. Kissinger came out of the President's office, the group went into luncheon.]