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**BYEMAN**  
CONTROL SYSTEM~~(S)~~ NATIONAL RECONNAISSANCE OFFICE  
WASHINGTON, D.C.

THE NRO STAFF

April 16, 1971

## MEMORANDUM FOR THE RECORD

SUBJECT: Identification of Impacting Fragments from  
Space Vehicles

On March 2, Under Secretary of State Irwin requested comments from the Defense Department on the prospect of the United States introducing an initiative before the Committee on Peaceful Uses of Outer Space which among other things would call for the marking of space vehicle parts. The rationale for this initiative is to assure that appropriate liability is established in the event of damage caused by a failure to burn up upon re-entry. This initiative is very similar to one introduced by the French two years ago.

We were requested by ASD/ISA to help frame a response to Mr. Irwin from Mr. Packard. I worked primarily with Dwayne Anderson of ISA. Since I felt that the basic reply to the correspondence was too weak, I initiated a separate concurrent letter to Mr. Irwin, also to be signed by Mr. Packard, in the TALENT-KEYHOLE System. This TALENT-KEYHOLE letter expressed what is initially the NRO concern of the potential spotlighting of our reconnaissance vehicles. The correspondence was agreed to by Dr. McLucas and ODDR&E as well as OASD/ISA.

It is my understanding that State is continuing its interest on the subject and a meeting was held April 14. Mr. Packard's letters, however, had not yet reached Mr. Irwin.

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We expect that State will back off from its ideas of marking and concentrate only on the issue of reduction of space debris.



HAROLD S. COYLE, JR.  
Major, USAF



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## OFFICE OF THE SECRETARY OF DEFENSE

4/6/71Memo For Mr. Clements

I checked this & conferred with Howard Barfield. We both agree that the proposed has Def responses all correct & in keeping with our COSMOS 316 experience; ie, we knew whose they were & even with markings you can't make anyone admit the pieces are theirs.

I also believe the responses are in keeping with the lower profile Mr. Laird & Mr. Packard indicated they want to maintain in this area.

Ernest J. Shantz  
OAD (detail)

OUR  
FILE

~~SECRET~~ EYES ONLY

WHEN WITH ATTACHMENTS

SECURITY CLASSIFICATION

<b>DASD/ISA INTEROFFICE CONTROL SHEET</b>	DATE 23 March 1971	LOG NUMBER 1- 2732/71
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SUBJECT:  Problem of Identifying Impacting Fragments from Space Vehicles	NAME, DIRECTORATE, EXTENSION, AND SIGNATURE OF ORIGINATING OFFICIAL:  Dwayne S. Anderson <i>DS</i> PD x76645
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		INITIAL	DATE			INITIAL	DATE
3	ASSISTANT SECRETARY	S		DASD I-A, FYD&MR AFF	I		
2	EXECUTIVE OFFICER	XO		DIR, I-A REGION	IA		
	ASST EXEC OFFICER	AO		DIR, FMR AFFAIRS	IF		
	RECORDS & CONTROL	RC		DIR, ST&D	IT		
	DEP FOR MC&TO	TO		DASD FOR MA&S	M		
	SPECIAL ASSISTANT	SA		DIR, MA&S	MD		
	SP ADV (POW AFF)	PW		MA&S COMP	MC		
	CONF ASST TO ASD	CA		DEP DIR FOR P&P	MP		
				DEP DIR FOR ISN	MN		
	PRINCIPAL DASD	D		DEP DIR FOR OPNS	MO		
	MILITARY ASST	DM		SP ASST FOR FM&CP	MF		
	ASST FOR SP PROJ	DS		DASD NE, AF&SA AFF	N		
	DASD FOR EA&PAC AFF	A		DIR, NE&SA REG	NE		
	DIR, EA&PAC REG	AD		DIR, AFRICAN REG	NA		
	DIR, VIETNAM TF	AV		DASD P/PL&NSC AFF	P		
	DASD EUR&NATO AFF	E		DIR, P/PL&NSC AFF	PD		
	DIR, EUR&NATO AFF	ED		DEP DIR, NSC COORD	PN		

COORDINATION OUTSIDE ISA

ACTIVITY	NAME AND TITLE	INITIAL	DATE
GENERAL COUNSEL			
THE JOINT STAFF			
DEPT OF STATE			
<i>DR J.L. McLucas</i>		<i>ML</i>	<i>2 APR 71</i>

REMARKS (Including Coordination Outside ISA Not Shown Above)

Recommend you sign the attached self-explanatory memorandum to Mr. Packard.

Coordination:

DDR&E - *E. Rechten*  
 USAF - Dr. J.L. McLucas, Under Secretary

*except for last two sentences in DepSec to Brown letter on page 1 which could be read as insulting to State's intelligence! Points will made w/o these sentences. E/R*

SUSPENSE DATE

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~~CONFIDENTIAL~~THE DEPUTY SECRETARY OF DEFENSE  
WASHINGTON, D. C. 20301

Honorable John N. Irwin II  
Under Secretary of State  
Washington, D. C. 20520

Dear John:

This is in answer to your letter of 2 March, in which you discussed the issue of identifying space objects. We have reviewed the problem and have studied the three proposals you have mentioned.

In general, the feeling here in Defense is that the reasoning in the U. S. working paper on this subject, submitted to the U. N. Scientific and Technical Subcommittee on 20 April 1970, is still valid as are the conclusions reached by that Subcommittee in its report issued on 1 May 1970.

With respect to proposal (a), Defense considers that, for reasons of safety and economy, a marking system that would survive re-entry is not technically practical at this time. We also continue to believe that there is no significant difficulty in identifying space objects which do survive re-entry.

With respect to proposal (b), our researchers have on several occasions studied the problem of ensuring that space vehicle components would be consumed upon re-entry into the atmosphere. At this time, we see no economically practical means of accomplishing this.

With respect to proposal (c), the use of space shuttles may reduce the amount of tankage placed in near space. We feel that the use of such shuttles to recover satellites

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Downgraded at 8 year intervals;  
Declassified after 12 years.

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before their orbits decay might be prohibitively expensive for the foreseeable future. In the present early stages of planning for the shuttle system, it may be premature that the shuttle will minimize debris. Such ideas, however, are being explored.

Defense personnel would, of course, be happy to meet with State and NASA experts to further examine this problem and I understand that my staff has already been in contact with Mr. Allen to offer their assistance.

Sincerely,

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GROUP 4  
Downgraded at 3 year intervals;  
Declassified after 12 years.

~~CONFIDENTIAL~~ASSISTANT SECRETARY OF DEFENSE  
WASHINGTON, D. C. 20301

INTERNATIONAL SECURITY AFFAIRS

In reply refer to:  
I-2732/71

## MEMORANDUM FOR THE DEPUTY SECRETARY OF DEFENSE

SUBJECT: Under Secretary of State Letter on the Problem  
of Identifying Space Fragments

On 2 March, Mr. Irwin sent you a letter (Tab B) in which he stated that the time had come to take a fresh look at the problem of identifying deorbited space fragments. He also outlined three proposals which might be used as a basis of discussion during this fresh look.

While we can and will meet with State and NASA on this issue, our knowledgeable people have reviewed the problem and have come to the conclusion that the previous U. S. position (Tab C) as submitted in a working paper to the U. N. in April 1970 is still valid. The paper makes the point that this marking is costly and that present means of identifying are largely adequate in any case.

We have informally discussed this with NASA and they concur in this view. We have also established contact with Mr. Allen as suggested by Mr. Irwin. A separate special category note to Mr. Irwin which further explains our position is also attached.

## 3 Enclosures

Tab A - Ltr for Signature  
Tab B - Ltr fm UnSecState  
Tab C - U. S. Position

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COORDINATION:

USAF - Dr. J.L. McLucas, Under Secretary  
DDR&E - E. Rehtin, Principal Deputy





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THE DEPUTY SECRETARY OF DEFENSE  
WASHINGTON, D. C. 20301

Honorable John N. Irwin, II  
Under Secretary of State  
Washington, D. C. 20520

Dear John:

This is in answer to your letter of 2 March, in which you discussed the issue of identifying space objects. We have reviewed the problem and have studied the three proposals you have mentioned.

In general, the feeling here in Defense is that the reasoning in the United States working paper on this subject, submitted to the United Nations Scientific and Technical Subcommittee on 20 April 1970, is still valid as are the conclusions reached by that Subcommittee in its report issued on 1 May 1970.

With respect to proposal (a), Defense considers that, for reasons of safety and economy, a marking system that would survive re-entry is not technically practical at this time. We also continue to believe that there is no significant difficulty in identifying space objects which do survive re-entry.

With respect to proposal (b), our researchers have on several occasions studied the problem of ensuring that space vehicle components would be consumed upon re-entry into the atmosphere. At this time, we see no economically practical means of accomplishing this.

With respect to proposal (c), the use of space shuttles may reduce the amount of tankage placed in near space. We feel that the use of such shuttles to recover satellites before their orbits decay might be prohibitively expensive for the foreseeable future. In the present early stages of planning for the shuttle system, it may be premature that the shuttle will minimize debris. Such ideas, however, are being explored.

Defense personnel would, of course, be happy to meet with State and NASA experts to further examine this problem and I understand that my staff has already been in contact with Mr. Allen to offer their assistance.

Sincerely,

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KEYHOLE CHANNELS  
ONLYTHE DEPUTY SECRETARY OF DEFENSE  
WASHINGTON, D. C. 20301

Honorable John N. Irwin  
Under Secretary of State  
Washington, D. C. 20520

Dear John:

With regard to your letter of 2 March, I share your concern that the Soviets have failed to acknowledge ownership of their fragments which came down in the Middle West last summer. I also appreciate your desire to obtain a satisfactory conclusion to the overall liability issue through the U. N. Outer Space Committee.

I am sending you this letter since I feel that there should be further amplification of my confidential reply through this channel since Ward Allen in your department does not have access to the information on our reconnaissance programs.

I am concerned that your proposed initiative may force the U. S. into a costly and potentially dangerous identification program for our photo reconnaissance and Sigint satellites. Should one of these satellites be spotlighted through a failure to completely burn up and clearly traced by markings to U. S. ownership, the present tacit understanding we have with the Soviets may be irreparably altered. Moreover, I feel that we should not at this time risk drawing world attention to our own nor the Soviet's covert reconnaissance activities.

As you know, we air-retrieve our photographic payloads. Should an initiative force the U. S. to explicitly itemize which of its payloads do not burn upon re-entry, we would be obliged to reveal what I consider to be highly sensitive data on our intelligence gathering procedure.

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~~SECRET~~

EYES ONLY

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ONLY

For these reasons, I propose that we work together with NASA, focusing only on those non-sensitive issues, such as space shuttle applications for debris reduction and studies to minimize space debris, and not the issues which could cause danger to our reconnaissance efforts. I feel it would be unwise to introduce any initiatives at the forthcoming sessions of the U. N. Outer Space Committee and its subcommittees before we can jointly study the problems in depth.

Best regards

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ONLY

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~~SECRET~~  
~~SECRET~~

EYES ONLY

THE UNDER SECRETARY OF STATE  
WASHINGTON

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March 2, 1971

Dear Dave:

The time has come for our experts in DOD, NASA, and State to take a fresh and urgent look at the problem of identifying impacting fragments from space vehicles in the context of establishing liability under the Outer Space Treaty and the negotiations for an Outer Space Liability Convention. Accordingly, I am writing both the Acting Administrator of NASA and you to propose the following topics for consideration.

The massiveness of the Soviet fragments which came down in our Middle West last August, and the refusal of the USSR to acknowledge ownership of them, suggest possible complications when the UN Outer Space Committee resumes negotiations on the draft liability Convention and when the Committee considers proposals by the Canadians, French and others for an international system to facilitate identification of fragments which survive re-entry and impact on the earth's surface.

As a basis for discussion, I suggest that our experts consider the following possible proposals:

(a) The space powers (or the U. S. Government unilaterally) might voluntarily put into effect, perhaps in gradual stages, a program of marking only those components which they believe most likely to survive re-entry (and hence, are strong enough to undergo some marking process without danger of structural weakening). The space powers might also include

The Honorable  
David Packard,  
Deputy Secretary of Defense.

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- 2 -

a description of the marking or other identifying data in the information provided for the UN Secretary General's Space Vehicle Registry.


(b) The space powers (or the U. S. Government unilaterally) might announce to the Outer Space Committee that they will study measures which might be taken to assure that, to the extent possible, space vehicles and their components will burn up in the atmosphere upon re-entry.

(c) The space powers (or the U. S. Government unilaterally) might announce their willingness to explore, over the longer run, the possibility of eventually eliminating dangerous space debris by placing satellites in orbit from reuseable space shuttles rather than booster engines and, similarly, using space shuttles to recover satellites before the decay of their orbits.

I would appreciate your early comments on this proposal, and I suggest that our respective experts meet in the near future to begin formulating a U. S. Government position. I have designated Mr. Ward P. Allen, Deputy Assistant Secretary in the Bureau of International Organization Affairs, as the Department of State's contact man in this effort and suggest that your working level people get in touch with him.

With warm regards,

Sincerely,

  
John N. Irwin II

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**TALENT-KEYHOLE**  
CONTROL SYSTEM~~(S)~~ NATIONAL RECONNAISSANCE OFFICE  
WASHINGTON, D.C.

March 24, 1971

MEMORANDUM FOR DR. MC LUCAS

SUBJECT: Mr. Packard's Replies to Mr. Irwin

To the right are two letters which have been prepared for Mr. Packard's signature to respond to a letter sent by Under Secretary of State Irwin.

Mr. Irwin has solicited DOD comments and support on a proposed U. S. initiative to the U. N. for the marking of space vehicles and also to study the potential for minimizing space debris. This initiative would be introduced before the Legal Subcommittee of the Committee on Peaceful Uses of Outer Space in the interests of promoting a liability convention for space.

Mr. Nutter, OASD (ISA) has the action for the response and we have worked with his staff and ODDR&E in preparing the two letters to the right. Two letters are proposed because the State action office is not cleared for access to our reconnaissance programs and the confidential reply to Mr. Irwin's letter is, by necessity, unenthusiastic. The Talent-Keyhole reply for Mr. Irwin's eyes more fully explains the DOD concerns. It is our understanding that NASA is also responding in an unenthusiastic manner to the State proposal.

RECOMMENDATION: That you coordinate on the OSD staff coordination sheet provided at the right.

*Harold S. Coyle, Jr.*  
HAROLD S. COYLE, JR.  
Major, USAF

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<b>DASD/ISA INTEROFFICE CONTROL SHEET</b>			DATE 23 March 1971		SECURITY CLASSIFICATION LOG NUMBER 1-		
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			INITIAL	DATE		INITIAL	DATE
3	ASSISTANT SECRETARY	S			DASD I-A, FTD&MR AFF	I	
2	EXECUTIVE OFFICER	XO			DIR, I-A REGION	IA	
	ASST EXEC OFFICER	AO			DIR, FMR AFFAIRS	IF	
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	DEP FOR MC&TO	TO			DASD FOR MA&S	M	
	SPECIAL ASSISTANT	SA			DIR, MA&S	MD	
	SP ADV (POW AFF)	PW			MA&S COMP	MC	
	CONF ASST TO ASD	CA			DEP DIR FOR P&P	MP	
					DEP DIR FOR ISN	MN	
	PRINCIPAL DASD	D			DEP DIR FOR OPNS	MO	
	MILITARY ASST	DM			SP ASST FOR FM&CP	MF	
	ASST FOR SP PROJ	DS			DASD NE, AF&SA AFF	N	
	DASD FOR EA&PAC AFF	A			DIR, NE&SA REG	NE	
	DIR, EA&PAC REG	AD			DIR, AFRICAN REG	NA	
	DIR, VIETNAM TF	AV			DASD P/PL&NSC AFF	P	
	DASD EUR&NATO AFF	E			DIR, P/PL&NSC AFF	PD	
	DIR, EUR&NATO AFF	ED			DEP DIR, NSC COORD	PN	
<b>COORDINATION OUTSIDE ISA</b>							
	ACTIVITY		NAME AND TITLE			INITIAL	DATE
	GENERAL COUNSEL						
	THE JOINT STAFF						
	DEPT OF STATE						
	DR J.L. M'KUCAS					JL	2 APR
REMARKS (Including Coordination Outside ISA Not Shown Above)							
Recommend you sign the attached self-explanatory memorandum to Mr. Packard.							
Coordination:							
DDR&E -							
USAF -							
						SUSPENSE DATE	

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