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OFFICE OF THE SECRETARY OF DEFENSE

13 August 1980

Memo For Dr. Dinneen

DECLASSIFIED IN FULL  
Authority: EO 13526  
Chief, Records & Declass Div, WWS  
Date: MAR 03 2016

Office of the Secretary of Defense  
Chief, RDD, ESD, WHS  
Date: 03 MAR 2016 Authority: EO 13526  
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Reason: 3, 3(4), (5)  
MDR: 13 -M- 4726

USAF EO 13526  
1.4 (a),(c),(e)  
3.3(b) (4),(5)

Gerry:

Our Teal Ruby, etc., meeting with DARPA and the Air Force on 28 July 1980 left things hanging. You asked me for a summary of the various programs so that you could establish priorities for their future disposition. The attached paper outlines the programs.

S.L. Zeiberg  
Deputy Under Secretary  
Strategic & Space Systems

Attachment

~~UNCLASSIFIED WHEN  
ATTACHMENTS ARE DETACHED~~

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MR. LYNN/rp/13AUG80  
OUSDR&E(DS)/57327  
Director, DS \_\_\_\_\_

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Summary: IR Space Experiments

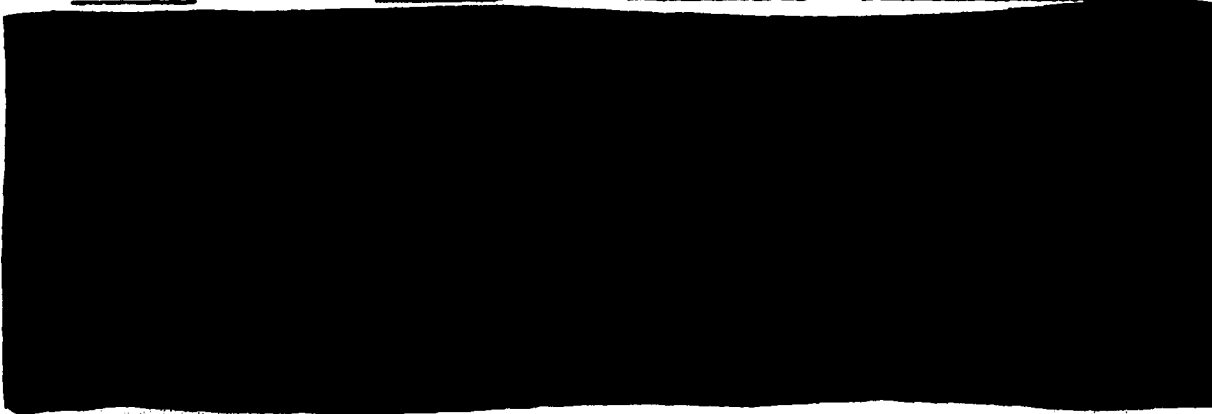
(S) There are five major IR space experiments planned or being considered by DoD. Three are, in significant part, intended as system feasibility demonstrations: Teal Ruby, Mini-HALO and, to a lesser extent, SIRE. The others (STMP, CIRRIIS) are basically measurement efforts; this is a major goal of SIRE as well.

(U) S&SS has formed an ad hoc committee to examine the measurement programs, including the three cited above (CIRRIIS, STMP and SIRE - all shuttle based). This committee will determine how much overlap exists, establish the impact of dropping one or more, and consider the potential for combining some or all.

(S) The system demonstration experiments are compared in the attached table. These, in the aggregate, are directed toward development of systems which could support the following missions:

USAF 1.4 (a), (c), (e) + 3.3(b)(4), (5) OSD 3.3(b)(1), (4), (5)

Mission                      Targets                      Background                      Driving Factors



[Redacted] It will utilize [Redacted]

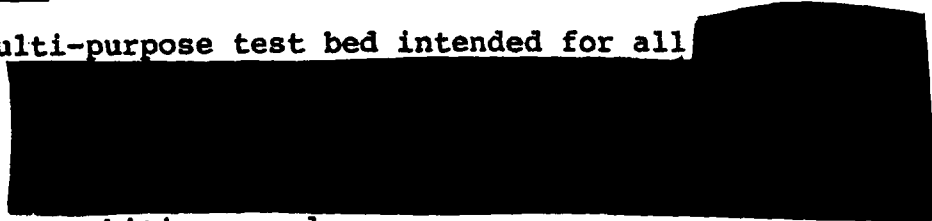
The three orbiting-experiment programs are quite different [Redacted] as follows:

Teal Ruby:



Mini-HALO

- o Multi-purpose test bed intended for all



- o Very ambitious goals
- o Large mosaic staring array and on-band signal processing.

SIRE



(U) The system demonstration experiments tend to compete, in funding and approaches, not only with each other and DSP up-grades but also with the Space Test Program (STP). The immediate goal of STP is to provide a means for low cost tests so that individual objectives can be satisfied on shuttle sortie missions.

USAF  
1.4 (a), (c), (d)

1.5 (b) (1), (4), (5)

3.3 (b) (4), (5)

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IR Spaceborne System Demonstration Experiments

	<u>Teal Ruby</u>	<u>Mini-HALO</u>	<u>SIRE</u>
<u>Missions supported</u>	[REDACTED]		
<u>Principal technology</u>	[REDACTED]		
<u>Background</u>	Earth	Earth, earthlimb, celestial.	Earthlimb, celestial.
<u>Flight date</u>	1983	1987	1983-4
<u>Mission duration</u>	6-9 months	2.5 years	7 days
<u>Significance</u>	[REDACTED]		
<u>Approx. Costs (\$M)</u>			
To date	90	35	60
Total	200	700	100
<u>Experiment Parameters</u>	[REDACTED]		
Spectral range	[REDACTED]		
# of spec. bands	[REDACTED]		
FOV	[REDACTED]		
Resolution	[REDACTED]		
Aperture	[REDACTED]		
<u>Flight Regime</u>	Free flyer. Low earth orbit.	Synch. orbit.	Shuttle based.

USAF 1.4(a), (d), (e)  
+  
3.3(b)(4), (5)

OSD 3.3(b)(1), (4), (5)

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