

NRO APPROVED FOR RELEASE
DECLASSIFIED BY: CIART
DECLASSIFIED ON: 9 JULY 2012

~~SECRET//TK//NOFORN//SI~~

~~(S)~~ **QUILL**
~~(S)~~ *The First Imaging Radar Satellite*

Robert L. Butterworth

December 2002, revised December 2004

~~SECRET//TK//NOFORN//SI~~

NRO APPROVED FOR RELEASE
DECLASSIFIED BY: C/IART
DECLASSIFIED ON: 9 JULY 2012

than they could hope to gain and so would be deterred from doing so. The contradiction between these themes arose because efforts to improve a damage limitation capability undercut the assured destruction philosophy, as John Newhouse explained, "because it may degrade your adversary's ability to destroy your own cities in a second strike. His confidence undermined, he might then be tempted in a crisis to strike pre-emptively; in short, knowing you are effectively protected from his second-strike assault and fearing your intentions, he may choose to strike first." John Newhouse, *Cold Dawn: The Story of SALT* (New York: Holt, Rinehart, and Winston, 1973), pp. 9-10. Secretary of Defense Robert S. McNamara argued for the primacy of damage limitation in 1962 ("the principle [sic] military objective in the event of nuclear war should be the destruction of the enemy's forces [not his population]"), and for assured destruction in 1967 ("I think we could all agree that if they struck first we are going to target our weapons against their society and destroy 120 million of them." Newhouse, *Cold Dawn*, p. 11).

68. (U//FOUO) Dr. Alexander Flax, interview, 5 February 2003, Chantilly, Virginia.

69. (U//FOUO) Draft manuscript, "Satellite Reconnaissance," marked "Colonel [REDACTED] Study, Not Released," July 1963, TS/BYE, pp. 20-21, ARC Job 199700046 Box 4 Folder 14.

70. (U//FOUO) Office of the Historian, National Reconnaissance Office, "Former NRO Directors Series: Interview with Dr. Alexander Flax," 22 May 1997, LIB # 01881, S/BYE.

71. (U//FOUO) Dr. Alexander Flax, interview, 21 November 2002, Potomac, Maryland.

72. (S) "Proposing the radar satellite just seemed so obvious. You could go to where they had the film [NPIC] and see lots and lots of clouds, week after week, nothing but clouds, and we needed timely information." John S. Foster, Jr., interview, 4 December 2002, Washington,

D.C. In his budget review in November 1966, Foster wrote that funding for "direct read-out" for imagery should be reduced and "emphasis placed on an all weather capability and in advanced development for overhead sigint." Foster to Flax, memorandum, 22 November 1966, "Special Support Activities RDT&E FY 1968 Budget," TS/BYE (BYE-5662-66; ARC Job 199800073 Box 1 Folder 118).

73. (U//FOUO) Perry, *Management*, pp. 106ff.

74. (S//FFK) McMillan was less careful and cost himself technical credibility. He rejected the development of

[REDACTED] He concluded fantastically that the NRO would instead accomplish the intercepts by building "a covert, and relatively inexpensive, element of a satellite openly developed for other purposes, purposes which in themselves come close to justifying the costs involved." Such purposes, he went on to say, might be weather observation or communication relay. McMillan to deputy director, science and technology, CIA, memorandum, "Studies of Synchronous Satellites," 5 November 1964, TS/BYE (BYE-23486-49), ARC Job 199800066 Box 3 Folder 2.

75. (S//FFK) [REDACTED]

76. (S//FFK) Information in this paragraph was provided in part by [REDACTED] interviews, 17 March 2000, [REDACTED]

77. (S//FFK) [REDACTED] interview.

78. (U//FOUO) Perry, "Recco Satellite R&D," p. 11.