

~~TOP SECRET~~
~~HEXAGON CORONA GAMBIT~~

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22 July 1968

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Project HEXAGON

1. The NIRB has carefully considered the question of continuing or cancelling Project HEXAGON, and in particular has focused on the substantive intelligence value of the photographic products and costs associated with these two courses of action. The NIRB recommendation to you is contained in paragraph 5.

2. Comparative Capability: HEXAGON is intended to provide repetitive photo coverage over a swath width up to 287 n. m., with relatively high resolution photography at nadir--design goal of 2.3 feet. ~~HEXAGON would completely replace the present CORONA search system~~ which provides photography over a swath width of 113 n. m. with resolution of up to 7 feet at nadir. Upon HEXAGON operating reliably, a reduction would also be made in the number of the small area, very high resolution GAMBIT-3 surveillance missions to 4 or 5 each year. The target date of the first HEXAGON launch is October 1970.

3. Product: In terms of its value to national intelligence, HEXAGON, as compared with current search photography, would provide:

a. Significantly better intelligence on Soviet and Chinese force levels, particularly the ground forces. The combination of resolution and wider swath width of HEXAGON photography would enable our photo interpreters to identify most or nearly all of the visible equipment, such as armor, trucks, artillery, AAA, and associated radars, which may be located in relatively large areas within fairly short time periods. Finished intelligence based on this type of information has substantial relevance to U.S. force level and budgetary decisions;

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b. A "best" single source of information to verify Soviet adherence to or violation of any future U.S. -Soviet disarmament agreement;

c. Coverage of the expected Soviet mobile ICBM target problem; and

d. A general enhancement of our intelligence on a number of significant problems.

Conversely, it should also be noted that the flow of HEXAGON photography will result in severe pressures on the photo interpreters, even with planned maximum use of automation and new exploitation procedures, unless equally strong pressure is exerted to control the appetites of the consumers of photo interpretation.'

4. Comparative Costs: D/NRO has provided the following cost estimates on the courses of action considered by the NIRB:

	Dollars in Million					
	<u>68</u>	<u>69</u>	<u>70</u>	<u>71</u>	<u>72</u>	<u>73</u>
Continue HEXAGON	475	437	418	337	294	287
Cancel HEXAGON with no CORONA improvement	<u>475</u>	<u>316</u>	<u>297</u>	<u>271</u>	<u>265</u>	<u>265</u>
Difference	0	121	121	66	29	22
						<u>359</u>
						Cumulative Difference

You will note that two-thirds of the difference falls in the current "budget crunch" years -- FY69 and FY70. On the other hand, it should be pointed out that the above cost estimates do not provide for the decrease in GAMBIT-3 launches to the planned 4 or 5^{SUCCESSFUL MISSIONS} a year after HEXAGON becomes operational, so that the accumulated difference of \$359 million over the six-year period should be significantly less, probably in the range of \$260 to \$300 million.

NOT CORRECT
SUCCESSFUL MISSIONS - FURTHER REDUCTIONS TO 4 SUCCESSFUL IMPACTS IN FY 72-73 AND AT COST OF 15.0M EACH YEAR -

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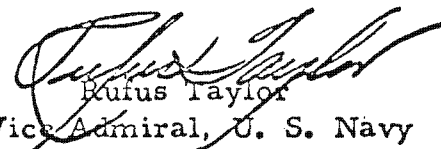
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The cost difference, if HEXAGON were cancelled and a program were begun substantially to upgrade CORONA, is as follows:

	<u>68</u>	<u>69</u>	<u>70</u>	<u>71</u>	<u>72</u>	<u>73</u>
Continue HEXAGON	475	437	418	337	294	287
Cancel HEXAGON, improve CORONA	<u>475</u>	<u>316</u>	<u>331</u>	<u>295</u>	<u>297</u>	<u>297</u>
Difference	0	121	87	42	-3	-10
						<u>237</u>
						Cumulative Difference

The "improved CORONA" referred to in the preceding cost table would be designed to upgrade CORONA photography to a resolution of approximately 4.5 feet. There is a consensus, however, that this improvement over the current best CORONA pictures of 7 feet would be marginal as compared with photography of 3.5 feet or better (HEXAGON design goal being 2.3 feet). Only at resolutions of around 3.5 feet and better and with large area coverage can such problems as Soviet ground force capabilities and the expected mobile ICBM target be pursued with a reasonably high degree of confidence. HEXAGON's improved capability for repetitive coverage and mission duration also are significant when compared with the improved CORONA, as well as the current CORONA search system.

5. The NIRB, after taking the above factors in account and recognizing the value of overhead photography to our current and projected national intelligence needs, particularly against Soviet and Chinese Communist military problems, unanimously recommends that HEXAGON development proceed as planned in the current National Reconnaissance Program.


Rufus Taylor
Vice Admiral, U. S. Navy
Chairman

National Intelligence Resources Board

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