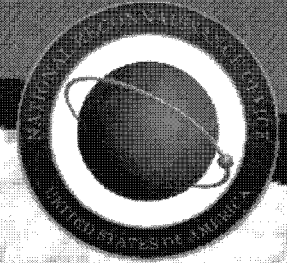TOP SECRET//SI/TK//RSEN/NOFORN

CSNR POLICY DECISION RISK ASSESSMENT

Declassifying Gambit and Hexagon Programmatic Data

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National Security Information
Unauthorized Disclosure Subject to Criminal Sanctions

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(S//REL TO USA, FVEY) DECLASSIFYING GAMBIT AND HEXAGON PROGRAMMATIC DATA

(U) A POLICY DECISION RISK ASSESSMENT (PDRA)
PDRA 2010-01

(U) CENTER FOR THE STUDY OF NATIONAL RECONNAISSANCE
DEPUTY DIRECTOR NRO BUSINESS PLANS AND OPERATIONS
NATIONAL RECONNAISSANCE OFFICE

19 February 2010

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The withholding statute for all (b)(3) exemption citations in this document is 10 U.S.C. § 424

(U) PROBLEM

(S//REL TO USA, FVEY) To assess the risks in declassifying Gambit and Hexagon programmatic data.[1]

(U) PREFACE

(S//REL TO USA, FVEY) The purpose of this Policy Decision Risk Assessment (PDRA) is to assess the implications of a proposed policy change that would declassify programmatic data associated with the Gambit and Hexagon national reconnaissance programs. We developed the findings in this PDRA to serve as a basis for how the National Reconnaissance Office (NRO) formulates recommendations on the question of declassifying Gambit and Hexagon programmatic data. The findings, conclusions, and observations in the PDRA should be considered neither policy recommendations nor suggested implementing instructions. They are an independent assessment for consideration by the Director of National Reconnaissance and his staff advisers during the Director's decisionmaking process.

(S//REL TO USA, FVEY) Gambit and Hexagon were 1960s–1980s, Cold War-era, film-return, satellite reconnaissance systems. The NRO developed these systems during the operational period of the Corona, Argon, and Lanyard satellite reconnaissance systems, whose programmatic data and imagery were declassified in 1995.

(U//FOUO) This assessment is an update of the PDRA that the Center for the Study of National Reconnaissance (CSNR) prepared in October 2000 as a part of CSNR's responsibility for conducting research and analysis in support of policy decisionmaking by NRO leadership. For the 2000 version, we solicited comments from interested Intelligence Community organizations outside the National Reconnaissance Office, particularly the National Imagery and Mapping Agency (now the National Geospatial-Intelligence Agency). This provided us with valuable data, as well as insight into the issues associated with the problem.

(S//NF) This update reflects developments that have taken place in U.S. Government policy for remote sensing, U.S. relationships with foreign governments, and in commercial imaging satellite programs. The technical and historical information on the retired Gambit and Hexagon programs remain the same.

(U) Even though this PDRA is an independent CSNR assessment, we consulted with the following NRO components for fact checking and technical review of our analysis: the Imagery Intelligence Systems Acquisition Directorate (IMINT) for engineering details and operational impact related to Imint missions; the Signals Intelligence Systems Acquisition Directorate (SIGINT) for engineering details and operational impact associated with any piggyback Sigint payloads; the Office of Security & Counterintelligence (OS&CI) for security and CI matters; the Systems Engineering Directorate (SED) for [   ] the Management Services & Operations (MS&O) Directorate for impacts on classification review; the Office of General Counsel (OGC) for legal matters; the Office of Policy and Analysis (P&A), and [   ] office, both within in Business Plans and Operations (BPO) for policy questions and matters related to foreign governments, respectively. All components provided us with insights that we found particularly helpful in evaluating issues that we addressed during our assessment. We have addressed these issues as part of our consideration of the problem and have attempted to reflect accurately the facts and judgments the components presented to us; however, I must emphasize that the assessment and conclusions remain ours, alone.

(b)(3)

(b)(3)

(U) Robert A. McDonald, Ph.D.
Director, Center for the Study of National Reconnaissance
Directorate Business Plans and Operations

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[1](U) In this PDRA, the Center for the Study of National Reconnaissance (CSNR) has chosen to format the names of satellite programs using an initial-capitalization style. This formatting is preferred within growing segments of the Intelligence Community and social science fields.

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(U) EXECUTIVE SUMMARY

(S//REL TO USA, FVEY) The Gambit and Hexagon programs were film-return satellite reconnaissance systems that the National Reconnaissance Office (NRO) operated from the early 1960s through the early 1980s.[2] Almost all programmatic data (i.e., technical and engineering data, operational data, management data, and hardware and associated artifacts) from the two programs could be declassified without adverse impact; however, (1) there are limited, specific programmatic data that remain sensitive, continue to meet the standard for classification, and should be excluded from any declassification, and (2) to mitigate risk, any programmatic declassification would have to be implemented in a phased approach.

(U) For the purposes of this assessment, "programmatic data" include three categories of information: (1) technical and engineering data, (2) operational data, and (3) management data. Programmatic information does not include the acquired imagery, which would be handled separately.

(S//REL TO USA, FVEY) We based this assessment on our consideration of four risk areas: impact on sources and methods, foreign policy implications, commercial impact, and legal implications. Our analysis follows the direction and guidance given in Executive Order 13526 dated 29 December 2009 (superseding Executive Order 12958, as amended 25 March 2003); the NRO Classification Guide, Version 6.0, as updated 15 October 2009; and the President's "Memorandum for the Heads of Executive Departments and Agencies; Freedom of Information Act," as issued on 21 January 2009.

(U) Impact on Sources and Methods

(S//REL TO USA, FVEY) Declassification of most Gambit and Hexagon programmatic data would have little or no impact on current sources and methods. Our analysis notes the following:

- (TS//TK//NF) *Knowledge of Gambit and Hexagon capabilities would be of little value in assessing current U.S. capabilities or improving those of our potential adversaries.* Gambit and Hexagon hardware represent satellite reconnaissance film-return technology that is no longer used by the United States and, as a system concept, is widely known and understood within both government and commercial remote sensing communities worldwide.

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- (U) *Programmatic data and Imagery data are different, and thus their declassification can and should be addressed separately.* While the release of imagery could compromise the technical systems that collect it, the declassification of associated programmatic data would not, in itself, compromise the imagery or its information content. Moreover, declassification of limited technology (i.e., programmatic data) is a necessary condition for declassification of any imagery to proceed. We would expect that the National Geospatial-Intelligence Agency (NGA) would lead any Intelligence Community (IC) review of imagery declassification and consult with the NRO.

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[2] (U) In this PDRA, the Center for the Study of National Reconnaissance (CSNR) has chosen to format the names of satellite programs using an initial-capitalization style. This formatting is preferred within growing segments of the Intelligence Community and social science fields.

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(U) Foreign Policy Implications

(S//TK//NF) We do not anticipate significant foreign government objection to Gambit and Hexagon programmatic declassification; however, allies typically favor classification of operational relationships, and there has been a history of Israeli concern over the release of imagery coverage of their territory. (b)(1) (b)(3)

The Israeli history of objections to the release of high-quality imagery of sensitive Israeli facilities would not be a concern should the US release programmatic data. Programmatic data would not include imagery. In order to avoid confusion during implementation of declassification, the U.S. Government would, as a part of phased implementation, need to make the limits of any declassification clear to our foreign partners.

(U) Commercial Licensing Considerations

(S//REL TO USA, FVEY) Neither declassification of the "fact of" Gambit technology, nor declassification of the technology itself, would result in a requirement to grant a commercial license in cases where the U.S. Government otherwise would not. Information about Gambit's capabilities (i.e., the "fact of" the KH-7 and KH-8 cameras' very high resolutions) has been discussed in the past as a risk factor because some have thought that disclosure would limit the U.S. Government's ability to establish restrictions on proposed commercial imaging systems. The argument has been that a commercial operator could use the declassification of Gambit as a precedent permitting the deployment of its own unclassified system with comparable resolution. However, our analysis and past experience shows that this is not so.

(S//REL TO USA, FVEY) In reality, United States licensing criteria are independent of the imaging capabilities of U.S. reconnaissance systems. The current practice is to regulate the handling and the release of commercial imagery data, rather than limit the capabilities of imaging satellites themselves. Whatever the capabilities of Gambit, the U.S. Government could continue to regulate commercial imagery operations and release of imagery so as to protect national security.

(S//NF) Moreover, release of Gambit and Hexagon design data should not raise export control concerns because the export of sensitive technology is regulated separately. In the past, the declassification of a U.S. government technology has not served as a justification to permit the export of similar technology. Rather, these have been addressed on their own merit.

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(U) Legal Considerations

(S//REL TO USA, FVEY) There are no legal reasons that would preclude the Director, NRO (DNRO) from authorizing the declassification of Gambit and Hexagon programmatic data. It is possible that declassification of programmatic data might prompt Freedom of Information Act (FOIA) requests for imagery associated with these systems. This should not create an issue because legislation confers an "operational files" exemption for NGA, which would continue to be able to control the release of imagery. At the same time, there is a separate line of authority for the classification of imagery that would segregate any DNRO declassification decision on programmatics from future Director of NGA (DNGA) and Director of National Intelligence (DNI) declassification decisions related to imagery.

(S//NF) It is possible that declassification of Gambit and Hexagon programmatic data might prompt a greater number of FOIA requests. Past experience, however, suggests that any "spike" in FOIA requests would be limited, and in any case, this potential increase in requests is more properly a FOIA management and resource planning issue rather than a rationale for continued classification. It is also possible that the workload of responding to FOIA requests could, in fact, be reduced by creating a standing body of declassified Gambit and Hexagon programmatic data to which potential FOIA requesters could be referred.

(U) Risk Mitigation and Phased Implementation

(S//TK//NF) The above risks could be exacerbated during declassification; however, these risks could be mitigated through a two-phased approach, which significantly could increase the probability of preventing the inadvertent disclosure of sensitive data.[3] The first phase would be "Preparation for Declassification" and the second phase would be a "Comprehensive Programmatic Declassification."

(S//TK//NF) Both Gambit and Hexagon are extremely complex programs; moreover, the engineering, design, and operations, of the two programs—as revealed in their records and hardware—are intertwined.

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(S//TK//NF) Such a two-phased approach would address legitimate objections and concerns about the risk of wholesale programmatic declassification raised by some Intelligence Community organizations between 2000 and 2009. A phased approach, that provides the necessary context and identifies segments for declassification would go a long way to mitigate any potential risks of inadvertent release of the following sensitive programmatic data that should remain classified.

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[3] (C//NF) The NRO found that a phased approach was critically important for the timely and successful declassification of the Corona program. Similarly, the Air Force successfully used a phased approach when it declassified information about the F-117 and found it necessary for preventing inadvertent disclosure of sensitive data. Moreover, the CIA rigorously employed such an approach during the 1990s while releasing Cold War *National Intelligence Estimates* (NIEs) on Soviet military and strategic capabilities and intentions. See page 16.

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(U) Summary of Sensitive Programmatic Data
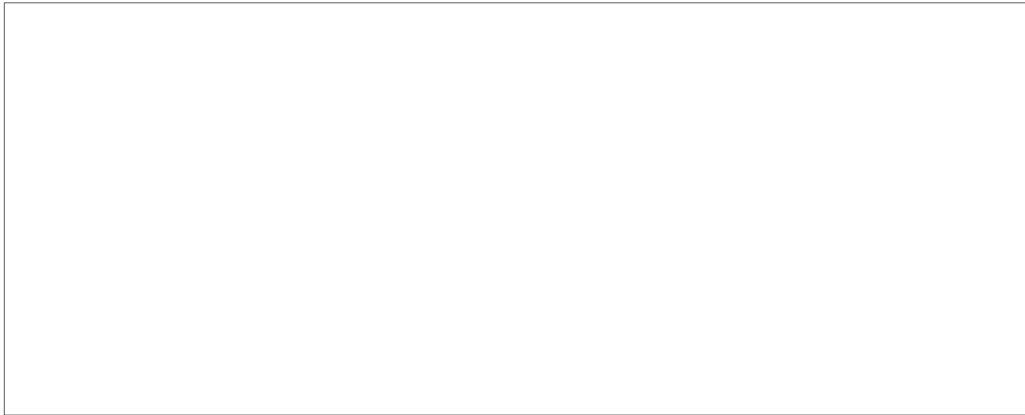
(S//TK//REL TO USA, FVEY) Specific programmatic data continue to have residual sensitivity. The continued classification of these data should assure the protection of sources and methods and other national security information the disclosure of which could be damaging to U.S. national security. The following list summarizes the programmatic data with continued residual sensitivity.

(S//TK//REL TO USA, FVEY) Technical and Engineering Data

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(b)(3)

(S//TK//REL TO USA, FVEY) Operational Data

(b)(1)
(b)(3)

(S//TK//REL TO USA, FVEY) Management Data

- Budget data, beyond top-level program costs

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- Limited security terminology

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~~(S//REL TO USA, FVEY)~~ POLICY DECISION RISK ASSESSMENT
DECLASSIFYING GAMBIT AND HEXAGON PROGRAMMATIC DATA

1.0 (U) Overall Assessment

~~(S//REL TO USA, FVEY)~~ This policy decision risk assessment (PDRA) evaluates the risk of declassifying all programmatic data associated with the retired Gambit (including both the KH-7 and KH-8 systems) and Hexagon (including both the KH-9 mapping and KH-9 panoramic cameras) programs. "Programmatic data" includes technical and engineering data, operational data, management data, and hardware and associated artifacts.[4] Our assessment is that after a declassification review only limited programmatic data from the Gambit and Hexagon programs would meet the standard for continued classification. The bulk of Gambit (including KH-7 and KH-8) and Hexagon (including KH-9 MCS and KH-9 Pan) programmatic data could be declassified with minimal risk to U.S. interests if the data were declassified under a risk-mitigating, phased implementation plan.[5]

~~(S//TK//REL TO USA, FVEY)~~ We based our assessment on policy directions, including Executive Order 13526 "Classified National Security Information," dated 29 December 2009 (superseding Executive Order 12958, as amended 25 March 2003), and the NRO Classification Guide, Version 6.0, as last updated on 15 October 2009. Our assessment evaluated four risk areas: (a) sources and methods, (b) foreign policy implications, (c) impact on commercial licensing, and (d) legal implications. Our assessment also concluded that the following kinds of programmatic data require continued classification:[6]   (b)(1) (b)(3)

- ~~(S//REL TO USA, FVEY)~~ Engineering data   (b)(1) (b)(3)

- ~~(S//TK//REL TO USA, FVEY)~~ Operational data   (b)(1) (b)(3)

- ~~(S//TK//REL TO USA, FVEY)~~ Management data related to budgetary details and trends,   (b)(1) (b)(3)

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[4] ~~(S//TK//NF)~~ Programmatic data excludes collected intelligence information and intelligence products derived from collection information. Accordingly our assessment excludes imagery and associated intelligence products collected by and associated with the Gambit and Hexagon programs. Any assessment of the implications of declassifying those categories of information would properly be under the purview of NGA and CIA, in consultation with NRO.

[5] (U) A phased approach—as opposed to either instantaneous or incremental approaches—affords opportunities to (a) analytically "connect the dots" by assessing individual records within the context of the larger collection, (b) collaboratively develop comprehensive security and public affairs guidelines for implementation, and (c) consulting with and informing IC, industry, and allied partners. The NRO found that a phased approach was critically important for the timely and successful declassification of the Corona program. Similarly, the Air Force successfully used a phased approach when it declassified information about the F-117. This approach assured both the timely declassification of the information to be released and the continued protection of sensitive data.

[6] (U) EO 13526 and the NRO Classification Guide (as updated, 15 October 2009) stipulate that an agency head may exempt from automatic declassification information which, if released, could—among other factors—be expected to: (1) reveal the identity of ... a relationship with an intelligence or security service of a foreign government or international organization, or a nonhuman intelligence source, or impair the effectiveness of an intelligence method currently in use, available for use, or under development; (2) reveal information that would impair U.S. cryptologic systems or activities; (3) reveal information, including foreign government information, that would cause serious harm to relations between the United States and a foreign government, or to ongoing diplomatic activities of the United States; or (4) violate a statute, treaty, or international agreement that does not permit the automatic or unilateral declassification of information at 25 years.

These data, while limited in scope, could be expected to cause serious to exceptionally grave damage to national security if they were to be disclosed outside of classified channels and thus should remain classified.

2.0 (S//REL TO USA, FVEY) The Gambit and Hexagon Programs

(S//REL TO USA, FVEY) Gambit and Hexagon were both film-return satellite reconnaissance systems that were operational from the early 1960s through the early 1980s.

a. (S//TK//REL TO USA, FVEY) **Gambit.** The NRO designed Gambit to collect high-resolution surveillance imagery.[7] The first version, Gambit-1, was equipped with the KH-7 camera system and operated from July 1963 to June 1967. The follow-on version, Gambit-3, was equipped with the KH-8 camera system and operated from July 1966 to August 1984.[8] Although they were both part of an ongoing and integrated development program, there were significant differences in capability between the two versions and in the planning and execution of their missions.

(S//TK//REL TO USA, FVEY) Gambit-1 missions were short, mostly in the four- to six-day range, with the longest being eight days. Resolution of the system using the KH-7 camera was nominally two to three feet, with a best-ever resolution of 1.6 feet. Gambit-3, the follow-on model, was a larger spacecraft that produced very high-resolution imagery—nominal best resolution of _____ and best-ever resolution of _____ _____ Mission duration for the mature Gambit-3 was much longer, ranging from 45 to a high of 126 days. (See Figures 1 and 2 for illustrations of the Gambit-3 vehicle.)

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[7] (S//REL to USA, FVEY) During the period that the Gambit and Hexagon programs were planned, the IC used the term "surveillance" to refer to Gambit's ongoing monitoring of intelligence targets, as compared with Hexagon's role of "searching" for intelligence targets. Since the late 1980s and into the 21st century, the Intelligence Community and Department of Defense have used the term "surveillance" to refer to the "systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means." See *Glossary of Intelligence Terms and Definitions*, Section 3, p 29 (June 1989) and, more recently, *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (As Amended Through 20 March 2006), p. 516.

[8] (S//REL TO USA, FVEY) Only the Gambit-1 and Gambit-3 models achieved operational status. The Secretary of the Air Force for Special Projects (SAFSP) evaluated three proposed models in the early 1960s to replace Gambit-1: Gambit-2, Gambit-3, and Gambit-4. The SAFSP believed Gambit-2 would not have offered enough of an improvement over Gambit-1 to justify production, and Gambit-4, which relied on large optics, would have been too risky and too costly. In effect, Gambit-3 was the "Goldilocks" choice, offering significantly better performance at acceptable risk and cost.
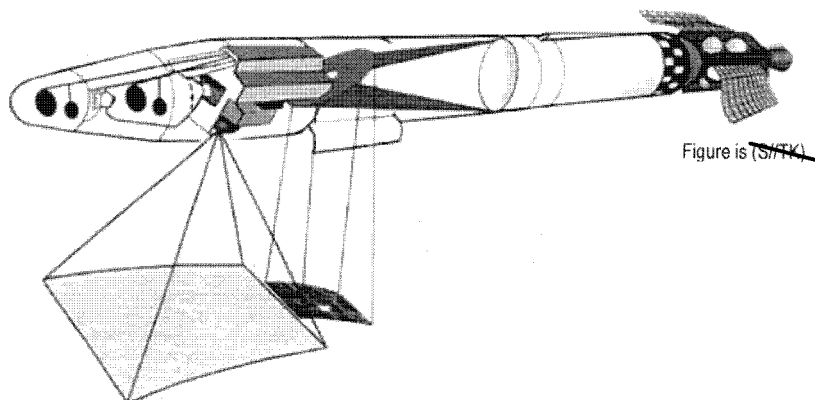
Figure is (S//TK)

Figure 1. (S//REL TO USA, FVEY) Gambit -3 Vehicle
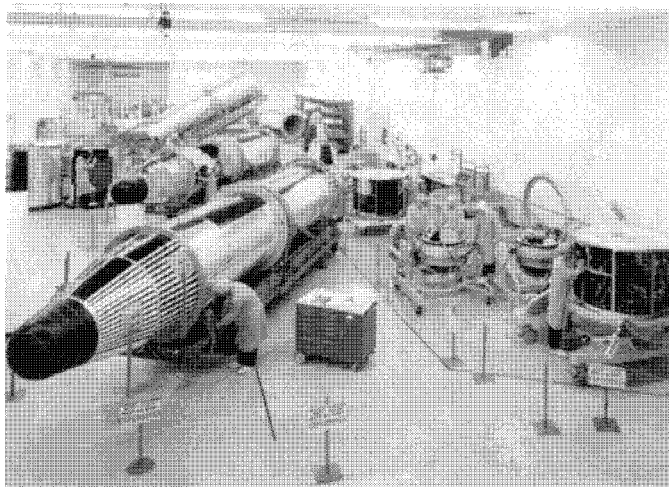
Figure is (S//TK)

Figure 2. (S//REL TO USA, FVEY) Gambit -3 Vehicle

b. (S//TK//REL TO USA, FVEY) **Hexagon**. The NRO designed Hexagon with a KH-9 panoramic camera system to collect broad area search imagery with higher resolution than the earlier Corona camera system. The panoramic camera system used twin, counter-rotating cameras, tilted ten degrees forward and aft of the payload's nadir (for broad area, stereo, moderate resolution coverage). The NRO operated the KH-9 panoramic cameras from June 1971 until October 1984. Nominal resolution was in the two- to six-foot range. Duration for the longer length Hexagon missions (1212-1219) ranged from 150 to a high of 276 days. (See Figures 3 and 4 for illustrations of the Hexagon vehicle.)
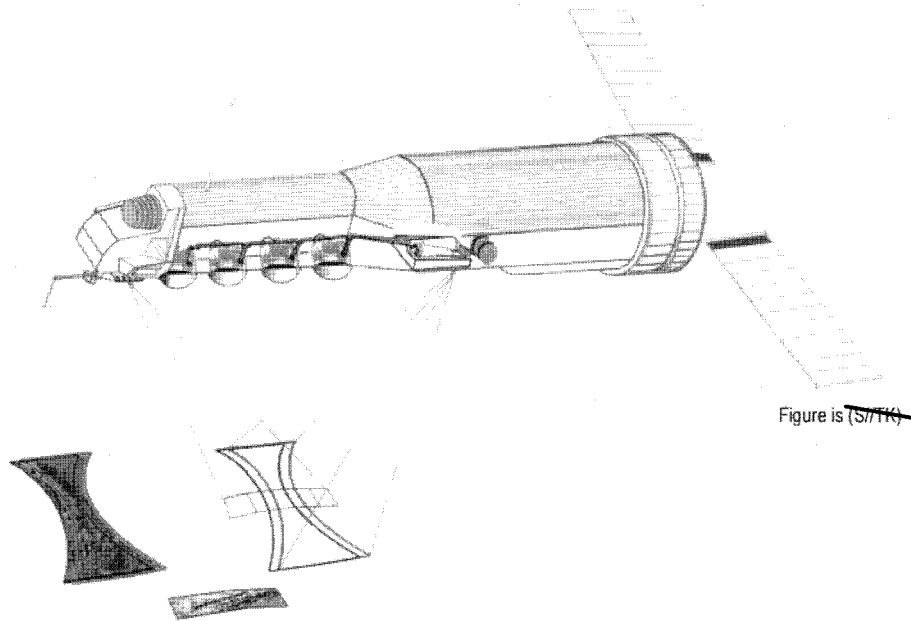
Figure is (S//TK)

Figure 3. (S//REL TO USA, FVEY) Hexagon Vehicle
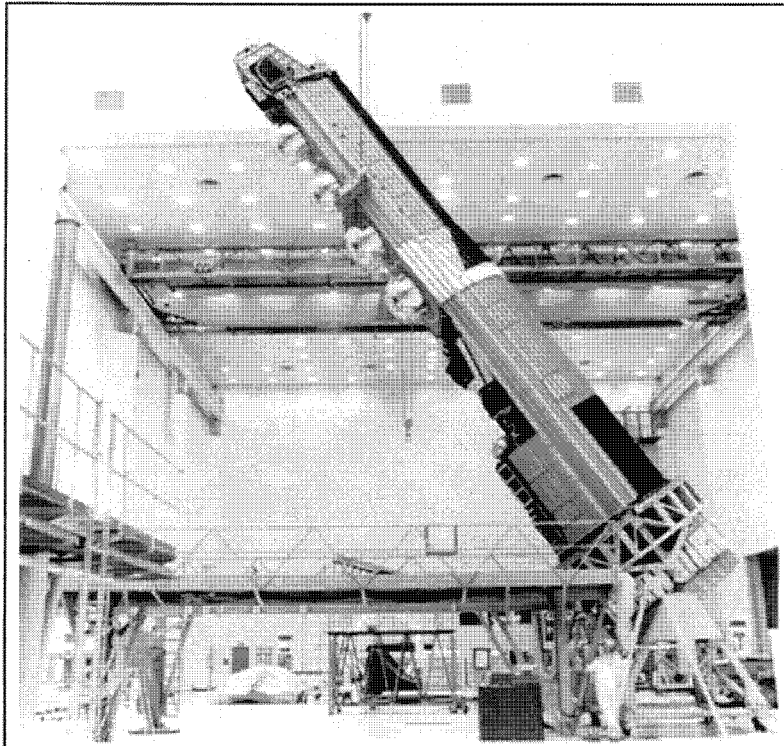
Figure is (S//TK)

Figure 4. (S//REL TO USA, FVEY) Hexagon Vehicle

(S//TK//REL TO USA, FVEY) Subsequently, the Hexagon program office incorporated a mapping (terrain) camera subsystem — the Mapping Camera Subsystem (MCS) — in support of the Defense Mapping Agency's[9] mapping, charting, and program geodesy (MC&G) efforts. Nominal resolution of the mapping camera was 24.6 feet. They operated the MCS from March 1973 until October 1980 (Missions 1205 through 1216).

3.0 (U) Analysis of Risks Resulting from Declassification

(S//REL TO USA, FVEY) The risks resulting from a decision to declassify Gambit and Hexagon programmatic data fit into four areas: potential loss of intelligence sources and methods; potential impact on foreign relations; potential commercial impact; and potential legal implications.

3.1 (U) Potential Risks to Sources and Methods

(S//REL TO USA, FVEY) Declassification of Gambit and Hexagon programmatic data would not present a significant increased risk to U.S. intelligence sources and methods. There is a potential risk that disclosure of the technical or operational features of Gambit or Hexagon might enable foreign intelligence organizations to develop or improve their own imaging systems. However, this risk is mitigated by the fact that the essential features of Gambit and Hexagon technology are already known to those foreign governments that might be tempted to adopt it, and other entities are more likely to develop systems based on more modern technology.

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3.1.1 (S//REL TO USA, FVEY) Value of Gambit and Hexagon Technology to Foreign Parties

(S//REL TO USA, FVEY) Our analysis suggests that, with a few exceptions, disclosure of Gambit and Hexagon programmatic data would provide little information that would enable foreign intelligence organizations to acquire or improve their own satellite imaging capabilities. In making this assessment, we consulted with analysts at the _____

(b)(3)

_____ Specific points to consider include:

a. (S//REL TO USA, FVEY) **Gambit and Hexagon Film-Return Technology.** There is little reason to believe foreign governments or commercial enterprises would be interested in replicating the costly, less timely film-return technology of Gambit and Hexagon, and especially if they were starting a new reconnaissance program. The film-return technology that Gambit and Hexagon relied on was state-of-the-art and entirely sensitive during the 1960s and 1970s, but the basic principles of the technology (if not some of the details) have become widely known and understood within the remote sensing community today. This was a result of numerous press reports that described these systems on the basis of official comments and unauthorized

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[9] (U) The Defense Mapping Agency (DMA) was incorporated into the National Imagery and Mapping Agency (NIMA) in October 1996, which was, in turn, renamed the National Geospatial-Intelligence Agency (NGA) on 24 November 2003.

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disclosures, as well as the declassification of Corona. We discuss public awareness of these programs in Section 6.4. It is much more likely that foreign governments or commercial entities intending to develop an imaging capability will use digital technology, which today is readily available, and provides better responsiveness, broad coverage, and high resolution.

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c. (S//TK//REL TO USA, FVEY) **Mapping Technology.** The technology from Hexagon's MCS is well-known among experts, and its declassification would not affect U.S. sources and methods. The basic technology was incorporated into the unclassified Large Format Camera (LFC) flown by the National Aeronautics and Space Administration (NASA) in 1984. The National Aeronautics and Space Administration used the LFC on the 13th Shuttle mission in October of that year and acquired approximately 2,200 frames of film. The LFC was for all practical purposes identical to the KH-9 MCS, but it was described publicly as a high altitude aerial mapping camera built by Itek to operate from the Space Shuttle.[12] Technical information about the LFC is easy to obtain from the unclassified Internet, and its actual imagery, which the Director of Central Intelligence (DCI) declassified in 2002, also is publicly available. Similarly, the NRO provided NASA information on the KH-7 camera system in the early 1960s when the two organizations explored the possibility of using the system on an Apollo spacecraft. This initiative, "Upward," did not proceed beyond

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[12] (U) See, for example, the entry for Hughes Danbury in *Jane's Space Directory 1997-98*, available on Intelink at http://www.intelink.ic.gov/Reference/janes/display.html?type=S&nav=C_1&sn=jsd&ed=jsd2000&sub=&view=bySection&Section= &docid=d7a4a27fabcb7f27600b32353112ef53.

the initial planning stages. The DNRO declassified the term in December 2009, so knowledge of it now extends to the public at large.[13]

d. ~~(S//TK//REL TO USA, FVEY)~~ **Post Film-Return Technology.** Not only did the NRO transfer Hexagon MCS and KH-7 camera technology directly to NASA, but the IC has provided a limited amount of post-film-return imaging system technology to NASA, thus making this information potentially available to large, uncleared audiences. For example, the NRO transferred a limited amount of technology associated with its (b)(1) (b)(3)

e. ~~(S//REL TO USA, FVEY)~~ **Public Awareness of Gambit-Hexagon Technology.** As discussed further in Section 6.4, there is general public awareness of the capabilities of Gambit and Hexagon. The declassification of programmatic data for these programs will offer little if any additional information to (b)(3)

~~(S//TK//NF)~~ Some analysts also argued in discussions dating to the 1990s about whether to declassify Gambit and Hexagon programmatic data (b)(1) (b)(3)

(U) 3.1.2 Relationship of Programmatic Data and Imagery

~~(S//REL TO USA, FVEY)~~ During past considerations to declassify aspects of Gambit and Hexagon, some have raised the question of whether programmatic data about a satellite program can be declassified independently of declassifying the imagery the satellite collected, and whether programmatic data can be declassified before the imagery.

(U) For the purposes of making classification decisions about programmatic data, programmatic data and imagery are two separate issues. The declassification of non-sensitive technical programmatic data has no direct impact on classification decisions concerning imagery because technical programmatic information about a collection system cannot, by itself, reveal the intelligence content of any single image that might be acquired by a collection system. On the other hand, the declassification of an image—even one determined not to contain sensitive intelligence content—could reveal sensitive technical information because imagery, by its nature, reflects technical, programmatic information about the system that collected it.

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[13] (U) See OGC Memorandum, 8 December 2009, "Declassification of the Term "UPWARD"; the measure was approved by the (b)(1) DNRO on 13 December 2009. (b)(3)

(S//TK//NF) Historical precedents and analysis of the issue indicate that it is possible to declassify some imagery from a program while retaining classified control over other, more sensitive information. Specifically, the declassification of one image determined not to be sensitive has not required the U.S. Government to automatically declassify other imagery that might contain sensitive intelligence information. This experience also indicates that it is possible to keep sensitive imagery classified even after non-sensitive technical programmatic data associated with its collection are declassified. On the other hand, imagery, even when it has itself not been sensitive, has sometimes required continued classification because its release would reveal sensitive programmatic data associated with its collection. In other words, a decision to declassify programmatic data does not constrain decisionmaking regarding the classification of imagery acquired by that system.

    a. (S//NF) For example, the U.S. Government has declassified most of the U-2's programmatic data (including some of the cameras), yet only selected imagery has been declassified. The remainder of imagery, as determined by the sensitivity of its intelligence information content, continues to be classified—in some cases, more than 50 years after it has been collected. A decision to declassify the imagery can be reserved until the intelligence content is no longer sensitive.

    b. (S//TK//NF) Similarly, in the past when U.S. Government agencies have investigated the possibility of declassifying imagery acquired by the Gambit and Hexagon programs, they have proposed withholding selected classes of imagery data, thus reinforcing the precedent that such discrimination is feasible and practical.

        • (S//TK//NF) For example, in 1995 the Director of Central Intelligence tasked the National Imagery and Mapping Agency (NIMA) to lead a declassification review of Gambit KH-7 and Hexagon KH-9 imagery in response to Executive Order 12951, "Release of Imagery Acquired by Space-based National Intelligence Reconnaissance Systems."[15] The review concluded that all imagery collected by Gambit's KH-7 camera (minus any imagery of Israel) and imagery collected by Hexagon's KH-9 MCS could be declassified, as the intelligence information content of the scenes taken would not have an adverse impact on intelligence sources and methods or current military operations. On 25 October 2000 the DCI directed that KH-7 imagery and KH-9 mapping imagery be declassified, and on 9 October 2002 the National Archives and Records Administration announced that it had made 48,000 images from the two programs available to the public.

        • (S//TK//NF) However, the review also concluded that higher resolution KH-9 Pan camera system imagery should remain classified, as the intelligence information content of the imagery was considered too sensitive. Moreover, the DCI's direction excluded any consideration to declassify the imagery acquired by Gambit's KH-8 camera. (There has been unanimity within the Intelligence Community that this very high resolution imagery might contain intelligence information that is still sensitive.)

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[15] (U) Effective 24 November 2003 the National Imagery and Mapping Agency became the National Geospatial-Intelligence Agency (NGA). Effective 18 May 2005, authorities of Director of Central Intelligence (DCI) relevant to this assessment were assigned to the Director of National Intelligence (DNI).

- (S//NF) So, in this case the Intelligence Community proposed a multi-tier system in which some imagery collected by NRO's Imint constellation would be released, and other imagery would remain classified—even though a single family of satellites (Gambit) had collected both classes of imagery, and in other cases it was a single satellite that had collected both classes of imagery (Hexagon, using the pan camera system and MCS).

- (S//NF) Yet this proposal assumed—and depended on—declassification of programmatic data about the satellites. (Note that in this case the NRO already had determined that the technical programmatic information revealed through the imagery was no longer sensitive. The IC raised no objections regarding this assessment, and it was not a factor in the decision process.) The imagery proposed for release, by its very nature, would reveal programmatic information, such as when the satellites were able to collect imagery, the general direction in which the satellites were aimed at a given instant, in addition implying when the satellites were launched, characteristics of their orbits, and so on.[16] This is true of all imagery, and is why declassification of programmatic data must precede declassification of imagery data resulting from the program.

- (S//REL TO USA, FVEY) On the other hand, the declassification of technical programmatic data has been independent of the declassification of imagery. The already-declassified limited technical programmatic data about Gambit and Hexagon has not resulted in an inability to continue to classify other imagery acquired by these two programs. The same has been the case for imagery collected by U-2 reconnaissance cameras as we already pointed out in paragraph 3.1.2 a.

c. (S//NF) Once programmatic data are declassified, the classification of the collected imagery is based on the sensitivity of the intelligence information content of the imagery, rather than on arbitrary technical programmatic characteristics such as resolution capability. The declassification of programmatic Gambit and Hexagon data, therefore, would not preclude the continued classification of the imagery they collected and, if past practice were followed, this imagery could remain classified and controlled as long as its intelligence information content remained sensitive.

- (S//NF) In past considerations of whether to declassify Gambit and Hexagon programmatic data, some analysts have also raised issues related to whether declassification of programmatic data might result in an unreasonable burden on NGA to process FOIA requests for declassification of the historical imagery acquired by these programs.

- (S//NF) An assessment of this issue must begin with the observation that a potential FOIA burden is not justification for continued classification. Statute and Executive Orders dictate that the decision to classify or declassify must be dependent on the sensitivity of the information, and may not properly be influenced by concerns about FOIA requests.

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[16] (U) See Annex B for the CSNR Fact Sheet on the KH-7 imaging and the KH-9 mapping programs, which includes a summary of the declassified technical programmatic data.

- (C//NF) Even so, past experience from the declassification of programmatic data for the U-2 suggests that declassification of programmatic Gambit and Hexagon data is unlikely to increase the burden of processing FOIA requests. Because imagery is not programmatic data, the decision to declassify programmatic U-2 data had little impact on requests for U-2 imagery declassification. In addition, in 2000 Congress provided an amendment to the 1947 National Security Act that gave NIMA essentially the same protection of operational files from FOIA as the CIA. This new legislation should minimize the threat of an excessive FOIA burden.[17] It drew upon legislative history to confer on NIMA (and now, NGA) the "operational files" exemption concerning activities that were previously performed by the National Photographic and Interpretation Center of the CIA and that document the means by which foreign intelligence or counterintelligence is collected through scientific and technical means.

- (S//NF) Moreover, Exemption "1" of the FOIA authorizes protection of properly and currently classified records or portions of records. So, even if Gambit and Hexagon programmatic data were declassified, all other satellite reconnaissance information could be properly classified. EO 12951 directs that all satellite reconnaissance imagery, other than the Corona-derived imagery declassified under that order, shall retain its classification in the interests of national security and foreign policy until deemed otherwise by the DCI (and now, the DNI).

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[17] (U) Congress in the Intelligence Authorization Act for FY2000 amended the National Security Act of 1947 by adding a new Section 105B, entitled "Exemption of Certain Operational Files from Search, Review, Publication or Disclosure." See 50 U.S.C. 403.5B.

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3.2 (U) Foreign Policy Implications

(S//REL TO USA, FVEY) Our analysis indicates that the release of Gambit and Hexagon programmatic data would have no adverse impacts on U.S. foreign policy. Although some information about foreign relationships remains sensitive, this could be redacted before declassified release. Once declassification reviewers remove this information, we would not anticipate an unfavorable foreign reaction.

(b)(1)
(b)(3)

b. (S//NF) When the DCI declassified Corona imagery in 1995, Israel voiced concerns that the release of high-quality imagery of sensitive Israeli facilities could have an adverse impact on Israel's national security. One result was provisions in the National Defense Authorization Act for Fiscal Year 1997 that prohibit the declassification of satellite imagery of Israel that is better than that currently available from commercial sources. However, because the current proposal is to declassify only programmatic data, such concerns about the sensitivity of specific imagery are outside the scope of this assessment.

3.3 (U) Potential Impact on U.S. Commercial Remote Sensing Licensing Programs

(U) Declassifying Gambit and Hexagon programmatic data would not adversely affect the ability of the U.S. Government to regulate commercial remote sensing activities. We assessed the potential impact on U.S. commercial remote sensing in five areas: (1) licensing, (2) export, (3) pressure to market higher quality imagery, (4) pressure to declassify current capabilities, and (5) commercial benefits.

(S//NF) **Impact on Commercial Remote Sensing Licensing.** During previous considerations to declassify the Gambit program, the system's high-resolution capability caused some to question whether the declassification of data about such a system would undermine the U.S. Government's ability to deny a license to an applicant proposing to operate a commercial imaging system with similar capabilities. However, a consideration of the issues indicates that this is not so.

a. (S//NF) The capabilities of NRO satellites have not been the metric used to establish restrictions on commercial imaging operations or satellites. Rather, the Department of Commerce, in coordination with the Department of State and Department of Defense, have issued licenses under the authority of the Land Remote Sensing Act of 1992, as amended; authority granted in regulation under 15 CFR Part 960; and the direction given under National Security Policy Directive (NSPD) 27. Under this authority and direction, the Department of Commerce issues licenses to U.S. operators on the basis of an assessment of the additional risk that imagery products from a proposed commercial system could present to U.S. national security, balanced against the goals stipulated in NSPD 27 of "maintaining the nation's leadership in remote sensing space activities," and "sustaining and enhancing the U.S. remote sensing industry."[21]

b. (U//FOUO) It is important to note that the statute, regulation, and Executive Order do not set specific limits on the technical capabilities of satellites licensed for commercial remote sensing.

   • (U//FOUO) Rather, the Government regulates risks to national security by limiting the kinds of imagery data that a commercial operator can sell, the conditions under which it must be handled, and the restrictions governing its release. These are defined in the license the Commerce Department issues to each operator.

   • (S//NF) The best products currently permitted are defined in NOAA operating licenses that authorize systems capable of collecting panchromatic imagery with ground sample distance (GSD) larger than or equal to .25 meter, and multispectral (MS) imagery with GSD down to 1 meter, both at nadir, with the proviso that the company could sell imagery having GSDs better than .5 m (for panchromatic) or 2 m (for multispectral) only to the U.S. Government or selected foreign countries, and only after a 24-hour delay. The operator could sell imagery of lesser quality commercially without delay.

c. (S//NF) In any case, a commercial operator could, in principle, build and launch an imaging satellite equal in capability to those operated by the NRO as long as it complied with the conditions of its license, which place restrictions on the dissemination and handling of imagery. Thus, Gambit programmatic data are themselves irrelevant to future decisions to regulate the U.S. commercial satellite imagery industry,

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[21] (S//NF) National Security Policy Directive 27 (NSPD-27) states that "The fundamental goal of this policy is to advance and protect U.S. national security and foreign policy interests by maintaining the nation's leadership in remote sensing space activities, and by sustaining and enhancing the U.S. remote sensing industry." See National Security Presidential Directive (25 April 2003), p.2. The NSPD-27 provides licensing and operations guidelines such that "U.S. companies are encouraged to build and operate commercial remote sensing systems whose operational capabilities, products, and services are superior to any current or planned foreign commercial systems, but that the U.S. Government "may restrict the operations of the commercial systems in order to limit collection and/or dissemination of certain data and products, e.g., best resolution, most timely delivery, to the United States Government or United States Government-approved recipients." It does not make reference to the capabilities of NRO systems as a criterion. The quoted passages are UNCLASSIFIED; the document is SECRET//NOFORN.

[22] (S//REL TO USA, FVEY) Any potential issues associated with the declassification of Gambit imagery are beyond the scope of this PDRA, which deals with assessing the risks associated with the declassification of Gambit programmatic data.

(S//REL TO USA, FVEY) **Building and Exporting High-Resolution Imaging Systems.** Another concern related to regulation expressed in previous deliberations over whether to declassify Gambit programmatic data was that declassification would establish grounds under which a company could build or export such a very high resolution system.

    a. (S//REL TO USA, FVEY) Discussions with representatives of the Departments of Commerce and State at the time informed us that this is not so. Such manufacture and exports would be regulated under prevailing statutes and regulations, irrespective of the declassification of Gambit programmatic data.

    b. (U//FOUO) Precedence exists for maintaining continued control over sophisticated technology even after the underlying or related technology is declassified. For example, when the specifications for the Redstone missile were put into the public domain, that act did not create the grounds requiring the Government to grant commercial licenses to manufacture, sell, or export Redstone missiles. This same rationale applies to the potential manufacture or export of imaging satellites;

(S//REL TO USA, FVEY) **Encouraging Requests to Market Space Imagery with Quality Higher than U.S. Reconnaissance Imagery.** In the past some also have argued that declassifying Gambit's best resolution capability might stimulate interest among commercial imaging satellite operators to reintroduce requests to sell imagery with better resolution than the Government has authorized. Again, this argument does not appear valid. There is broad public knowledge that classified systems have resolutions superior to those of commercial operators, and, as noted, the capability of U.S. Government satellites is not the metric used in making licensing decisions. It is the information content of the imagery, and the currency of that imagery, that could have a negative national security impact if better-than-0. 5-meter commercial imagery were publicly available.

(S//REL TO USA, FVEY) **Pressure to Declassify Capabilities of Current Systems.** Another potential risk factor raised during previous considerations to declassify the high resolution capability of Gambit's camera system would result in a requirement to declassify the resolution capabilities of NRO imaging systems currently in operation. This risk appears unfounded. When Corona was declassified, there was no effect on the classification actions for any current NRO system. Our experience indicates that disclosures of current and retired systems are totally independent.

(S//REL TO USA, FVEY) **Commercial Benefit to Programmatic Declassification.** One potential benefit of declassifying Gambit and Hexagon programmatic data would be that U.S. companies could showcase their legacy involvement with NRO programs and use this fact in their marketing. United States companies could use their documented experience in U.S. intelligence programs in making the case that they are better experienced, with a demonstrated record, to build state-of-the-art imaging satellites. This could result in improving the U.S. world

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[23] (U) Imagery-derived products, also known as "IDPs," are pictures and charts produced directly from imagery, but degraded in resolution and other parameters so as not reveal sensitive technical features of the NRO systems used for their collection. The IDPs allow the IC agencies to provide these products to users who lack the clearances required to see the original imagery. The capabilities of commercial systems are a benchmark used to establish the highest resolution that is permitted in IDPs.

economic position and strengthening the U.S. space industrial base. Further, promoting U.S. commercial imagery satellite technology is consistent with the objectives of NSPD-27 described earlier.

3.4 (U) Legal Considerations

(S//NF) The DNRO has the authority required to declassify Gambit and Hexagon programmatic data, although it would be appropriate that he exercise it in a manner that recognizes the prerogatives and equities of the Director of National Intelligence. Section 3.1.b of EO 13526 mandates that officials with original classification authority (in this case, the DNRO) shall exercise declassification authority. Section 3.1 of EO 13526 mandates that "information shall be declassified as soon as it no longer meets the standards for classification under this order." This would lead to a conclusion that, if Gambit and Hexagon programmatic data no longer meet these standards, the DNRO should proceed with declassification.

(S//NF) Section 1011 of the Intelligence Reform and Terrorism Prevention Act of 2004 assigns the Director of National Intelligence (DNI) the authority to "establish and implement guidelines for the Intelligence Community for the . . . Classification of information under applicable law, Executive orders, or other Presidential directives." This would suggest that the DNRO should coordinate a decision to declassify programmatic data of Gambit and Hexagon with the DNI to ensure that it is consistent with his authority to establish guidelines and consult and inform the DNI before a decision to declassify. We would also recommend that the DNRO consult and inform the CIA's DST/OD&E because of the role that organization played in the program before the NRO stood up the unified organization we have today.

(S//REL TO USA, FVEY) Another legal issue that has been raised in earlier discussions of declassifying Gambit and Hexagon programmatic data is whether such an action might encourage a large volume of FOIA requests for imagery and additional programmatic data that were not released for reasons of sensitivity. As we noted in Section 3.1.2, concerns about FOIA requests are not a legitimate justification for classifying, or maintaining the classification of data; risks to national security are the only authorized criteria. Even so, as we also observed earlier, imagery would not be included under a decision to declassify programmatic data, and the DNRO has the authority to withhold data deemed too sensitive for release under Exemption "1" of the FOIA.

4. 0 (U) Risk Mitigation and Phased Implementation

(S//TK//NF) The above risks could be exacerbated during declassification, particularly because of the complexity and large volume of material; however, these risks could be mitigated through a phased approach, which significantly could increase the probability of preventing the inadvertent disclosure of sensitive data. Both Gambit and Hexagon are extremely complex programs; moreover, the engineering, design, and operations, of the two program—as revealed in their records and hardware—are intertwined. The declassification effort would involve more than considering the "fact of" the programs and more than reviewing limited data about the programs; it would involve the comprehensive review of all of the programmatic material for two large programs.

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(S//TK//NF) The phased approach to programmatic declassification easily could be organized into two phases. The first phase ("Preparation for Declassification") could develop a sample of descriptive and illustrative programmatic information, vet these materials with technical and security experts, and after DNRO approval, declassify the material. The second phase could evaluate the impact of the initial declassification and release, and then embark on a staged review, declassification, and release of segmented categories of programmatic material. The timing, scope, and content of subsequent releases would be based on the experience acquired during Phase One and the insight gained during Phase Two.

(C//NF) In the past, the Intelligence Community has used a phased approach precisely to prevent inadvertent disclosure of sensitive data. For example, for the Corona program declassification, the NRO released its records collection only after a complete review of the entire collection. Similarly, the CIA began to release individual *National Intelligence Estimates* (NIEs) on Soviet military and strategic capabilities only after systematic review of all NIEs, as well as a review of the bulk of Directorate of Intelligence production on the topic, to include an extensive coordination with substantive experts and senior officials at other relevant intelligence agencies.[24] Hence, for the Gambit and Hexagon programs, it might be appropriate to identify segments of the collection for declassification and release prior to finishing the complete review. To minimize risk a judgment on this should be reserved until after an initial review of the complete holdings.

(S//TK//NF) Such a two-phased approach would address legitimate objections and concerns about the risk of wholesale programmatic declassification raised by some Intelligence Community organizations between 2000 and 2009. A phased approach, that provides the necessary context and identifies segments for declassification would go a long way to mitigate any potential risks of inadvertent release of the following sensitive programmatic data that should remain classified.

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[24] (C//NF) In the early 1990s, DCI Robert Gates decided to examine the feasibility of declassifying *National Intelligence Estimates* (NIEs) on Cold War Soviet military and strategic intentions and capabilities. The CIA then formed a staff dedicated to the effort.
(C//NF) The declassification staff then:
- Grouped NIE's by topic and time period;
- Redacted individual NIEs;
- Compared each individual NIE with all NIEs from other topic and time period groups; and
- Coordinated all redactions with CIA substantive experts and experts in other agencies, to include senior DOD and IC personnel.
(C//NF) Only after such a phased and comparative approach did the CIA began the process of releasing documents. Moreover, the CIA released the NIEs periodically in groupings (according to time periods and topic) with the Center for the Study of Intelligence (CSI) typically publishing a short monograph with the goal of placing the released documents in historic context. Quite often, the CIA combined release with holding a conference on the topic.

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5.0 (U) Assessment of Programmatic Data Sensitivity

(U) As noted previously, "programmatic data" includes three categories of information related to the Gambit and Hexagon programs: (1) technical and engineering data, (2) operational data, and (3) management data (i.e., organizational and personnel, fiscal data, and contracting). The following sections discuss the sensitivity of each.

5.1 (U) Technical and Engineering Data

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(S//TK//REL TO USA, FVEY) [   ] the release of most Gambit and Hexagon technical and engineering data would not compromise current sources and methods nor have an adverse impact on U.S. commercial enterprises. The technical and engineering data that remain sensitive and should continue to be protected as classified information are:

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c. (S//TK//REL TO USA, FVEY) All data related to any use of the Gambit and Hexagon vehicles for piggyback payloads involving experimental or operational activities that are associated with collection disciplines other than Imint or payloads associated with any special programs remain sensitive. These technical and engineering data should remain classified.

5.2 (U) Operational Data

(S//REL TO USA, FVEY) Most Gambit and Hexagon operational data, if declassified, are unlikely to compromise today's satellite reconnaissance programs. However, some specific operational details–if declassified–could have an adverse impact on current and future intelligence sources and methods.

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(b)(1)
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(b)(1)
(b)(3)

5.3 (U) Management Data

(U//FOUO) We concluded that most management data no longer require classified protection. However, selected management data remain sensitive and would have to be redacted from any programmatic data that were declassified.

5.3.1 (U) Non-Sensitive Management Data

(U) Terminology related to the programs and the associations of the programs with industry partners are examples of management data that no longer are sensitive.

(S//REL TO USA, FVEY) Terminology and Program Designators. Experience from the Corona declassification experience suggests there would be no adverse consequences to declassifying the KH designator, mission numbers, and program names for the Gambit and Hexagon programs. This is consistent with the NGA assessment of terminology for imagery associated with these programs. Also, the Gambit and Hexagon programs were protected under the Byeman security control system. The NRO retired the Byeman system effective close of business 20 May 2005, and the word "Byeman" and trigraph BYE became unclassified. Accordingly, there would be no adverse consequences in the unclassified association of these terms with the Gambit and Hexagon programs.

(S//REL TO USA, FVEY) Association with Industry Partners. When we prepared the original PDRA on Gambit and Hexagon declassification, we discussed the proposal with industry partners who served as major contractors for the Gambit and Hexagon programs. In those earlier discussions with these companies, no contractors could identify any problems that might result from declassifying their association with the programs. Experience with declassifying the Corona program suggests that disclosure of industry associations with formerly classified national reconnaissance programs would not make the contractors more vulnerable to increased scrutiny or targeting from a counterintelligence or security perspective. Declassification of the Corona program resulted in no identifiable adverse consequences to the program's contractors.

5.3.2 (U) Sensitive Management Data

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(S//REL TO USA, FVEY) There are three kinds of management data that remain sensitive and detailed budgetary and fiscal information.

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(b)(3)

(U) *Budget Data.* The relevant facts and policy guidance on the declassification of budget data for completed or discontinued programs are as follows:

a. (U) Current classification policy states that data on specific programs cannot be classified for more than 25 years unless an agency head stipulates that it meets one of the criteria listed in EO 13526 and the NRO Classification Guidance (as noted previously in Section 1.0).

b. (U) The Director of National Intelligence has released the total budget figure for the National Intelligence Program beginning in 2008, consistent with statutory requirements (Section 601 of the "Implementing Recommendations of the 9/11 Commission Act of 2007," Public Law 110-53).

c. (U) In doing so, the DNI stipulated that the Intelligence Community would continue to protect detailed information about current programs, saying that "any and all subsidiary information concerning the intelligence budget, whether the information concerns particular intelligence agencies or particular intelligence programs will not be disclosed."[28]

d. (U) However, in the past the Intelligence Community has provided top-level budget information when declassifying completed or discontinued programs of historic significance. For example, when the CIA released a history of the A-12/Oxcart in 1964, it noted that the original quotation for the program in the contract signed on 11 February 1960 provided for 12 aircraft at a cost of $96 million, and that this cost more than doubled over the next five years.

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[28] (U) "DNI Releases Budget Figure for 2008 National Intelligence Program," *News Release*, Office of the Director of National Intelligence (28 October 2008).

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(S//REL TO USA, FVEY) Consistent with these policies and precedents, we conclude that there is minimal to no risk in declassifying top-level budget data for the Gambit and Hexagon programs. We would continue to protect as sensitive more detailed budget information that would reveal methodologies associated with developing sensitive technical, engineering, operational, contractual, personnel, or organization arrangements.

(S//TK//NF) The classified NRO histories of Gambit and Hexagon provide costs for the two programs. The total cost of the 38-flight Gambit-1/KH-7 program covering fiscal years 1963 through 1967 was $651.4 million in 1963 dollars. The total cost of the 54-flight Gambit-3/KH-8 program covering fiscal years 1964 through 1985 was $2.5 billion in respective year dollars. The total cost of the 20-flight Hexagon program from fiscal year 1966 through 1986 was $3.262 billion.

Table 1. (S//REL TO USA, FVEY) Matrix of Gambit and Hexagon Major Contractors

(U) (Legacy Company Names in Parentheses)

	GAMBIT KH-7	GAMBIT KH-8	HEXAGON
Spacecraft	Lockheed-Martin (General Electric)	Lockheed-Martin (Lockheed)	Lockheed-Martin (Lockheed)
Payload	ITT (Eastman Kodak)	ITT (Eastman Kodak)	Raytheon (Hughes Danbury, Perkin-Elmer)
Recovery Vehicle	Lockheed-Martin (General Electric)	Lockheed-Martin (Lockheed)	Boeing (McDonnell Douglas)
Booster	Lockheed-Martin (General Dynamics)	Lockheed-Martin (Martin Marietta)	Lockheed-Martin (Martin Marietta)
Upper Stage	Lockheed-Martin (Lockheed)	Lockheed-Martin (Lockheed)	
Mapping Camera			Raytheon (Hughes Danbury, Perkin-Elmer, Itek)
Mapper RV			Lockheed-Martin (General Electric)

Table is (S//TK//REL TO USA, FVEY)

6.0 (U) Additional Assessment Factors

6.1 (U) Sequencing of Declassification Decision and Declassification Review

(S//REL TO USA, FVEY) During past considerations of whether to declassify Gambit and Hexagon programmatic data, some argued that the NRO should provide a detailed declassification review and redaction guide prior to a declassification decision. After analyzing the actual steps that would be required to produce such a manual, we concluded that this would be impossible.

(S//REL TO USA, FVEY) Prior to a declassification decision, it would be impossible to identify information that met the criteria defining what would be declassified before there would be an opportunity to review the actual material that would be a candidate for declassification. A more realistic and practical approach would be for the DNRO to use this PDRA to make a risk-based decision regarding declassification and the NRO staff to conduct a narrow declassification review of limited data based on the DNRO's decision and the criteria in this PDRA. The NRO would then release an initial, limited collection of information that is consistent with the decision and the criteria, and draft a formal redaction guide based on the DNRO decision, criteria in this PDRA, and the experience from the limited declassification. Over a multi-year period, the NRO would conduct a declassification review, updating the redaction guide when required by issues identified during the review; and finally release the reviewed and redacted data.

(S//TK//NF) Moreover, the amount of documentation that Gambit and Hexagon produced is, compared to programs such as Corona that the NRO previously declassified, enormous. We have attempted to illustrate this in Figure 5. As can be seen, Corona programmatic documentation filled 17.6 boxes, which required 2.5 years to review. Gambit and Hexagon programmatic documentation, in contrast, fills 290 boxes (725,000 permanent pages) and, by extrapolation, would require 16.4 years to review at the same staffing level that the NRO used for the declassification review of Corona program records. Experience from Corona and other programs also suggests that such an effort will likely identify additional data that would require review prior to declassification, further stretching out this process. Practically speaking, a requirement to review all imagery data prior to declassifying any programmatic data is a decision to keep Gambit and Hexagon classified indefinitely.

6.2 (U) Authority to Declassify

(S//REL TO USA, FVEY) During past considerations, some analysts expressed the view that only the head of the Intelligence Community has the authority to declassify information related to Gambit and Hexagon. As noted in Section 3.4, our reading of Executive Order 13526 and the Intelligence Reform and Terrorism Prevention Act of 2004 suggests that this is not the case, as it grants the DNRO this authority as an agency head. Therefore, we recommend that the DNRO make the decision to declassify, but that he obtain ODNI coordination.

6.3 (S//REL TO USA, FVEY) Interrelationship of Gambit and Hexagon Programmatic Data

(S//REL TO USA, FVEY) The NRO has sometimes declassified multiple systems at the same time because the risks associated with declassification were the same, because the technologies and operations of the systems were closely and inextricably related, or both. This was the case, for example, when the NRO decided to begin declassification of the Corona, Argon, and Lanyard programmatic data and imagery in 1995. Gambit and Hexagon

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have this kind of relationship, which is why declassifying the programmatic data for one makes it implausible to continue the classification of the other.

CORONA:
17.6 Boxes
2.5 years to
complete review

GAMBIT & HEXAGON:
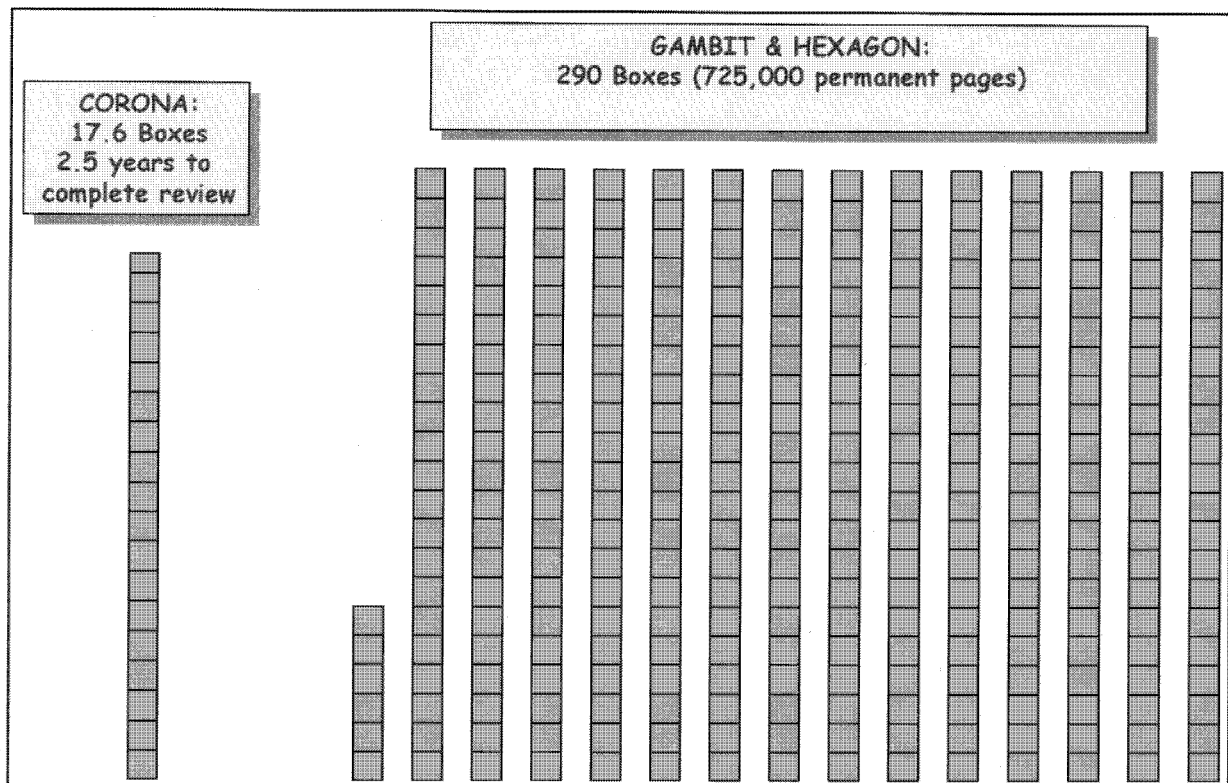290 Boxes (725,000 permanent pages)

Figure is (S//REL TO USA, FVEY)

Figure 5. (S//REL TO USA, FVEY) Comparison of Corona and Gambit/Hexagon Data Volume

(S//REL TO USA, FVEY) Although designed for different missions, Gambit and Hexagon were technologically similar. Both were film-return systems. Both were launched from the same site, and the film capsules for both were recovered through similar means and at the same location. Gambit and Hexagon documentation are thoroughly intermixed because both programs were developed and were in operation at approximately the same time, and the products from the two systems were routinely processed and distributed through the same channels.

(S//REL TO USA, FVEY) The fact that Gambit and Hexagon data were intermingled suggests that it would be more efficient to declassify programmatic data for both systems at the same time. Otherwise, the NRO would need to undertake a preliminary effort to attempt to sort information in the programmatic records so as to segregate data related to one system or the other, an exercise that was not undertaken when the program offices created the Gambit and Hexagon programmatic records. In fact, many records in both collections include integrated discussions of the two programs. This is also another argument why the declassification of the programmatic data associated with these two systems should be considered as a single unit, and not as two independent actions.

6.4 (S//REL TO USA, FVEY) Public Awareness of Gambit and Hexagon

(S//REL TO USA, FVEY) Significant amounts of information about the Gambit and Hexagon programs, with varying degrees of completeness and accuracy, have appeared in public _____ (b)(3)

(b)(3)

Although this is not itself a justification for declassification, it is relevant to understanding the additional risks that could result from official declassification of Gambit and Hexagon programmatic data.

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(b)(3)

(b)(3)

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(b)(3)

### 6.5 (U) Examples of Programmatic Data in the Public Record and Candidates for Declassification

(S//TK//NF) We have seen a wide range of programmatic data referred to and discussed in the public dialogue. We do not believe that the declassification and release of programmatic data that officially confirms that which is accurate or corrects that which is inaccurate would be counter to U.S. interests. The following list is a sampling of the kinds of Gambit and Hexagon programmatic data that we have seen referred to in public. We have included our assessment of the accuracy of that public knowledge and offer the list as an example of the kinds of programmatic data that could be declassified and released.

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These programmatic data would include:

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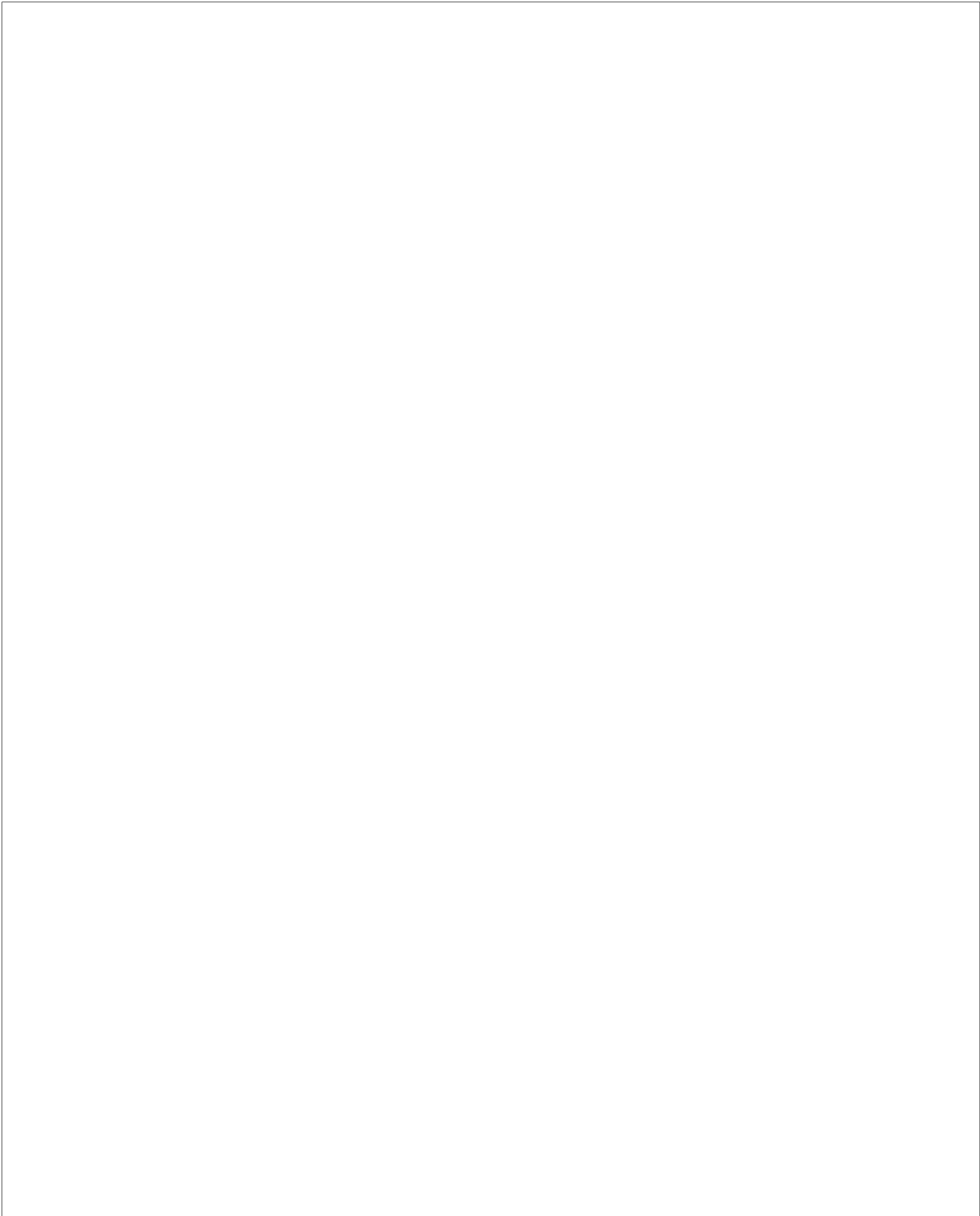
TOP SECRET//SI/TK//RSEN/NOFORN

TOP SECRET//SI//TK//RSEN/NOFORN

(b)(1)
(b)(3)

6.6 (S//TK//REL TO USA, FVEY) Implications of What is in the Public Record and Our Assessment

(S//TK//REL TO USA, FVEY) Considering all the examples of data listed in Section 6.5, and our assessments in earlier sections, it would be a conservative conclusion that any adversary who wanted to protect against U.S. imaging satellite reconnaissance already would be protecting against a best resolution that was close to or exceeded the ⬚ (b)(1) ⬚ This reinforces the argument to declassify and release programmatic data (b)(3) that would include the hardware and engineering descriptions of the systems that the NRO operated under these programs. In summary, our assessment could find no compelling reason to deny the declassification of the "fact of" and most programmatic data related to the Gambit and Hexagon programs. However, there remain certain programmatic data that have continued sensitivity, and we have identified these data in Section 7.0 that follows.

7.0 (U) General Categories of Programmatic Data with Continued Residual Sensitivity

(S//TK//NF) Some programmatic details, because of continued sensitivity, should continue to be classified and redacted from any declassified release to protect current and future NRO operations. The following broad categories of information should be afforded continued classified protection:

- *Technical and Engineering Data*

(b)(1)
(b)(3)

- *Operational Data*
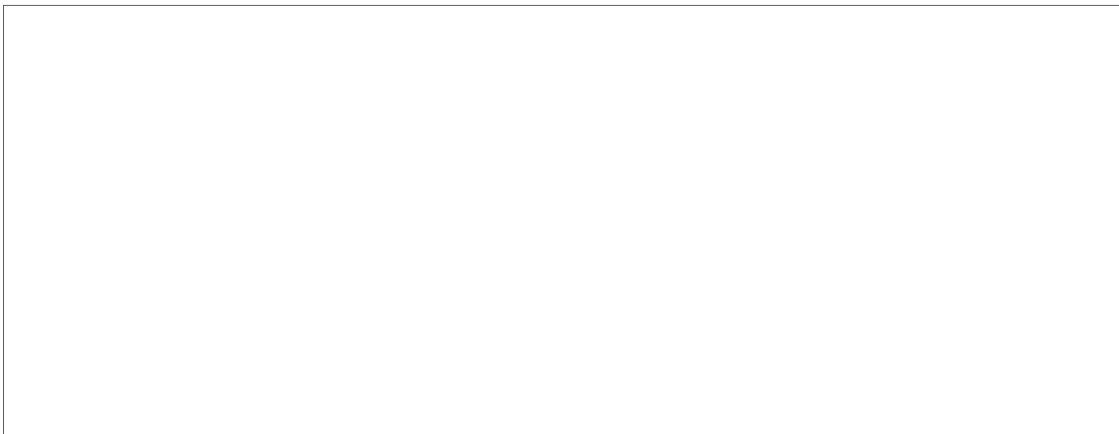
(b)(1)
(b)(3)

- *Management Data*

  o Budgetary details, consistent with current DNI direction and guidance

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(b)(1)
(b)(3)

o   Limited security terminology

8.0 (U) Benefits of Declassification

(S//REL TO USA, FVEY) The declassification of Gambit and Hexagon programmatic data offers the opportunity to achieve several objectives:

- (U) First, it responds to the President's 27 May 2009 declassification order, as well as statutes and policies requiring the NRO to release information to the greatest degree possible while protecting intelligence sources and methods. This would support the Executive Branch's goals of transparency. (A list of relevant documents describing these statutes and policies appears in Appendix C.)

- (S//REL TO USA, FVEY) Second, by making programmatic data available, the NRO will be able to better manage subsequent public requests for the release of imagery and intelligence resulting from those systems. As noted earlier, data for Gambit and Hexagon consist of approximately 725,000 pages, filling 290 boxes. By releasing a "core" of limited programmatic data at an initial event and a schedule for later releases, the NRO could reduce the workload of responding to individual FOIA requests while also satisfying the needs of potential requesters. At the same time, the NRO could establish milestones for progressively releasing additional information, while monitoring this flow so that sensitive information can be protected.

- (U) Third, the gradual, phased release of declassified programmatic data would ensure an opportunity to alert and educate cleared U.S. allied personnel on the distinctions between what has been declassified and what remains classified. This should result in reducing confusion and the likelihood of inadvertent disclosure of classified information. The gradual, phased approach also should give cleared personnel an opportunity to learn and adjust details of the release. We would expect this to be particularly important, given the large volume of data to be reviewed and assessed for release.

- (S//REL TO USA, FVEY) Fourth, Gambit and Hexagon were both highly successful programs. Publicly acknowledging this success would highlight the nation's space and intelligence accomplishments, illustrate the remarkable service the programs provided and the value of national reconnaissance to the nation's security, and be good for morale within the Intelligence Community.

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(b)(3)

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9. 0 (U) Risk Mitigation

(S//TK//NF) The risks discussed in Section 3.0 could be exacerbated because of three complicating factors: (1) the complexity and interrelationships within and across the Gambit and Hexagon programs, (2) the continued sensitivity of selected Gambit and Hexagon data [   ] and (3) the comparatively large volume of classified data associated with these programs   Both Gambit and Hexagon are extremely complex programs; moreover, the two programs—their engineering, operations, hardware, and records—are intertwined. Furthermore [   ]

(b)(1)
(b)(3)

a. (S//TK//NF) Intelligence Community Concerns over Risks. During the period 2000 to 2009, the NRO raised the matter of declassifying Gambit and Hexagon programmatic data within the Intelligence Community. At various times, the Central Intelligence Agency (CIA), the National Imagery and Mapping Agency (NIMA, in 2003 renamed the National Geospatial-Intelligence Agency, NGA), and the [   ] [   ] raised objections associated with the risk of wholesale programmatic declassification. A phased approach, that identifies segments of programmatic data for declassification, would go a long way to mitigate any potential risks associated with declassification, especially if those who review the records and hardware for declassification consider the risk factors in this PDRA and have the technical understanding of the engineering and operation of these legacy systems and [   ]

(b)(3)

(b)(1)
(b)(3)

b. (S//TK//NF) Examples of Interrelated Complexity. A facile release of a single item of information—without the context of the larger complexity of the programs—significantly increases the probability of compromising ongoing engineering, as well as operations such as collection strategy. Following are several examples.

1. Hexagon was the first U.S. satellite capable of broad area search (BAS) imagery, a capability that eliminates surprise and was used in the 1970s to monitor the strategic capabilities of the USSR and China. [   ]

(b)(1)
(b)(3)

2. (S//TK//NF) In a related example from the end of the 1960s when the U.S. was developing Hexagon, urgent intelligence requirements for broad area search (BAS)—and fears that Hexagon would not be ready in time—prompted engineers to adapt Gambit to perform a BAS function. This adaptation entailed specific hardware changes to the photographic-payload section (PPS) and the satellite control section (SCS). This modified Gambit "Dual-Mode" allowed the satellite to operate at much higher altitudes and perform this secondary mission.

3. (S//TK//NF) The intertwining of hardware adaptation and collection strategies is also evident in early Gambit vehicles. Gambit targeting software incorporated such factors as target priority, forecast weather, expected quality (resolution), and elapsed time since last imaging, allowing U.S. target selection to become more efficient. This improved methodology for managing target requirements evolved into what became known as the Committee on Imagery Requirements &

Exploitation (COMIREX) Requirements Structure (CRS). Thus, Gambit's structural elements served to integrate imagery collection, exploitation, and reporting requirements, thus making imagery intelligence more responsive to user needs.

4. (S//TK//NF) In another Gambit example, the U.S. added a new degree of sophistication to national reconnaissance when

(b)(1)
(b)(3)

c. (S//TK//NF) **Value of Phased-Approach to Mitigate Risk.** In summary, a facile release of a single record, artifact, or item of information could not take into account what is critical in protecting sources and methods. One isolated item of information may appear to be non-sensitive; but connecting that item of information with other facts and data that also may appear to be non sensitive could lead to disclosures of sensitive information. In short, it is the awareness of the interaction of aspects of the programs and the context of information about the programs that are critical to preventing inadvertent disclosures. A simple review of one record, artifact, or item of information can not provide this necessary context that is critical to preventing the inadvertent disclosure of sensitive information. Awareness of that context is only possible through a phased implementation of programmatic declassification—an approach, if implemented with the technical advice of engineers and intelligence analysts, could significantly reduce Intelligence Community concerns over risk.

10.0 (U) Phased Declassification Approach for Risk Mitigation

(S//TK//NF) A phased approach to declassifying Gambit-Hexagon is crucial for preventing inadvertent disclosure of sensitive data. Should the DNRO decide to pursue declassification of the programmatic data associated with the Gambit and Hexagon programs, these risks could be mitigated through implementation of a two-phased approach. [30] The first phase would develop a sample of descriptive and illustrative programmatic information, vet these data with technical and security experts, and—after DNRO approval—declassify the data. The second phase would evaluate the impact of the initial declassification and release, and then embark on a staged declassification review and release of categories of Gambit and Hexagon information. Comparable phased approaches have in the past, both within the Intelligence Community and the Department of Defense, worked well to mitigate risk of inadvertently declassifying and disclosing sensitive data. [31]

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[30] The phased approach that we outlined in this section should be considered as a baseline to other approaches. During the actual preparation for and implementation of programmatic declassification, the implementing entities may discover information or encounter experiences that would require modification to the steps to mitigate risks that might become apparent only after (1) consulting with NRO's mission, industry, and allied partners, or (2) actually conducting the review of the over 700,000 pages of records and examining the programs' extensive collection of hardware and artifacts.

[31] (U) For example, the NRO found that a phased approach was critically important for the timely and successful declassification of the Corona program. Similarly, the Air Force successfully used a phased approach when it declassified information about the F-117. This approach assured both the timely declassification of the information to be released and the continued protection of sensitive data.

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a. (S//TK//NF) **Phase One—Preparation for Declassification and Pilot Declassification Release.** Phase I first would inform stakeholders and develop security and public affair guidelines to bound any potential declassification and release. It would then move into what essentially would be a pilot program that carefully, and in a coordinated manner, would prepare a sample of information for DNRO declassification approval. Critical to the risk mitigation in this phase would be the six steps that move from preparing for to announcing a controlled declassification. Given competing mission priorities, typical staffing times, and the need for a deliberative assessment, this phase should be expected to take nine to twelve months. Some of the steps could be carried out in parallel. The six steps are:

1. (S//TK//NF) **Inform U.S. Stakeholders.** Prior to any decision to declassify, the DNRO should complete several informational tasks to inform Intelligence Community leadership, the IC policy community, and mission partners of the DNRO's intent to begin a phased approach to consider declassification of Gambit and Hexagon programmatic data. The BPO (principally the Policy and Analysis (P&A) office) [32] in close collaboration with the OGC and coordination with other interested NRO components would take most of the lead during this step. At a minimum the DNRO would inform the following:

   * The Director of National Intelligence (DNI) and Secretary of Defense (SecDef)

   * The National Geospatial-Intelligence Agency (NGA), National Security Agency (NSA), and Central Intelligence Agency (CIA)

   * Congressional Committees, OMB, and any other relevant oversight bodies

   * Other Intelligence Community agency heads as identified by BPO/P&A

2. (U//FOUO) **Develop Security Guidelines.** The NRO Office of Security & Counterintelligence (OS&CI) would draft security instructions as guidelines for U.S. Government, industry, and allied personnel to inform them of the nature and scope of the changes in classification policy.[33] Prior to a formal declassification announcement and release of declassified programmatic information, the OS&CI would promulgate its security guidelines to instruct personnel in how to apply the new security policy.

3. (U//FOUO) **Develop Public Affairs Guidance.** The BPO Office of Strategic Communications (OSC) [34] would develop relevant press releases and public affairs guidance on how to respond to press queries and bound the nature of replies. Prior to a formal declassification announcement and release of declassified programmatic information, the OSC would promulgate its public affairs

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[32] (U//FOUO) Under the NRO and BPO Governance Plans, the BPO Office of Policy and Analysis (P&A) is responsible for the administration of the internal NRO policy coordination process and interagency policy coordination.

[33] (U//FOUO) Under the NRO and OS&CI corporate governance structure, the OS&CI is responsible for management of NRO's security and counterintelligence programs for the protection of personnel, information, facilities, acquisition and operations security.

[34] (U//FOUO) Under the NRO and BPO corporate governance structure, the Office of Strategic Communications (OSC) is responsible for internal and external corporate communications, which includes public affairs, legislative liaison, and internal corporate communications.

guidance to relevant U.S. Government and industry partners for direction and relevant allied partners for information.

4. (S//TK//NF) **Inform Allies and Work With Them on Implementation.** The BPO [   ] **(b)(3)** office would inform relevant allies of the DNRO's intent to declassify Gambit and Hexagon programmatic information, identify any potential problems that might arise during implementation, work with them on resolving those problems, and ensure the allies have access to all necessary security and public affairs guidance related to declassification.[35]

5. (S//TK//NF) **Select and Prepare a Sample Package of Declassified Programmatic Material.** The BPO Center for the Study of National Reconnaissance (CSNR) would select and prepare a sample package of material for declassified release. This would include a publication or publications with descriptive and illustrative information about the programs, as well as artifact or hardware, also illustrative of the programs.[36] The CSNR would develop these materials based on the assessments in this PDRA, as well as with collaborative input from the Imagery Systems Acquisition Directorate (IMINT), OS&CI, MS&O[   ] IMSC/IART, and MS&O [   ] **(b)(3)** [   ] As appropriate, the CSNR would inform and consult with NRO mission partners, industry partners, and allied partners in preparation of the material. The NRO would release the material only after declassification approval from the DNRO.

6. (S//TK//NF) **Announce Declassification at a Public Event..** The DNRO would host an event to announce the intent to declassify Gambit and Hexagon programmatic data and to release the sample of material that the DNRO had approved for release. The event would highlight the nation's accomplishments and the NRO's role in Gambit and Hexagon programs. It also would recognize the contribution of alumni of the two programs. During the event, the NRO would display the publication (or publications) and hardware as examples of what would be declassified in the future under a comprehensive declassification program.

Should the President be involved in the announcement event, the DNRO and DNI should coordinate with the White House at least six months prior to the event, to determine the attendance and venue for the announcement.

b. (S//TK//NF) **Phase Two—Initiate Comprehensive Programmatic Declassification.** Phase II would be the actual implementation of a declassification program for Gambit and Hexagon programmatic information. The Information Management Services Center's (IMSC's) Information Access & Release Team (IART), within the Management Services & Operations (MS&O) Directorate, is the NRO's declassification office and would manage the process of declassifying all Gambit and Hexagon programmatic records during this

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[35] (U//FOUO) Under the NRO and BPO corporate governance structure, the BPO [   ] is responsible for **(b)(3)** matters related [   ]
[36] (S//TK//REL) This publication or publications would draw on existing Gambit and Hexagon program histories and supplementary interviews, and could include selected imagery, along with a discussion of its use.

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declassification phase.[37] That office would determine the timing and tempo of records declassification, based on resources, funding, and experience during the phased steps. At the same time, the NRO curator, in collaboration with the MS&O [blank] and under direction of the [blank] Section of CSNR, and in coordination with the NRO [blank] would develop guidelines for review and declassification of program hardware and related artifacts, the timing and tempo determined by [blank] CSNR/BPO based on the workload and availability of funding.[38]

(b)(3)

(S//TK//NF) The declassification of Corona programmatic data, which the NRO initiated at the end of the 1990s and involved the review of over 700,000 pages of documents and two large artifacts, offers lessons that can be applied. That effort also can suggest a rule of thumb for estimating the time and effort that would be required for Gambit and Hexagon programmatic declassification. The review and declassification process for Corona took four years from the date of the DCI decision to declassify. (This followed six or seven years of periodic staff review of the concept to declassify Corona data.)[39]

(U//FOUO) The declassification of such terms as "Quill" and "Upward" during the first decade of the 21st century, while limited in scope when compared with programmatic declassification, could be instructive with regard to programmatic declassification. In addition, earlier NRO experience with the declassification of limited data associated with the Grab and Poppy programs, the "fact of" NRO use of the space shuttle, and the "fact of" NRO use of radar collection, also could offer insight into programmatic declassification.

(U//FOUO) Consistent with the phased approach, the DNRO would approved the declassification of segments of program records and hardware based on a segmentation and schedule that ensures the continued protection of residual classified material and the required accountability of records and property.

(S//TK//NF) Finally, as in past declassifications and particularly given the complexity and inter-relationship of the Gambit–Hexagon systems—it is imperative that review teams have experience in the two systems as well as a thorough understanding of current ongoing NRO and IC operations and technical capabilities.

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[37] (U//FOUO) Under the NRO and MS&O corporate governance structure, the IMSC is responsible for developing and implementing policies and procedures on the creation, maintenance, use, disposition, access and release, and declassification of all NRO records.

[38] (U) While Executive Order 13526 identifies artifacts as "nonrecord materials," the order does specify that nonrecord materials "shall be declassified as soon as they no longer meet the standards for classification under this order." Accordingly, the NRO would be able to review program hardware and artifacts as part of the programmatic declassification review.

[39] (U//FOUO) The declassification of Corona followed this time line:
- May 1972: End of Corona Program
- Late 1980s: COMIREX began exploring declassification of the Corona program and its imagery
- 22 Feb 1995: The President approved policy to declassify Corona imagery
- 24 Feb 1995: The Vice President announced the intent to declassify the Corona program
- 19 April 1995: Acting DCI approved recommendation that Corona programmatic data be reviewed for release
- May 1995: The IC released a limited amount of information in connection with an intelligence symposium
- Spring 1997: NRO released additional selected programmatic data in the American Society for Photogrammetry and Remote Sensing (ASPRS) Corona book
- End of 1997: NRO released programmatic documents

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Annex A: (U) Acronym and Program List

- (U) CIA – Central Intelligence Agency
- (U) CSNR – Center for the Study of National Reconnaissance
- (U) COMIREX – Committee on Imagery Requirements and Exploitation
- (U) DCI – Director of Central Intelligence
- (U) DNI – Director of National Intelligence
- (U) [_____]   (b)(3)
- (U) EO – Executive Order (when used in reference to policy)
- (U) EO – Electro-optical (when used in reference to imagery satellites)
- (U [_____]   (b)(3)
- (U) FY – Fiscal Year
- (U) FOIA – Freedom of Information Act
- (U) FOUO – For Official Use Only
- (S//TK//REL TO USA, FVEY) Gambit – NRO Program Designator for System 4000 and System 4300 Imint Satellite Programs
- (U) GE – General Electric Company
- (U) GSD – Ground Sample Distance
- (U) HDOS – Hughes Danbury Optical Systems (formerly Perkin Elmer Corp., Optical Technology Division)
- (S//TK//REL TO USA, FVEY) Hexagon – NRO Program Designator for System 1200 Imint Satellite Program
- (U) IART – Information Access and Release Team
- (U) IC – Intelligence Community
- (U) ICRS – Imagery Collection Requirements Subcommittee
- (U) ICBM – Inter–continental Ballistic Missile
- (U) IDP – Imagery–derived Product
- (U) IMINT – Imagery Intelligence Systems Acquisition Directorate   (b)(1)
- (S//TK//REL TO USA, FVEY) [_____]   (b)(3)
- (U) KH – Keyhole (System Designator; e.g., KH–7)
- (U) LFC – Large Format Camera
- (U) MCS – Mapping Camera Subsystem
- (U) NASA – National Aeronautics and Space Administration
- [_____]   (b)(3)
- (U) NGA – National Geospatial-Intelligence Agency
- (U) NIMA – National Imagery and Mapping Agency
- (U) NOAA – National Oceanic and Atmospheric Administration
- (U) NRO – National Reconnaissance Office
- (U) NSC – National Security Council
- (U) OS&CI – Office of Security and Counterintelligence
- (U) P&A – Office of Policy & Analysis
- (U) PDRA – Policy Decision Risk Assessment
- (U//FOUO) RSEN – Risk Sensitive
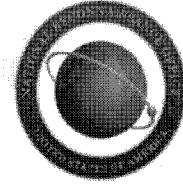
- (U) RV – Recovery Vehicle
- (U) SI – Special Intelligence
- (U) SIGINT – Signals Intelligence
- (U) TECHELINT – Technical Electronic Intelligence
- (U) TK – Talent–Keyhole
-   (b)(3)
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Annex B: (U) KH-7 Surveillance System & KH-9 Mapping System Fact Sheet

(U) CENTER FOR THE STUDY OF NATIONAL RECONNAISSANCE
FACT SHEET
(U) KH-7 Surveillance System & KH-9 Mapping System

CSNR FS 2002-2
Rev 24 November 2009

(U) During the Cold War the National Reconnaissance Office developed follow-on programs to the early Corona KH-4 satellite reconnaissance program. Among these are one program that operated the KH-7 surveillance camera system and another program that operated the KH-9 mapping camera system. Both systems returned exposed film to earth via a reentry capsule for processing and analysis.[40]

(U) KH-7 Surveillance Camera System:

(U) The high-resolution KH-7 surveillance satellite imaging camera system operated from July 1963 to June 1967, during which it monitored key targets such as ICBM complexes, radar systems, and hot spots around the globe. This system complemented the Corona search system. Whereas Corona missions were dedicated to answering, "Is there something there?" this higher-resolution camera system assisted imagery analysts in watching that something, to learn more about it, identify it, and classify it. This system also conducted limited, high-resolution search and provided the key cartographic information from which the Department of Defense produced accurate, large-scale (1:50,000) maps of airfields, harbors, cities, and missile defense systems.

(U) KH-7 was a stripping camera capable of imaging areas 12 nm wide, and ranging from five nm to 400 nm long. The KH-7's small "footprint" on the ground was around 120 square nm (as compared with Corona's KH-4 camera system's average footprint of 1,075 sq nm). Nearly 19,000 frames of varying length, totaling 43,000 linear feet, were returned. The KH-7 surveillance camera successfully returned imagery on 34 of 38 missions with 30 of the missions providing imagery that was usable for analysis. The KH-7 camera initially achieved a best ground resolution of approximately 1.2 m (4 ft). By 1966 the best resolution improved to approximately 0.6 m (2 ft).

(U) KH-9 Mapping Camera System:

(U) The KH-9 mapping system was devoted exclusively to gathering information for mapmaking, and collected imagery from March 1973 to October 1980. Geodetic data, including precise geopositioning, elevation, and other information provided the DoD with accurate point locations for air, sea, and ground operations. This system also was used for tactical and strategic weapons system planning.

(U) The KH-9 mapping camera was operated on twelve missions and acquired total ground coverage of approximately 104 million square nautical miles. The KH-9 mapping camera provided a ten-fold improvement in resolution and a four-fold improvement in accuracy over the Argon KH-5 mapping camera. Each frame of KH-9 mapping imagery covered a ground "footprint" of approximately 70nm by 140 nm.

(U) KH-7 & KH-Mapping System Coverage

(U) Together, these two systems acquired approximately 50,000 images on approximately 93,000 linear feet of film.

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[40] (U) In October 2000 the Director of Central Intelligence authorized the declassification of almost the entire film record of these camera systems. On 20 September 2002 the National Imagery and Mapping Agency (now the National Geospatial-Intelligence Agency) sponsored the "Historical Imagery Declassification Conference" to inform the public of this decision. By 9 October 2002 the National Archives and Records Administration had made 48,000 images from these two programs available to the public.

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Annex C: (U) Relevant Policy Documentation

(U) Executive Order 12951, "Release of Imagery Acquired by Space-Based National Intelligence Reconnaissance Systems" (22 February 1995).

(U) Executive Order 13526, "Classified National Security Information" (29 December 2009).

(S//NF) "Declassification of KH-7 and KH-9 Mapping (Frame) Camera Imagery," Memorandum from the Director of Central Intelligence (25 October 2000).

(U) "Press Release: National Archives Releases Recently Declassified Satellite Imagery," National Archive and Records Administration (9 October 2002).

(U) Executive Order 13292, "Further Amendment to Executive Order 12958, As Amended, Classified National Security Information" (25 March 2003).

(U) "Imagery Policy Series, Section 5: Part A. (U) Classification Tables—Revision 4" Director of National Intelligence (April 2004).

(U) "Intelligence Reform and Terrorism Prevention Act of 2004," Public Law 108-458 (17 December 2004).

(U) "NRO Mission Ground Stations Declassification Guide" (15 October 2008).

(U) "Memorandum for the Heads of Executive Departments and Agencies; Subject: Freedom of Information Act" from the President (21 January 2009).

(U) "Memorandum for the Heads of Executive Departments and Agencies; Subject: Classified Information and Controlled Unclassified Information" from the Office of the Press Secretary, White House (27 May 2009).

(U) "NRO Classification Guide," Version 6.0, 21 May 2005 (Last update: 10 June 2009).

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Requests for copies of this document may be directed to:

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