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**(U) TRANSFORMATIONAL
COMMUNICATIONS ARCHITECTURE (TCA)
SECURITY CLASSIFICATION GUIDE (SCG)**

VERSION 1.2

7 November 2005



Classified By:
Reason: 1.4 (c) and (g)
Declass. On: 25X1
Derived From: Original Classification Authority and Multiple Sources

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(U) TRANSFORMATIONAL COMMUNICATIONS ARCHITECTURE CLASSIFICATION GUIDE CHANGE

(U) A viable process and procedures for formal classification guide changes is in place. Experience has shown that in the weeks following the revision publication of a classification guide, the audience of readers/reviewers will identify or suggest changes—desired or essential. Please send all comments to the Director of and to the Transformational Communications Architecture (TCA) Security's Classification Analyst. Refer to page 9 of this guide for contact numbers.

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(U) The family of TCA Classification Guides is intended to be a set of living documents. Changes will be incorporated as necessary to keep the guides current. Any and all requests for change or challenges to a finished TCA Program Classification Guide (PCG) document must be submitted to the TCA Director of Security. The submittal must use the Change Request (CR) form. Refer to the template on page 3 of this document. The submittal will be evaluated and appropriately vetted prior to disposition (acceptance or rejection). The individual or component submitting the change item will be notified of the decision with appropriate details on any subsequent actions to be undertaken.

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TCA CLASSIFICATION GUIDE CHANGE REQUEST FORM

TO: Director of Security

FROM: _____ (PSO/POC) _____ (Office/Component)

Originator: _____ Telephone: _____
(name, organization, and functional activity)

Facsimile: _____

Date: _____ Proposed Change: New Item Modification Challenge

Item/Listing: Guide Section: _____ Item Number: _____ Page Number: _____

Change Description (include other items affected): _____

Rationale: _____

(To Be Completed by Security Office PSO)

Date: _____

Action Officer: _____

Request Approved (check one): Yes No

If "No," state justification: _____

Coordinated with: _____

Final Classification Determination: _____

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(U) CHANGE LOG

(U) As approved changes are made to the TCA Classification Guide, the text will be updated appropriately and a summary of the change will be logged here.

(U) Change Log for the TCA Classification Guide

REQUEST FOR CHANGE (RFC) NUMBER	CHANGE DATE	PARAGRAPH(S) AFFECTED	GENERAL CHANGE DESCRIPTION
RFC #3	7 Nov 2005	Globally	(U) Change wording of the statement "(U) The <i>Information to be Protected</i> " is in itself classified SCI. For clarification, see the TCA SCI version of this guide" to read "(U) The <i>Information to be Protected</i> " is protected in an SCI compartment. For clarification, see the TCA SCI version of this guide.
RFC #3	7 Nov 2005	1.5.3	(U) Change dissemination control from "REL TO USA, AUS, and GBR" to "NOFORN."
RFC #3	7 Nov 2005	3.3.1 through 3.3.3	
RFC #3	7 Nov 2005	3.11	
RFC #3	7 Nov 2005	3.11.1	
RFC #3	7 Nov 2005	3.11.4	(S//NF) Reword for clarity: "(U) Environmental and lifetime qualification testing and evaluation efforts and results that would be common to [redacted]"
RFC #3	7 Nov 2005	3.11.5	(U) Insert new paragraph for clarification: "(U) Environmental and lifetime qualification testing and evaluation efforts and results associated only with the [redacted]"
RFC #3	7 Nov 2005	4.8.1	

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REQUEST FOR CHANGE (RFC) NUMBER	CHANGE DATE	PARAGRAPH(S) AFFECTED	GENERAL CHANGE DESCRIPTION
			Justification: accuracy.
RFC #3	7 Nov 2005	4.9.6	[Redacted] Justification: clarity.
RFC #3	7 Nov 2005	4.9.7 and 4.9.9	(U) Change classification to read: "See Table 4.1." Justification: clarity and accuracy.
RFC #3	7 Nov 2005	Table 4.1	(U) Change the NRO/IC portion of [Redacted] implementation of and architecture design and development from: "(U) The "Information to be Protected" is in itself classified SCI. For clarification, see the TCA SCI version of this guide to read: "(U) NRO/IC discussions as to possible intentions for implementation of and architecture design and development are addressed in the SCI version of this guide."
RFC #3	7 Nov 2005	7.5 and new 7.5.1	(U) Add "ground sites" and make 7.5 read: (S//NF) [Redacted]
RFC #3	7 Nov 2005	7.7 and new 7.7.1 through 7.7.3	(S//NF) Change 7.7 to read: " (S//NF) Design details of [Redacted] Add 7.7.1 through 7.7.3 to clarify classification of design details of satellite, ground, and [Redacted]"
RFC #2	15 July 2005	3.6.4	(U) Insert new paragraph 3.6.4 to correct inadvertent omission in V1.0.
RFC #2	15 July 2005	3.7	(U) Insert new paragraph 3.7 to correct inadvertent omission in V1.0.
RFC #2	15 July 2005	3.10.2	(U) Change portion marking from (U) to (S//REL). Justification: accuracy.
RFC #2	15 July 2005	9.2.6	(U) Insert new paragraph 9.2.6 to correct inadvertent omission in V1.0.

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~~SECRET//NOFORN//25X1~~**(U) FOREWORD**

(U) The *Transformational Communications Architecture (TCA) Security Classification Guide (SCG)* provides classification and compartmentation guidance for the next generation National Security Space Satellite Communications (SATCOM) capability and associated terrestrial interfaces, both defense- and civil agency-managed. The [redacted] responsible for developing this guidance, is comprised of a team of representatives from the defense, intelligence, and civil space communities working together to integrate what were previously separate activities.

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(U) The classification guidance for this guide is based on criteria established in Executive Order 12958 (E.O. 12958{Amended}); Presidential Decision Directive NSC-49 “National Space Policy;” Director of Central Intelligence Directives; National Reconnaissance Office (NRO) Office of Security Directives; NRO Communications Systems Acquisition and Operations Directorate (COMM) Directorate documentation; and *Department of Defense (DoD)* Directives including guidance from *Defense Information Systems Agency (DISA)*, *National Security Agency (NSA)*, *National Aeronautics and Space Administration (NASA)*, and related classification guidance of other Intelligence Community (IC) members and mission partners.

(U) The overall objective of this guide is to ensure that the correct and appropriate classification and compartmentation determinations are made for the ongoing TCA effort. The overarching purpose of all classification guides must be to protect our people, operations, assets, and sensitive intelligence sources and methods. As the TCA effort continues to integrate its systems into tactical operations, TCA-related data should be classified and compartmented at an appropriate level that is most usable to the diverse customer community.

(U) Critical information, as identified by the program managers, is protected by strongly controlled dissemination. Such information is identified under the appropriate subject in this guide and marked: “*Additional information regarding this subject is under controlled dissemination. Need to Know (NTK) is under the purview of the designated program manager who must approve further disclosure as may be required. Access to this information may be permitted for second parties in accordance with the Designated Intelligence Disclosure Official (DIDO) approval on a NTK basis as determined by the owning program manager.*” Until the reader has contacted the program manager, who establishes the NTK, further access to the subject will not be granted.

(U) The transformational nature of the TCA drives the need to not only understand the classification of a particular subject, but also the *context of what is being protected* given a diverse user community of multiple directorates, groups, and organizations. The reader should fully appreciate the *challenge and need* to protect all classified and sensitive aspects of a critical architecture so that the end product—*intelligence*—will be available to our national and allied customers with greater fidelity and confidence.

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(U) The COMM [redacted] is responsible for maintaining the currency of this guide and to resolve differences between this guide and other IC and program classification guidance. Discrepancies or conflicts regarding classification issues should be brought to the attention of the respective Program Security Officers (PSOs). Any PSO questions or comments should be directed to one of the following: COMM [redacted] NRO COMM, Security by phone [redacted] Secure); Secure Telephone Unit (STU)-III [redacted] or by secure fax [redacted] or to the [redacted] on [redacted]

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(U) Effective 7 November 2005, this guide is approved for use by all NRO, IC, DoD, and Government contractor personnel affiliated with TCA who are authorized access to NRO SCI program information.



Donald M. Kerr
Director, National Reconnaissance Office and
Assistant to the Secretary of the Air Force
(Intelligence Space Technology)

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~~SECRET//NOFORN//25X1~~**I. (U) GENERAL****A. (U) PURPOSE AND SCOPE****A.1 (U) Security Classification Guide Purpose**

(U) The purpose of this Security Classification Guide (SCG) is to protect an integrated intelligence, defense, and civil space community TCA. This guide provides security classification guidance for making decisions in protecting TCA-related information, products, activities, and operational mission. This guide is intended for use by cleared, TCA-affiliated personnel engaged in security classification and determinations of the Director of Central Intelligence (DCI) Control System. Within this guide, no distinction has been made between original or derivative classification guidance other than the listed references.

B. (U) RESPONSIBILITY/AUTHORITY**B.1 (U) Classification Responsibility**

~~(S)~~ As both a DCI and Department of the Air Force Original Classification Authority (OCA) the Director, National Reconnaissance Office (NRO) (DNRO) is responsible for determination of what constitutes (defines the scope of) Talent Keyhole (TK) information; determination of classification (Top Secret, Secret, or Confidential) of information; and, the publication of classification guides. The Security Director is responsible for resolving any differences between this guide and other mission partner and program classification guidance.

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B.2 (U) Classification Authority

(U) In accordance with Executive Order (E.O.) 12958 (Amended), only a limited number of officials have OCA. All other personnel classify information derivatively. In establishing the information categories and classification of an item of information, the E.O. 12958 (Amended) further requires that the OCA be able to identify or describe why unauthorized disclosure would result in damage, serious damage, or exceptionally grave damage to the national security.

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(U) In cases where there is significant doubt about the appropriate classification of an item of information, the Program Security Officers (PSO) or Security Director should be contacted. Further, the *TCA Classification Guide Change Request Form* on page 3 of this guide should be completed for documentation purposes and to ensure an update of the document if determined appropriate.

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C. (U) CLASSIFICATION AND PROTECTIVE MARKINGS

C.1 (U) "Collateral" Material

(U) Collateral material is all national security information classified Confidential, Secret, or Top Secret under the provisions of E.O. 12958 (Amended) for which Intelligence Community (IC) systems of compartmentation (such as SCI) are not formally established.

C.2 (U) Classification Categories

(U) E.O. 12958 (Amended) states that information may only be classified in one of the four following categories:

- *TOP SECRET*: Classification applied to information. The unauthorized disclosure of which reasonably could be expected to cause exceptionally *grave damage* to the national security that the original classification authority is able to identify or describe.
- *SECRET*: Classification applied to information. The unauthorized disclosure of which reasonably could be expected to cause *serious damage* to the national security that the original classification authority is able to identify or describe.
- *CONFIDENTIAL*: Classification applied to information. The unauthorized disclosure of which reasonably could be expected to cause *damage* to the national security that the original classification authority is able to identify or describe.
- *UNCLASSIFIED*: Classification applied to information. The unauthorized disclosure of which reasonably could be expected to cause *no damage* to the national security that the original classification authority is able to identify or describe.

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(U) For Official Use Only (FOUO) is an administrative marking available for use under certain circumstances to limit the dissemination of information. The FOUO marking is not a classification and must not be used as a substitute for classification; however, it does flag material that meets one of the Freedom of Information Act's (FOIA) criteria for exemption from public release. The FOUO marking limits the dissemination of information including electronic-mail (e-mail) to official channels. The originator may use this marking whenever unclassified, non-sensitive intelligence, or other information does not warrant a national security classification but does require some limitation on dissemination.

(U) Specific FOUO review authorities may only release material so marked.

C.4 (U) Portion Marking

(U) E.O. 12958 (Amended) requires that all classified information, regardless of its physical form, indicate which portions are classified.

C.5 (U) Compilation/Aggregation of Information

(U) In some instances, the combination of several items of information produces a synergistic effect (i.e., the classification of all items of a similar type, when combined together warrants a higher level of classification than that of the individual items). Certain information in this guide is designated unclassified; however, this information may become classified when associated with overhead reconnaissance or the IC. Users of this guide need to be sensitive to issues of compilation/aggregation.

C.6 (U) Technology Transfer to Foreign Nationals

(U) Nothing in this guide should be construed as a waiver or exempting any of the intelligence information, systems, and/or technologies discussed from being subject to applicable technology transfer laws and regulations and intelligence data sharing agreements/restrictions (e.g., *The Export Administration Act*, *The Arms Export Control Act*, and the *International Trafficking in Arms Regulation*) should a reader desire to export the intelligence information, systems, and/or technologies discussed to foreign nationals.

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(U) The marking "Authorized For Release To [Name of Country (ies)/International Organization] (REL or REL TO e.g., GBR...)" is used to identify classified intelligence that an originator has determined to be releasable or has been released, through established foreign disclosure procedures and channels, to the foreign country (ies)/international organization(s) indicated. Further foreign dissemination of the material (in any form) is authorized only after obtaining permission from the originator and in accordance with DCID 6/7, Intelligence Disclosure Policy and National Disclosure Policy-1 (NDP-1). This marking may be abbreviated REL (abbreviated name of country (ies)/organization). It is not authorized for use in conjunction with the Not Releasable To Foreign Nationals (NOFORN) control marking.

D. (U) SENSITIVE COMPARTMENTED INFORMATION CRITERIA**D.1 (U) Talent Keyhole and Examples**

(U//~~FOUO~~) Talent Keyhole (TK) protects certain information, products, and activities relating to the following intelligence disciplines:

- a. Imagery Intelligence (IMINT) (most IMINT is SECRET collateral)
- b. Signals Intelligence (SIGINT)
- c. Electronic Intelligence (ELINT) (most ELINT is SECRET collateral)
- d. Foreign Instrumentation Signals Intelligence (FISINT)
- e. Measurement and Signature Intelligence (MASINT)

D.1.1 (U) Talent Keyhole Systems

(U) NRO data protected within the TK system include the following:

- a. Relationships and data relating to satellite Research & Development (R&D)
- b. Engineering design and engineering specifications
- c. Algorithms
- d. Interface controls
- e. Test plans
- f. Operations manuals

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- g. Reference documents
- h. Satellite capabilities and vulnerabilities
- i. Equipment and information technology equipment involved in the operation of the satellite systems including spacecraft, sensor(s), and Mission Ground Station (MGS) equipment
- j. Software programs used to operate hardware including spacecraft maintenance; command and control; targeting; sensor operation; data conversion; processing; and exploitation operations
- k. Detailed funding profile for both the development and operation of the NRO satellite collection systems

E. (U) CLASSIFICATION TABLE LAYOUT AND EXPLANATION

E.1 (U) Classification Table

(U) The classification table on page 21 of this guide provides program classification guidance itemized by categories. The table is not to be considered all-inclusive. Absence of a particular item does not imply that the item is considered *unclassified*. Refer questions to the COMM Program Security Office.

E.2 (U) Item to be Protected

(U) The first column (left to right) contains the items of information to be protected.

E.3 (U) Classification

(U) The second column contains the classification level of the information to be protected. The following key is provided for understanding the symbols used in the classification table:

- a. TS = Top Secret
- b. S = Secret
- c. C = Confidential
- d. U = Unclassified

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E.4 (U) SCI System

(C) The third column contains the SCI control system or other release markings found in this guide:
TK = Talent Keyhole, SI = Special Intelligence = COMINT.

E.5 (U) Dissemination Control

(U) The fourth column specifies the level of dissemination for the information protected including:

- a. REL TO = Release To
- b. NOFORN = No Foreign Dissemination
- c. FOUO = For Official Use Only

E.6 (U) Reason for Classification

(U) The fifth column specifies the pertinent classification category (ies) described in Section 1.4 of E.O. 12958 as amended, and the letter(s) that correspond(s) to the category (ies). The classification categories, preceded by their corresponding letter designators, include the following:

- a. "Military plans, weapons systems, or operations."
- b. "Foreign Government information."
- c. "Intelligence activities, (including special activities), intelligence sources or methods, or cryptology."
- d. "Foreign relations or foreign activities of the United States, including confidential sources."
- e. "Scientific, technological, or economic matters relating to the national security, which includes defense against transnational terrorism."
- f. "United States Government programs for safeguarding nuclear materials or facilities."
- g. "Vulnerabilities or capabilities of systems, installations, infrastructures, projects, plans, or protection services relating to the national security, which includes defense against transnational terrorism."
- h. "Weapons of mass destruction."

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~~SECRET//NOFORN//25X1~~**E.7 (U) Declassification Instructions**

(U) The sixth column specifies information, which an OCA has determined, must remain classified beyond 10 years. The information must be annotated with the letter "X" plus a numerical designation that corresponds to a specific exemption category or set of exemption categories described in Section 3.3 of E.O. 12958 as amended. The "X" markings and corresponding declassification exemptions are for information whose release could reasonably be expected to:

- a. 25X1 "Reveal the identity of a confidential human source, or reveal information about the application an intelligence source or method, or reveal the identity of a human intelligence source when the unauthorized disclosure of that source would clearly and demonstrably damage the national security interests of the United States."

Note: The marking for an exemption for the identity of a confidential human source or a human intelligence source shall be "MR" (manual review). "25X1-human" shall be listed in the E.O. 12958 Class/Declass block. This information is not subject to automatic declassification.

- b. 25X2 "Reveal information that would assist in the development or use of weapons of mass destruction."
- c. 25X3 "Reveal information that would impair U.S. cryptologic systems or activities."
- d. 25X4 "Reveal information that would impair the application of state of the art technology within a U.S. weapon system."
- e. 25X5 "Reveal actual U.S. military war plans that remain in effect."
- f. 25X6 "Reveal information, including foreign government information, that would seriously and demonstrably impair relations between the U.S. and a foreign government, or seriously and demonstrably undermine ongoing diplomatic activities of the U.S."
- g. 25X7 "Reveal information that would clearly and demonstrably impair the current ability of United States Government officials to protect the President, the Vice President, and other officials for whom protection services, in the interest of national security, are authorized."
- h. 25X8 "Reveal information that would seriously and demonstrably impair current national security emergency preparedness plans or reveal current vulnerabilities of systems, installations, infrastructures, or projects relating to the national security."
- i. 25X9 "Violate a statute, treaty, or international agreement."

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E.8 (U) Original Classification Authority

(U) The seventh column specifies which intelligence organization has OCA for the specified information to be protected. Information elements, which are marked in the OCA column as "NRO COMM," require approval from the owning NRO Directorate prior to any change in compartmentation, classification, or dissemination. Please contact the Director of Security Communications Directorate regarding information elements in this guide.

E.9 (U) Special Access Programs

(U) Access to information considered to be particularly sensitive is controlled through a range of special access programs, which involve access controls and security measures typically in excess of those normally required for access to classified information contained in the three-tiered collateral classification system.

(U) President Eisenhower approved the establishment of the TK Security Control System, to protect satellite reconnaissance information and products, on 26 August 1960. The Byeman (BYE) Control System was established, to control information regarding sensitive reconnaissance satellite design, acquisition, and operations on 20 December 1961. The Byeman Control System was officially retired 20 May 2005.

(U) The BYE and TK Security Control Systems were instituted to protect critical satellite reconnaissance systems and programs through the research, development, acquisition, operations, and exploitation phases. Selective system/sensor data, which included general capabilities of the systems, was made available in both control systems. The TK user community used this information for satellite tasking and intelligence product analysis. To assist in making classification decisions, and in response to the user community, the first Byeman/Talent Keyhole Classification Guide was published in November 1970.

(U) The classification policy for National Reconnaissance Programs (NRP) evolved as the NRP and National Reconnaissance Office (NRO) became increasingly "overt." President Carter admitted the "fact of" satellite photo-reconnaissance in October 1978.

(U) The unclassified provisions of National Security Decision Directive-42 and National Security Directive-30 on National Space Policy revealed certain "facts about" satellite reconnaissance.

(U) The Acting Secretary of Defense issued a memorandum on 18 September 1992 that declassified the existence of the NRO and certain facts about its organization and the NRP.

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(U) The end of the Cold War and the “globalization” of space technologies also caused a broadening of U.S. national security strategy, a changed focus of overhead collection, and a reassessment of the nature and scope of defense intelligence needs. These changes served as a basis to re-examine the Byeman Security Control System.

(U) The Byeman Control System was re-examined after the terrorist attacks of 11 September 2001. To comply with the horizontal integration movement across the IC, the NRO had decided to retire the Byeman Control System so they could share its intelligence information with the rest of the IC.

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II. (U) INTENT

(U) Regardless of how much classification guidance is provided it cannot cover all situations. Therefore, in reading and applying the guidance in the following tables, it is important to understand why we are classifying information regarding TCA. Perhaps the following captures the intent of what this country is trying to protect most clearly:

(U) "Prematurely releasing information on future capabilities could advance our adversaries mission denial/degradation efforts virtually concurrent with US systems' acquisition and fielding. As the lives of our servicemen and women, national intelligence, and civil operations will depend on these communications, we must undertake prudent measures to ensure the confidentiality, integrity, and availability of our transformational capabilities."

Honorable John Stenbit, 19 June 2002
Assistant Secretary of Defense for Networks and
Information Integration/DoD Chief Information Officer

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III. (U) TRANSFORMATIONAL COMMUNICATIONS ARCHITECTURE SECURITY CLASSIFICATION TABLE

A. (U) CONCEPTS TO DESIGNS

(S) During the development of the TCA, [redacted] options, many of which, because they were only options, have been documented in unclassified briefings and papers. Also, there are only so many options [redacted] [redacted] however, the TCA has reached a level of maturity and specificity where the options have spiraled down to a design-to-build architecture.

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[redacted] What follows is the current classification guidance, consistent with the stated intent.

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*WARNING: Do NOT use this index for classification guidance.
Some words and acronyms are classified when in context.*

ACRONYMS

AFSCN AF Satellite Control Network

[Redacted]

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C Confidential

[Redacted]

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COMM Communications Systems Acquisition and Operations Directorate

CR Change Request

DCI Director of Central Intelligence

DIDO Designated Intelligence Disclosure Official

DISA Defense Information Systems Agency

DoD Department of Defense

ELINT Electronic Intelligence

[Redacted]

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FISINT Foreign Instrumentation Signals Intelligence

[Redacted]

(b)(3)

FOIA Freedom of Information Act

FOUO For Official Use Only

[Redacted]

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IC Intelligence Community

IMINT Imagery Intelligence

IRONs Inter-Range Operations Numbers

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*WARNING: Do NOT use this index for classification guidance.
Some words and acronyms are classified when in context.*

MASINT	Measurement and Signature Intelligence
MGS	Mission Ground Station
MJPO	MILSATCOM Joint Program Office
NASA	National Aeronautics and Space Administration
NDP	National Disclosure Policy
NOFORN	No Foreign Dissemination
NRO	National Reconnaissance Office
NRP	National Reconnaissance Programs
NSA	National Security Agency
NTK	Need to Know
OCA	Original Classification Authority
PCG	Program Classification Guide
PSOs	Program Security Officers
POC	Point of Contact
R&D	Research & Development
REL TO	Release To
RFC	Request For Change
SATCOM	Satellite Communications
SCG	Security Classification Guide
SIGINT	Signals Intelligence



(b)(3)

TCA Transformational Communications Architecture



(b)(3)

TK Talent Keyhole

TS Top Secret

U Unclassified

TCA, V1.2

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