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NATIONAL RECONNAISSANCE OFFICE

14675 Lee Road
Chantilly, VA 20151-1715

8 March 2016

Mr. John Greenwald
[REDACTED]
[REDACTED]

RE: NSA FOIA Case 79665-R1
NRO FOIA Case F-2016-00021

Dear Mr. Greenwald:

This is in response to your request dated 6 November 2014 and received in the National Reconnaissance Office by way of referral from the National Security Agency (NSA) on 30 December 2015. Pursuant to the Freedom of Information Act (FOIA), you requested "a copy of the Intellipedia entry...for...GeoLITE."


The four page responsive document provided to the NRO by NSA has been processed in accordance with the FOIA, 5 U.S.C. § 552, as amended. This document is being released to you in part.

Material that is denied is being withheld pursuant to FOIA exemption (b)(1) as properly classified information under Executive Order 13526, Section 1.4(c) and (g); and FOIA exemption (b)(3), which is the basis for withholding information exempt from disclosure by statute. The relevant withholding statute is 10 U.S.C. § 424, which provides (except as required by the President or for information provided to Congress), that no provision of law shall be construed to require the disclosure of the organization or any function of the NRO; the number of persons employed by or assigned or detailed to the NRO; or the name or official title, occupational series, grade, or salary of any such person.

You have the right to appeal the NRO's handling of your request to the NRO Appellate Authority, 14675 Lee Road, Chantilly, VA 20151-1715 within 60 days of the date of this letter. Should you decide to do so, please explain the basis of your appeal.

If you have any questions, please call the Requester Services Center at (703) 227-9326 and reference case number **F-2016-00021**.

Sincerely,

for 

Patricia B. Cameresi
Chief, Information Review and
Release Group

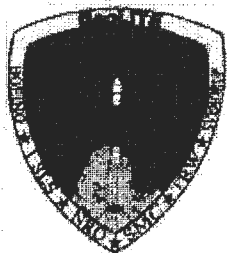
Enclosure: Intellipedia information on GeoLITE

~~(S)~~ System [redacted]

~~SECRET//TK~~

From Intellipedia

You have new messages (last change).



(U) GeoLITE Patch

~~(S//TK//REL TO USA, FVEY)~~ System [redacted]

[redacted] also known as **GeoLITE (Geosynchronous Lightweight Technology Experiment)** was a National Reconnaissance Office (NRO) advanced technology space flight program built by TRW (now Northrop

Grumman) through the NRO AS&T Office. GeoLITE featured an experimental laser communications package, known as the GLT, and a secondary

[redacted] known as [redacted] that provided IBS-S coverage for the [redacted]

The GeoLITE mission was part of an NRO initiative to demonstrate advanced military space communications via laser communication that will eventually provide greater information bandwidth capability to US forces. On 31 January 2011, NRO Director Carlson announced that NRO funding for [redacted] and

that NRO intends [redacted] GeoLITE's IBS-S mission to [redacted] ensuring no loss of continuity.^[1]

~~(S//TK//REL TO USA, FVEY)~~ Per NRO SitRep #499-2011 (DTG: [redacted] 2045Z (1645 EDT)),

[redacted] Integrated Broadcast Service (IBS-S) coverage [redacted] The Director. NRO approved a plan for [redacted]

Contents

All redactions this page: (b) (1) , (b) (3)

System [redacted]

~~SECRET//TK//NOFORN~~

GeoLITE Satellite [redacted]

Organization/Country:	NRO	(b)(1) (b)(3)
Mission Type:	Data Relay and Experimentation	
Satellite of:	Earth	
Satellite Type:	NTM	
Launch Date:	18 May 2001	
Launch Vehicle:	Delta II Expendable Launch Vehicle	
Mass:	3981 lbm (2095 lbm dry / 1886 propellant)	
Payload 1:	GLT LaserCOMM	
Payload 2:	[redacted] IBS-S	
Inclination:	[redacted]	
Orbit:	[redacted]	
Orbital Description:	[redacted]	
Orbital Period:	[redacted]	

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

- 1 (U) History
- 2 (U) Past Mission
- 3 (U) Payloads
 - 3.1 (U//FOUO) GeoLITE Laser Terminal (GLT) and Radiometer (GLOM) [redacted] (b)(1)
 - 3.2 (S//TK) [redacted] (b)(3)
- 4 (U) Orbital Parameters
- 5 (U) References
- 6 (U) See Also
- 7 (U) External Links

Design Details:	Manufactured by TRW
Constellation Details:	1 Satellite, Experimental
Long Term Status:	GLT: Retired, [redacted] Retired

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

(U) History

~~(U//FOUO)~~ GeoLITE was the second in a series of technology demonstration satellites by the NRO's Advanced System and Technology Directorate. The first satellite, STEX (Space Technology Experiment), was launched in [redacted] and carried as many as 29 advanced technology experiments including a

[redacted] (b)(3)

~~(S//TK)~~ A DELTA-2 satellite launch vehicle launched GeoLITE on 18 May 2001 from the Cape Canaveral Air Force Station, Florida. [redacted] The vehicle was located over the [redacted] until the laser (b)(1) communication package testing [redacted] (b)(3)

[redacted] payload was activated on 8 June 2003 and the vehicle currently [redacted] the Integrated Broadcast Service (IBS-S) mission. GeoLITE is now operated out of [redacted]

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

(U) Past Mission

~~(S//TK)~~ GeoLITE functioned as the [redacted] for the Integrated Broadcast Service (IBS-S) using the [redacted] IBS-S, formerly Tactical Related Applications (TRAP) Data Dissemination System (TDDS), is an intelligence dissemination "system of systems" that impacts virtually all tactical data producers and tactical data users. It is a theater-tailored dissemination architecture with global connectivity using a common message format in support of current and programmed tactical and strategic warfare systems. It provides an integrated, interactive dissemination system giving intelligence producers and other information sources the means to disseminate time-sensitive intelligence and information to the warfighter via multiple transmission paths as dictated by dynamic user-generated dissemination priorities.

[redacted] (b)(1)
(b)(3)

~~(S//TK)~~ Coverage [redacted]

~~(S//TK)~~ The IBS-S system architecture requires producers to send data to the Network Management Center

(NMC), where it is tailored (prioritized, categorized/grouped, filtered) and routed to each geographical theater based on guidance and direction provided by the cognizant Combat Commander. Data is forwarded from the NMC, via a terrestrial backbone network, to satellite uplink locations for broadcast to users wide. GeoLITE used [redacted] located at [redacted] to disseminate the data.

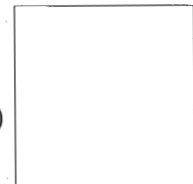
~~(S//TK)~~ [redacted] GeoLITE was removed from operations upon [redacted] integrated Broadcast Service (IBS-S) coverage to [redacted]

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

(U) Payloads

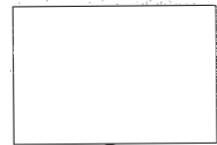
~~(U//FOUO)~~ GeoLITE Laser Terminal (GLT) and Radiometer (GLOM)

~~(U//FOUO)~~ The laser communications payload was comprised of two primary units; the GLOM (Radiometer) and the GLT (GeoLITE Laser Terminal). The Radiometer payload provided a means of measuring the intensity fluctuations and polarization of laser beams transmitted from the Earth through the turbulent atmosphere to the GeoLITE satellite. The GLT payload provided a means



(b)(3)

~~(U//FOUO)~~ GLT



(b)(3)

~~(U//FOUO)~~
GLOM

~~(U//FOUO)~~ The objectives of the lasercom experiment and demonstrations were to provide the NRO sufficient information concerning high data rate, geosynchronous orbit-to-ground laser communication technology in varying atmospheric conditions. A secondary mission was to share lasercom technology and implementation lessons learned with other government agencies and National Space Communications Program (NSCP) industry partners to the greatest extent possible. The lasercom experiment results provided data to refine models and system designs; to reduce costs, risks, and schedule for operationally implementing space-based lasercom; and it greatly increase confidence in lasercom technology. This experimental mission lasted [redacted]

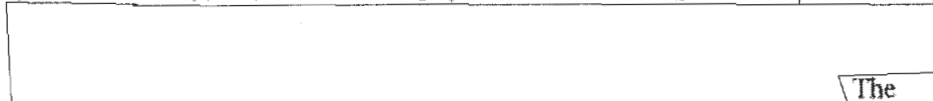
~~(S//TK)~~ [redacted]

(b)(1)

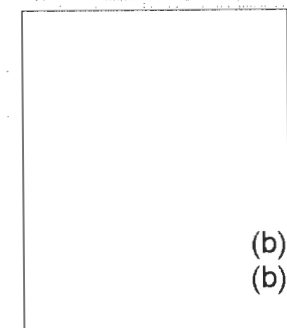
(b)(3)

~~(S//TK)~~ [redacted]

[redacted] communications payload that was part of the IBS-S architecture. This system replaced the old military satellite communications (MILSATCOM) architecture. The payload simultaneously received [redacted]



The payload, built by [redacted] was based on the [redacted]. The remaining IBS-S coverage areas were/is supplied by [redacted] payload on the [redacted] while polar coverage was/is provided by the [redacted]




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

~~(S//TK)~~ [redacted]

(U) Orbital Parameters

~~(S//TK)~~ GeoLITE was located in a Geosynchronous Orbit [redacted] ^{(b)(1)}
[redacted] ^{(b)(3)}


(U) References

1. ↑ ~~(S//TK//REL)~~ NRO GeoLITE Termination Memo (http://inteldocs.intelink.ic.gov/action.php?kt_path_info=ktcore.actions.document.view&fDocumentId=1388421)  ^{(b)(1)}
(<http://inteldocs.intelink.ic.gov/view.php?fDocumentId=1388421>)

(U) See Also

- ~~(S//TK)~~ [redacted] Flight Ops GeoLITE Training ([http://www.\[redacted\]light_ops/mops/traing](http://www.[redacted]light_ops/mops/traing)) ^{(b)(1)}
/system/comm/cert_classes/geolite.shtml ^{(b)(3)}
- ~~(S)~~ Integrated Broadcast Service Simplex
- ~~(S//TK)~~ NRO IBS-S Overview (<http://www.nscb.ic.gov/briefs/2%20-%20Dissem%20Systems%20Overview%20%2006-25-07.pdf>)

(U) External Links

 *This technical/technology-related article is a stub. You can help Intellipedia by expanding it.* ^{(b)(1)}
([https://intellipedia.intelink.ic.gov/w/index.php?title=System\[redacted\]&action=edit](https://intellipedia.intelink.ic.gov/w/index.php?title=System[redacted]&action=edit)) ^{(b)(3)}
Retrieved from "https://intellipedia.intelink.ic.gov/wiki/System[redacted]"
Categories: Satellites | NRO | Technology stubs | NTM Platform | NRO Systems

Classified By: [redacted] ^{(b)(3)}
Derived From: _____
Declassify On: April 25, 2037

~~SECRET//TK~~

- This page has been accessed 11,149 times.
- 7 ([https://intellipedia.intelink.ic.gov/w/index.php?title=Special:WhoIsWatching&ns=&page=System\[redacted\]watching_users](https://intellipedia.intelink.ic.gov/w/index.php?title=Special:WhoIsWatching&ns=&page=System[redacted]watching_users))
- This page was last modified 16:06 25 April 2012 by [redacted] Most recent editors: [redacted] and others. ^{(b)(3)}

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