



The Nautilus Institute *for Security and Sustainability*

US signals intelligence (SIGINT) activities in Japan 1945 – 2015: A Visual Guide



Desmond Ball and Richard Tanter

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Summary

The US maintained signals intelligence (SIGINT) activities at about 100 sites in Japan during the Cold War, probably than in any other country. In Japan today, about 1,000 US personnel are engaged in SIGINT, Information Operations, Internet surveillance and Network Warfare activities, mainly at Yokusuka, Misawa, Yokota Air Base in Tokyo, Camp Hansen and Kadena Air Base in Okinawa, and the US Embassy in Tokyo. The US SIGINT activities in Japan have directly supported US nuclear war planning, Korean War and Vietnam operations, and since September 2011, the 'Global War on Terror'. The technological developments over these seven decades have been stupendous. The end of the Cold War coincided with the beginning of the World Wide Web and the Internet age. Surveillance of the Internet and computer network systems became the highest priority. Intelligence became conflated with operations, with a proliferation of Information Operations (IO) and Cyber-warfare units. There has been no Japanese involvement in the US SIGINT activities, and no direct cooperation between US and Japanese SIGINT stations, apart from limited cooperation with respect to particular crises, and with the partial exception of Camelus at Camp Hansen since 2007. Japan is a Third Party to the UKUSA Agreements under which the US and Japan exchange certain designated intercept materials, including HF/VHF DF bearings, but excluding higher level cryptologic material.

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Abbreviations and acronyms

A&R	Analysis and Reporting
AAA	Anti-Aircraft Artillery
AAU	Army Administrative Unit
AB	Air Base
ACRP	Airborne Communications Reconnaissance Program
ADP	Automatic Data Processing
AEU	Advanced Exploitation Unit
AFB	Air Force Base
AFISRA	Air Force Intelligence, Surveillance and Reconnaissance Agency
AFSA	Armed Forces Security Agency
AFSS	US Air Force Security Service
AFSSO	Air Force Special Security Office
AGER	Auxiliary General Environmental Research
AIA	Air Intelligence Agency
AIT	Advanced Identification Techniques
AMHS	Automatic Message Handling System
ARIES	Airborne Reconnaissance Integrated Electronics System
ASA	US Army Security Agency
ASAPAC	Army Security Agency Pacific
ASCT	Auxiliary Satellite Control Terminal
ASD	Asian Studies Detachment
ATIC	Air Technical Intelligence Center
AW&C	Aircraft Warning and Control
BDTSS	<i>Bullseye</i> Data Transfer Sub-System
C3CM	command, control, and communications counter-measures
CACS	Command and Control Squadron
CCRC	COMINT Communications Relay Center
CDAA	Circularly-disposed Antenna Array
CEU	Channel Encryption Unit
CHICOM	Chinese communist
CIA	Central Intelligence Agency
CINCPACFLT	Commander-in-Chief Pacific Fleet
COMINT	communications intelligence
COMSAT	communications satellite
COMSEC	communications security

COTR	Contracting Officer's Technical Representative
CRC	Communications Reconnaissance Company
CRITCOM(M)	Critical Intelligence Communications
CRITIC	critical information
CSG	Cryptologic Support Group
CSS	Cryptologic Shore Support
CSSR	Contractor's Senior Site Representative
CSU	Conventional Signals Upgrade
CT	communications technician
CTF	Commander Task Force
CTG	commander, task group
CUCM	Cisco Unified Call Manager
DCDO	Defense Communications Detachment Okinawa
DF	direction-finding
DIA	Defense Intelligence Agency
DIRNSA	Director, National Security Agency
DIRSUP	Direct Support
DISN	Defense Information Systems Network
DMZ	Demilitarized Zone
DNI	Digital Network Intelligence
DOD	Department of Defense
DODSPECREP	Department of Defense Special Representative
DRSN	Defense Red Switch Network
DRV	Democratic Republic of Vietnam
DSCS	Defense Satellite Communications System
DSCSOC	Defense Satellite Communications System Operations Center
DSFG	Dell Services Federal Government
DSS	Digital Small Switch
DSRJ	Department of Defense Special Representative Japan
DSRO	DoD Special Representative Okinawa
DSTS	Deep Space Tracking System
E&I	engineering and installation
ECCM	Electronic Counter Counter Measures
ECM	Electronic Counter Measures
ECMRON	Electronic Countermeasures Squadron
EHF	Extremely High Frequency
EIS	Electronics Installation Squadron

XKS	<i>X-Keyscore</i>
ELI	Emitter Location and Identification
ELINT	electronic intelligence
EMP	electromagnetic pulse
EOB	Electronic Order of Battle
ERSU	Enhanced Remote Switching Unit
Es	Sporadic E layer
ESC	Electronic Security Command
ESG	US Electronic Security Group
ESI	ElectroSpace Systems Inc.
ESS	Electronic Security Squadron
ESV	Earth Satellite Vehicle; Earth Space Vehicle
FAFE	Field Activity, Far East
FAIRECONRON	Fleet Air Reconnaissance Squadron
FBIS	Foreign Broadcast Information Service
FEAF	Far East Air Force
FECOM	Far East Command
FLEXSCOP	Flexible Signal Collection and Processing system
FLT CYBERCOM	Fleet Cyber Command
FLTSATCOM	Fleet Satellite Communications System
FORNSAT	Foreign Satellite
FOSIF	Fleet Ocean Surveillance Facility
FRUPAC	Fleet Radio Unit Pacific
FY	Fiscal year (1 April – 31 March)
GAO	US General Accounting Office
GC&CS	Government Code and Cypher School
GHQ	General Headquarters
GRU	Main Intelligence Directorate (<i>главное разведывательное управление</i>)
GSCCE	Global SATCOM Configuration Control Element
HF	high frequency (3 – 30 MHz)
HF DF	high frequency direction-finding
HQ	headquarters
ICBM	inter-continental ballistic missile
ICE	Improved Collection Equipment
INSCOM	Intelligence and Security Command
IO	Information operations
IOC	initial operational capability

IP	internet protocol
ISP	internet service provider
ISR	intelligence, surveillance, and reconnaissance
IT	information technology
JASDF	Japan Air Self Defense Force
JCRC-J	Joint Communications Relay Center – Japan
JDA	Japan Defense Agency
JICPAC	Joint Intelligence Center Pacific
JMSDF	Japan Maritime Self Defense Force
JOC	Joint Operations Center
JSDF	Japan Self Defense Force
JSPS	Joint Sobe Processing Station
JWTN	Joint War-Fighter Inter-base Telecommunications Network
KAL	Korean Air Lines
KORCOM	Korean communist
KRSOC	Kunia Regional Security Operations Center
LAN	local area network
LASS	Low Altitude Space Surveillance
LEO	low earth orbit
LPA	log-periodic antenna
MCOC	Misawa Cryptologic Operations Center
MDA	Multi-Function Digital Adapter [Multiplexer]
MET	Modernized Enterprise Terminal
MGB	Ministry of State Security (Soviet Union ; <i>Министёрство государственной безопасности СССР</i>)
MHz	Megahertz
MI	Military Intelligence
MIRE	Mission Intercept Report Electrical
MPC	Mobile Processing Center
MSOC	Misawa Security Operations Center
MUC	Meritorious Unit Commendation
NSAPAC	NSA Pacific
NAVCOMMFAC	Naval Communications Facility
NAVNETWARCOM	Naval Network Warfare Command
NAVRECSUPP DET	Naval Reconnaissance Support Detachment
NCO	Net Control Operations
NCS	Naval Communications Station

NCU	Naval Communications Unit
NCW	Network-centric warfare
NEATICC	North East Asia Tactical Information Communications Center
NEC	Network Enterprise Center
NETWARCOM	Naval Network Warfare Command
NIOC	Naval Information Operations Command
NNWC	Naval Network Warfare Command
NOSIC	Naval Ocean Surveillance Information Center
NOSS	Naval Ocean Surveillance System
NRRF	Naval Radio Receiving Facility
NRRYU	NSA Pacific Representative Ryukyus
NRTF	Naval Radio Transmitting Facility
NSA	US National Security Agency
NSAPACREP	NSA Pacific Representative
NSG	US Naval Security Group
NSGA	Naval Security Group Activity
NSSRM	National Security Space Road Map
O&M	operations and maintenance
OBU	OSIS Baseline Upgrade
OL	Operating Location
ONOSC	Okinawa Network Operations Security Center
OPP	Okinawan People's Party
OPSCOMM	Operations Communications Center
OPSEC	operations security
OSIS	Ocean Surveillance Information System
OTIE	Oneida Total Integrated Enterprises
P&R	Processing and Reporting
PACAF	Pacific Air Forces
PACOM	Pacific Command
PARSEC	SIGINT Analysis and Reporting software
PATRON	Patrol Squadron
PCRS	Primary Communications Relay Stations
PEC	PACAF ELINT Center
PFIAB	President's Foreign Intelligence Advisory Board
PI	Photographic Interpretation
PMEL	Precision Measurement Equipment Laboratory
POW	prisoner of war

QRC	Quick Reaction Capability
RDF	Radio Direction-Finding
RF	radio frequency
RFP	Radio Finger Printing
RGM	Radio Group Mobile
RHEL	Red Hat Enterprise Linux
RNOSC	Regional Network Operations and Security Center
RRU	Radio Research Unit
RSM	Radio Squadron Mobile
RSU	Remote Switching Unit
RTG	Reconnaissance Technical Squadron
S&W	Surveillance and Warning
SACO	Special Action Committee on Okinawa
SAD	Special Activities Detachment
SAM	surface-to-air missile
SAMT	state-of-the-art medium terminal
SAN	Storage Area Network
SATCOM	satellite communications
SATCON	Satellite Control
SCA	Service Cryptologic Agency
SCAP	Supreme Commander Allied Powers
SCB	Single Consolidated Baseline
SCE	Special Collection Element
SCG	Special Communications Group
SCIF	Secure Compartmented Information Facility
SDS	Secure Digital Switch
SEA	Southeast Asia
SECDEF	Secretary of Defense
SHF	super high frequency (3 – 30 GHz)
SIGAD	NSA SIGINT Activity Designator
SIGINT	signals intelligence
SIPRNet	Secure Internet Protocol Router Network
SLICE	Simplified Improved Collection Equipment
SOC	Special Operations Command
SOFP	Special Operations Flight Program
SPSS	Space Surveillance Squadron
SQL	Structured Query Language

SRW	Strategic Reconnaissance Wing
SSO	Special Security Office
STEP	Standardized Tactical Entry Point
SWAT	Signal-processing and Wave-sensing Technology
SWPA	South West Pacific Area
TI	Texas Instruments
T/A	traffic/analysis
TACAIR	tactical air
TAREX	Target Exploitation
TBMCS-UL	Theater Battle Management Core Systems-Unit Level system
TCF	Technical Control Facility
TEBO	Technical Exploitation of Bauded Operations (disputed); AN/GSQ-76 Automatic Data Acquisition System
TEC	Technical Exploitation Center
TELINT	telemetry intelligence
TRSSCOM	Technical Research Ship Special Communications system
TS/SCI	Top Secret/Sensitive Compartmented Intelligence
UAV	Unmanned Aerial Vehicle
UHF	ultra high frequency (300 MHz – 3 GHz)
UKUSA	United Kingdom – United States of America agreement
UMUX	Universal Multiplexer
USASACU-J	ASA Communications Unit – Japan
USAF	United States Air Force
USAFSS	US Air Force Security Service
USAISC	US Army Information Systems Command
USARJ	US Army Japan
USASACU-J	ASA Communications Unit – Japan
USCINCSpace	Commander-in-Chief of the US Space Command
VHF	very high frequency (30 – 300 MHz)
VI	Visual Information
VOIP	Voice Over Internet Protocol
VoSIP	Voice Over Secure Internet Protocol
VTC	Video Teleconference
WAN	wide area network
WESTPAC	Western Pacific
WGS	Wideband Global SATCOM
WSOC	Wideband Satellite Operations Centers

1. Introduction

The US now conducts signals intelligence (SIGINT) and cyber-warfare activities at six places in Japan. Yokosuka Naval Base, which was first opened as a US Navy SIGINT station in April 1946, now hosts the Navy Information Operations Command (NIOC), which provides SIGINT, Information Operations and Cyber-warfare support to the 7th Fleet HQ at Yokosuka. The SIGINT station at Misawa, which was established by the US Air Force in March 1951, became by the 1990s one of the largest in the world, hosting a huge AN/FLR-9 Circularly-disposed Antenna Array (CDAA), a large satellite communications (SATCOM) interception field, and the Misawa Cryptologic Operations Center (MCOC), involving large elements from the cryptological agencies of each Service, although the AN/FLR-9 has recently been dismantled and the Service elements have departed. Yokota Air Base, once the main base in Japan for US airborne SIGINT operations in the Far East, now hosts the office of the Department of Defense (DoD) Special Representative Japan (DSRJ), the senior representative of the National Security Agency (NSA) in Japan, and has become a major internet surveillance and Network Warfare centre. An enormous CDAA was constructed at Camp Hansen, in Okinawa, in 2002-06; it replaced the US Navy's giant AN/FRD-10 CDAA at Camp Hanza, which was built in 1962 and dismantled in 2007. Kadena Air Base in Okinawa is now the main base in Japan for US Air Force RC-135 and US Navy EP-3E SIGINT aircraft operating in the western Pacific. The NSA reportedly also maintains a special collection unit at the US Embassy in Tokyo.

The US maintained SIGINT activities at about 100 sites in Japan at various times over the period from 1945 to the mid-1990s, notwithstanding several rounds of rationalisation and consolidation. (See Table 1.) It probably had more SIGINT-related sites in Japan than in any other country during the Cold War. There were more US SIGINT sites in Western Europe than in the East Asian/western Pacific theatre during the course of that half century, but Japan hosted by far the most in the latter region. As an NSA history of US cryptological activities during the Cold War noted in 1967, Japan was 'close to the enemy, an ideal SIGINT platform, and in a quasi-subordinate diplomatic status resulting from the American occupation'. Okinawa, still under US military administration until 1972, 'had

become a virtual aircraft carrier for American SIGINT collection, with stations at Sobe, [deleted], Hanza and Kadena'.¹

The US facilities varied enormously with respect to their sizes, capabilities, functions and productivity. Many of them were small and short-lived, especially during the early period. Many minor direction-finding (DF) sites, in particular, were located in remote and isolated places, and maintained by only a few people. On the other hand, some stations were very large and involved major investments, such as the AN/FLR-9 CDAA and the Project *Ladylove* SATCOM (satellite communications) interception facilities at Misawa, the Navy's station at Kami Seya, and the AN/FRD-10 facility at Camp Hanza in Okinawa. Some became quite famous, such as Wakkanai, which intercepted the Soviet Air Force signals relating to the shoot-down of KAL Flight 007 over Sakhalin Island on 1 September 1983, portions of the tape recordings of which were played by President Ronald Reagan in a special address to the nation several days later, attracting world-wide attention to the facility. Camp Hanza was embroiled in local political controversy for more than three decades until the so-called 'elephant cage' was dismantled. The *Ladylove* SATCOM interception site at Misawa is featured on innumerable web-sites about NSA's *Echelon* civilian telecommunications monitoring program.

From fragmentary beginnings in 1945, within a couple of decades thousands of people were maintaining large antenna farms at more than 20 places, with many more minor sites. Among the larger sites, about 1,500 personnel were assigned to Kami Seya in 1960, Camp Hanza had about 500 personnel at its peak in the late 1960s and the 1970s, about 500 were stationed at Wakkanai in the late 1950s and the 1960s, some 865 personnel were at Onna Point in Okinawa in 1965, and more than 700 personnel were at the Joint Sobe Processing Station (JSPS) at Torii Station in Okinawa in 1968. There were more than 1,900 personnel at Misawa in 1983. A total of around 6,000 would have been engaged in SIGINT activities throughout Japan at the numerical peak in the late 1960s, with perhaps around 4,000 in the 1970s and 1980s. Many tens of thousands of US SIGINT personnel have served in Japan during the decades since 1945. There are probably only about 1,000 US personnel

¹ Thomas R. Johnson, *American Cryptology During the Cold War, 1945-1989. Book II: Centralization Wins, 1960-1972*, (Center for Cryptologic History, National Security Agency, 1995), p. 306, at <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB441/docs/doc%201%202008-021%20Burr%20Release%20Document%201%20-%20Part%20A2.pdf>.

engaged in SIGINT, Information Operations, Internet surveillance and Network Warfare activities in Japan today.

US SIGINT activities in Japan have undergone enormous changes over the course of these seven decades, of which the personnel movements are a manifestation. They have been generated by short-term budgetary considerations, changes in US-Japan political relations, the exigencies of the Cold War and changes in the regional security environment, the demands of the US involvement in the Korean War, the Vietnam War, and the 'global war on terrorism', technological developments, and organisational changes within the US intelligence community.

With regard to budgetary factors, defence cuts by the Eisenhower Administration in 1957-58 forced major contractions and rationalisations, including the movement of the Army Security Agency's HQ ASAPAC from Camp Oji in Tokyo to Hawaii and the deactivation of its SIGINT station at Fukakusa near Kyoto. HQ ASAPAC returned to Tokyo, at Camp Zama, in 1960, but was moved back to Hawaii in 1965, evidently for balance of payments reasons. According to an official history of the US Air Force Security Service (USAFSS), budget cuts forced the closure of its stations at Wakkanai, Hakata and Yokota in 1972.² The deactivation of all Service SIGINT units at Misawa, announced in February 2014, was attributed to fiscal austerity measures by the Pentagon.³

With respect to the impact of changes in the status and temperament of US-Japan political relations, the growth of Japanese political autonomy after the signing of the 1951 San Francisco Peace Treaty and requests for the return of some of the relevant bases, especially remnants of the Korean War build-up, led to a round of contractions which coincided with the Eisenhower budget cuts. In the case of the USAFSS, for example, 'by 1958, Japan's growing autonomy called for the USAFSS to withdraw all facilities from the Japanese mainland except an augmented effort in the Misawa-Wakkanai complex'.⁴ The reversion of Okinawa to Japan in 1972 was accompanied by the transfer of some stations in

² James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, (United States Air Force Security Service, Kelly AFB, San Antonio, Texas, 15 September 1974), p. 11.

³ Travis J. Tritten, 'Pentagon Budget Cuts Take First Toll in Japan', *Stars and Stripes*, 26 February 2014, at <http://www.stripes.com/news/pacific/japan/pentagon-budget-cuts-take-first-toll-in-japan-england-1.269990>.

⁴ Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, (HQ United States Air Force Security Service, San Antonio, Texas, 1 February 1967), pp. 35-36.

Hokkaido to Japan, most importantly Wakkanai and Chitose, but also by the transfer of substantial activities to Okinawa, especially to Kadena.

The technological developments over these seven decades, with respect to both the means of communication and the techniques for interception of them, have been stupendous. They have generally involving a movement up the radio frequency (RF) spectrum to increasingly shorter wave-lengths but wider band-widths. The means of communication moved up the spectrum from the High Frequency (HF) range (3 to 30 MHz), used for both Morse Code telegraphy and voice telephony, to Very High Frequency (VHF, 30 to 300 MHz), used for communications over shorter distances but increasingly used also by radars and air defence systems, to satellite communications, mainly operating in the Ultra High Frequency (UHF, 300 MHz to 3 GHz) and Super High Frequency (SHF, 3 to 30 GHz) bands, to the Internet. Correspondingly, all of the US SIGINT stations established in Japan in the immediate post-Second World War period were concerned with HF radio interception, using very large antenna systems to capture the HF signals, such as the large rhombic arrays installed at Kami Seya and Torii Station and, in the early 1960s, the CDAAs at Camp Hanza and Misawa.

The Soviet Armed Forces began to use the VHF band in 1952, initially for air-to-air and air-to-ground communications. There were fewer places in Japan able to collect VHF traffic, although these few were very good. For operational reasons, the US Services were especially interested in electronic intelligence (ELINT) associated with Soviet air defences. The USAFSS installed VHF interception systems at Wakkanai in 1952, obtaining superb coverage of VHF communications around the La Perouse (or Soya) Strait and Sakhalin Island. Small VHF interception units were located at Okushiri Island, off Hokkaido's southwest coast, in 1953-57, and at Henashi Saki in northwest Honshu in 1955. The US Navy maintained a station for ELINT collection at Sakata, also facing the Sea of Japan, from 1956 to 1962. The most sophisticated ground-based system VHF/UHF intercept system was the USAFSS's AN/FLR-12, installed at Wakkanai in 1965-66. Because of line-of-sight limitations, VHF communications and ELINT are best collected by airborne systems, with SIGINT-equipped aircraft operating from such bases as Yokota, Misawa, Atsugi, and Kadena at different periods from the early 1950s through to the present day.

Sputnik 1, the first Soviet satellite (or Earth Space Vehicle), launched on 4 October 1957, transmitted telemetry on two frequencies, 20.005 and 40.002 MHz. The first Soviet

communications satellites, the highly-elliptical *Molniya* series, transmitted in the high part of the UHF band and bottom of the SHF band. Most international communications satellites transmit in the higher part of the SHF band. In the early 1960s, Wakkanai was equipped with a *Trackmaster* system for monitoring Soviet ESV (earth satellite vehicle) telemetry and voice communications from Soviet manned space flights. A more advanced system, code-named *Bankhead II*, was installed at Chitose in 1963. The *Ladylove* SATCOM interception system at Misawa was established in 1980 to monitor Soviet *Raduga* and *Gorizont* geosynchronous communications satellites, as well as the *Molniyas*, used for both civilian and military communications. In the early 1990s, with the end of the Cold War, the focus of the *Ladylove* operation shifted to international communications satellites, primarily carrying civilian telephony, facsimile ('fax') and e-mail traffic.

The end of the Cold War coincided with the beginning of the World Wide Web and the Internet age. Surveillance of the Internet and computer network systems became the highest priority. NSA broadened its collection activities from concentrating almost entirely on interception of information 'in motion', as electromagnetic waves travel through the ether, to also undertaking the collection and manipulation of information 'at rest', stored on computer databases, disks and hard drives.⁵ Intelligence became conflated with operations, with a proliferation of Information Operations (IO) and Cyber-warfare units – including the Navy's IO and Cyber-warfare units at Misawa and Yokosuka, and the DSRJ centre and the associated 315th Network Warfare Squadron at Yokota.

There have been a mind-boggling number of organisational changes involving US SIGINT activities during the post-War period. Overall, they have involved a fitful but indubitable trend toward greater centralisation and civilianisation, beginning with separate activities by the military SIGINT organisations, later called the Service Cryptologic Agencies (SCAs), progressing to multi-Service operations in the 1960s and increasing control and participation by the NSA at Fort Meade in Maryland.

The US had two Service SIGINT organisations at the end of the Second World War, the Army's Signal Security Agency, headquartered in Arlington, Virginia, and the Navy's OP-20-G, based in the Navy Department Building in Washington, D.C. The Signal Security Agency was replaced by the Army Security Agency (ASA) on 15 September 1945. The

⁵ James Bamford, *Body of Secrets: How America's NSA and Britain's GCHQ Eavesdrop on the World*, (Century, London, 2001), p. 480.

Navy's COMINT elements were collectively designated Communications Supplementary Activities (OP-20-2) on 10 July 1946; they became the Naval Security Group (NSG) on 28 January 1950. The US Air Force was established as a separate Service on 18 September 1947 and established its own SIGINT organisation, the Air Force Security Group on 23 June 1948, renamed the US Air Force Security Service (USAFSS), at Arlington Hall on 20 October 1948.

The Armed Forces Security Agency (AFSA) was established by a directive from the Secretary of Defense on 20 May 1949, which placed it 'under the direction and control of the Joint Chiefs of Staff', to provide some coordination of the Service SIGINT activities. However, the AFSA was frustrated by poor Service cooperation, and, after it failed to provide any warning of the North Korean attack on South Korea on 25 June 1950 and the massive Chinese intervention on 25 October 1950, President Harry S. Truman directed on 13 December 1951 that its performance be reviewed and recommendations made to improve the effectiveness of US COMINT activities.⁶ The review team, chaired by George A. Brownell and known as the Brownell Committee, found that the AFSA was founded and functioned as 'a compromise', promoting some cooperation between the Service agencies but allowing them to operate as independent, vertically-organised agencies subject to the command and control of their respective Services. As the Brownell Committee reported in June 1952:

AFSA is dependent on the Services for all of its direct interception of COMINT ... and on Service communications for all of its communications channels. However, none of the three Service units is subject to AFSA control.... AFSA has no power to compel elimination of duplication of effort between them or to restrain them from engaging in activities that could better be centralized in AFSA itself.⁷

The report of the Brownell Committee led directly to the establishment of the NSA by Presidential directive on 24 October 1952. The NSA was placed organisationally within the Department of Defense, directly subordinate to the Secretary of Defense, and responsible for COMINT activities at the 'national' level, with Service prerogatives relegated to secondary status.⁸ However, the Services retained primary responsibility for operational

⁶ George A. Brownell, *The Origin and Development of the National Security Agency*, (Aegean Park Press, Laguna Hills, California, 1981), pp. 30, 81.

⁷ *Ibid.*, p. 64.

⁸ George F. Howe, 'The Early History of NSA', *Cryptologic Spectrum*, (Vol. 4, No. 2), Spring 1974, p. 17, at https://www.nsa.gov/public_info/_files/cryptologic_spectrum/early_history_nsa.pdf.

and tactical COMINT activities, as well as for ELINT collection and processing, which they regarded as indispensable for operational planning.

It took several more years before the mechanics of Service support for NSA COMINT collection and processing activities could be agreed. This was effected in a major reorganisation in 1956, in which a dozen or so COMINT Communications Relay Centers (CCRCs) were established around the world, each providing relay services with from seven to more than 30 COMINT collection sites and command HQs. Later called CRITICOMM Relay Centers, two were located in Japan and Okinawa, providing connectivity with 11 major COMINT collection stations elsewhere in Japan/Okinawa.⁹

Among the SCAs, the USAFSS quickly grew to be the largest. It was renamed the Electronic Security Command (ESC) on 1 August 1979, the Air Force Intelligence Command on 1 October 1991, the Air Intelligence Agency (AIA) on 1 October 1993, and the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA) on 8 June 2007. The Army Security Agency (ASA) was reorganised into a new Army Intelligence and Security Command (INSCOM) in 1977. The NSG became the Navy Information Operations Command (NIOC) on 1 October 2005; it provides the components of the Navy's Tenth Fleet or Cyber Command, activated on 29 January 2010.

At the unit level, nomenclature changes have been frequent. In the case of the Air Force, units have been elevated from Flight to Squadron to Group to Wing, or reduced in backwards sequence. In the case of the Army, they have grown from Detachment to Company to Battalion to Brigade, or have shrunk vice versa. Wakkanai had nine designations from 1951 to 1972. Misawa had 20 from 1951 to 1978, and Kadena had 15 from 1955 to 1976.¹⁰ The units at Misawa and Kadena have since had many further name changes.

The US SIGINT units in Japan have performed a multitude of missions, from national through strategic, operational and even tactical levels, in conflict areas sometimes far from Japan. At the national level, the SIGINT stations at Wakkanai and Chitose were used to intercept the telemetry of Soviet ICBM test flights into the Pacific, as well as the

⁹ 'Notes by the Secretaries to the Joint Communications-Electronics Committee', *Revision of Interim Outline Plan for Telecommunications Support of National Security Agency*, (JCRC 1371/1, 19 July 1956), Appendix C to Enclosure A.

¹⁰ Larry Tart, *Freedom Through Vigilance: History of U.S. Air Force Security Service (USAFSS). Volume III: USAFSS Ground Sites in Alaska and the Far East*, (Infinity Publishing, West Conshohocken, Pennsylvania, 2010), pp. 1602-1604.

telemetry transmitted by Soviet satellites. Airborne systems, beginning with RB-50s based at Yokota in the late 1950s and a special USASA unit based at Atsugi from 1963 to 1972, through to RC-135S *Cobra Bell* aircraft which use Kadena today, have intercepted telemetry transmitted from Russian, Chinese and North Korean missile tests. The large HF DF systems were able to precisely locate the sources of transmissions thousands of kilometers deep inside the Eurasian land-mass, and track Soviet Naval flotillas and missile-carrying submarines in the broad expanses of the Pacific Ocean.

The US SIGINT activities in Japan have directly supported US nuclear war planning. Traffic analysis together with HF DF triangulations identified and provided the locations of enemy command and control centres and major military operating bases for targeting purposes. Precise and up-to-date Electronic Order of Battle (EOB) data concerning adversary air defences, collected by ELINT activities, is essential for planning bomber penetration routes. The Korean War and the Vietnam War generated requirements for operational and tactical SIGINT. During the Korean War, all US SIGINT stations in Japan were involved in support activities to greater or lesser extents, but especially those at Johnson Air Base, Ashiya, Hakata and Fushimi Momoyama (Kyoto), each of which deployed contingents to Korea. As the war in Vietnam escalated in the early 1960s, it became the principal preoccupation of the activities at Kadena, Torii Station, Camp Hanza and Onna Point in Okinawa, as well as the Pacific Command (PACOM) ELINT Center at Fuchu near Tokyo. SIGINT units based at Kami Seya and Atsugi played direct roles in support of US/Coalition forces during Operations *Desert Shield* and *Desert Storm* in Kuwait and Iraq 1990-91.¹¹

Since September 2011, all relevant US activities have been engaged in the ‘Global War on Terror’, especially the Network surveillance facilities at Misawa and Yokota. For example, units at the *Ladylove* facility at Misawa (the 373rd Intelligence Group in 2004 and NIOC Misawa in 2012) have been commended for their contributions, while a civilian sub-contractor at *Ladylove* stated in September 2013 that its activities there also helped ‘to defeat global terrorism’.¹²

¹¹ Douglas Easton, ‘Gulf War Diary’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 35-37; and ‘VQ-1 History’, *U.S. Navy Patrol Squadrons*, at http://www.vpnavy.org/vq1_1950.html.

¹² Marilyn C. Holliday, ‘Wing Names Top Performers for 2004’, *Tale Feather*, January-June 2005, p. 16, at <http://www.afisr.af.mil/shared/media/document/AFD-060925-023.pdf>; Petty Officer 2nd Class Pedro Rodriguez, ‘NIOC Misawa Changes Command’, *DVIDS*, 15 June 2012, at

Throughout this whole period, the US SIGINT agencies were also responsible for a parallel mission, that of ensuring the security of US communications at all levels against interception and exploitation by potential adversaries. The first communications security (COMSEC) units were established in Japan in 1946, at Nagoya and Naha in Okinawa. The USASA sent the 50th Signal Service Detachment, a COMSEC unit, from Tokyo to Korea soon after US forces entered the Korean War.¹³ During the Vietnam War, the Navy maintained major COMSEC centres at Kami Seya (COMSEC 702) and Camp Hanza (COMSEC 704). More recently, as US forces have moved to the Internet for their own communications, including the Voice over Secure Internet Protocol (VoSIP) system for voice communications, NSA and the SCAs have established major centres in Japan for assuring the security of the Internet against hostile penetration. In Okinawa, for example, Network Operations and Security Centers have been located at Fort Buckner and Torii Station.

The Soviet military and intelligence organisations sought to determine the capabilities and purposes of the US SIGINT activities from the outset. Overflights of Wakkanai and Misawa by Soviet Air Force reconnaissance aircraft and MiG fighters were regular occurrences in the 1950s and 1960s. Japanese agents, from local Communists to bar-girls ('josans') were recruited as spies. Veterans have produced numerous novelized accounts of Soviet espionage activities involving local Japanese nationals at Wakkanai, Camp Oji, Shiroy, Yokota, Chitose and Misawa in the 1950s and 1960s.¹⁴ Two NSA employees, William H. Martin and Bernon F. Mitchell, who had served together at the NSG stations at Yokosuka and Kami Seya in 1951-54, defected to the Soviet Union in 1960, providing Moscow with first-hand accounts of the activities at those places.¹⁵ The capture of the USS *Pueblo* SIGINT collection ship by the North Koreans in January 1968 was a windfall, providing the Soviet

<http://www.dvidshub.net/news/90046/nioc-misawa-changes-command#.U7zy-EBade5>; and 'Data Entry Operator 2 Job (Misawa, Aomori, JP)', *Jobs77*, at http://www.japanjobs77.com/job/DATA_ENTRY_OPERATOR_2_Job_Misawa_AOMORI_JP-17657492.html.

¹³ Dave Whitney, 'Torii/Sobe/Okinawa COMSEC Operations', *Torii Tribune: Official Newsletter of ASA Okinawa*, (Vol. 10, No. 2), July 2011, p. 3, at <http://www.mlrsinc.com/asaokinawa/newsletters/ToriiTyphoon0711.pdf>

¹⁴ See, for example, Bill Person, *The Ravenworks Sanction: A Novel*, (BookSurge, 2004); W. T. Naud, *Oji: Spy Girls at the Gate*, (Grovesnor Square Press, Lucerne Valley, California, 2011); Donald Wertz Boyd, *The 6924th, 1955-1956*, (San Bernadino, California, August 2013); Robert S. Ruehrdanz, *Chitose Road: A Novel*, (CreateSpace Independent Publishing Platform, 2011); and George Welch, *Insomnia Mimatsu: A Story of Love and Espionage in Misawa*, (Booklocker, 2007).

¹⁵ Wayne G. Barker and Rodney E. Coffman, *The Anatomy of Two Traitors: The Defection of Bernon F. Mitchell and William H. Martin*, (Aegean Park Press, Laguna Hills, California, 1981), pp. 31, 35, 71.

agencies with current cryptologic materials as well as information about the roles of Kami Seya and the PACOM ELINT Center at Fuchu.¹⁶ Similarly, after a Kadena-based EP-3E SIGINT collection aircraft made an emergency landing on Hainan Island on 1 April 2001, its state-of-the-art equipment was disassembled and studied by Chinese technicians before it was returned to the US six months later.

There have been many tragedies. Twelve men died in a terrible fire which engulfed the Operations Complex at Kami Seya in September 1965. The airborne SIGINT collection missions could be especially dangerous. Eighty crew members died in just five incidents in the 1950s and 1960s – 33 aboard three aircraft based at Yokota were killed in deliberate shoot-downs by Soviet fighters (on 19 June 1952, 7 October 1952 and 29 July 1953), 16 others met an unknown fate somewhere over the Sea of Japan while on a flight from Yokota on 10 September 1956. A US Navy EC-121M SIGINT aircraft based at Atsugi was shot down by North Korean fighters, killing all 31 men aboard, on 15 April 1969. Several others died in other incidents in which the aircraft managed to land safely back in Japan.¹⁷ One crew member was killed when the North Koreans seized the *Pueblo* was seized in January 1968; all of the remaining 82 were brutally tortured while held in captivity over the next 11 months.¹⁸

Many major figures in the history of US SIGINT activities served in Japan at one time or another. Captain Wesley A. Wright, commander of the US Navy's SIGINT station at Yokosuka (NCU-35) and the first (and only) commander of the AFSA Field Activity, Far East (FAFE) at Yokosuka in 1950-52, was a famous Navy cryptanalyst who had served at the US Navy's radio interception and code-breaking unit in Hawaii during the Second World War. Captain Thomas H. Dyer, who succeeded Wright as commander of NCU-35 and was the first head of NSA Far East at Yokosuka in 1952-54, had headed the Navy's code-breaking unit in Hawaii during the war; he returned to NSA HQ in February 1954 and

¹⁶ Ed Brandt, *The Last Voyage of USS Pueblo*, (W. W. Norton & Company, New York, 1969), p. 38; Trevor Armbrister, *A Matter of Accountability: The True Story of the Pueblo Affair*, (Coward-McCann, Inc., New York, 1970), p. 164; and Edward R. Murphy, Jr., *Second in Command: The Uncensored Account of the Capture of the Spy Ship Pueblo*, (Holt, Rinehart and Winston, New York, 1971), p. 206.

¹⁷ Larry Tart and Robert Keefe, *The Price of Vigilance: Attacks on American Surveillance Flights*, (Ballantine Books, New York, June 2001), pp. 15-65.

¹⁸ Lloyd M. Bucher, *Bucher: My Story*, (Doubleday & Company, Garden City, New York, 1970), pp.210, 234-236, 317-318; and Trevor Armbrister, *A Matter of Accountability*, pp. 72-74, 250-253, 268-273.

became NSA's first historian.¹⁹ Colonel William P. Fife, known as the 'father of airborne intercept', was a pioneer of airborne VHF SIGINT operations and helped to establish the SIGINT stations at Misawa, Ashiya and Wakkanai.²⁰ Captain George P. McGinnis, who established the antenna systems at Kami Seya in 1952, commanded the NSG station at Futenma in Okinawa in 1957-59, and selected Camp Hanza as the site for the NSG's first AN/FRD-10 CDAA in 1959, was nominated for induction into NSA's Hall of Honor in 2008 for helping to 'lay the foundation upon which cryptologic work was conducted during the Cold War'.²¹

Major General Doyle E. Larson, commander of the 6990th Security Squadron at Kadena from 1967 to 1970, was the founding commander of the Electronic Security Command (1979-83). He has been called the 'father of modern C3CM (command, control, and communications countermeasures) and certainly one of the grandfathers of 21st century Information Operations'.²² Rear Admiral G. Patrick March, who commanded the NSG Activities at Kami Seya (1970-71) and Misawa (1971-73), was later Assistant Director of the NSA (1973-74) and commander of the NSG Command (1974-78). Milton Corley Wonus, who worked as a young USAFSS officer at Misawa in the mid-1950s, later headed the Office of SIGINT Operations in the CIA's Directorate of Science and Technology.²³

Patrick M. Hughes, the commander of the Army Intelligence Agency in 1990-92 and Director of the Defense Intelligence Agency (DIA) in 1996-1999, headed the Special

¹⁹ 'Captain Thomas H. Dyer', *America's Navy*, at <http://www.navy.mil/midway/dyer.html>; and Matthew M. Aid, 'US Humint and Comint in the Korean War: From the Approach of War to the Chinese Intervention', *Intelligence and National Security*, (Vol. 14, No. 4), Winter 1999, p. 50; 'The NSA Personnel Newsletter', Washington, D.C., March 1954, p. 3, at <http://fas.org/irp/nsa/1954-03.pdf>; and 'Capt Thomas H. Dyer, USN (1902-1985): 2002 Inductee', National Security Agency/Central Security Service (NSA/CSS), at https://www.nsa.gov/about/cryptologic_heritage/hall_of_honor/2002/dyer.shtml.

²⁰ 'DLIFLC Hall of Fame (2006 and 2007)', *DLI Foundation*, at http://www.dli-alumni.org/hall_of_fame/HoFSelections06-07.htm; and Larry Tart, *Freedom Through Vigilance: History of U.S. Air Force Security Service (USAFSS). Volume III*, pp. 1158, 1163, 1164, 1166-1167, 1272-1273.

²¹ Christopher Koons, 'Capt McGinnis Nominated for Cryptologic Hall of Honor', *InfoDomain: Decision Superiority for the Warfighter*, Fall 2008, pp. 18-19, at <http://www.public.navy.mil/fltfor/cyberfor/Documents/010-InfoDomain-Fall2008.pdf>.

²² 'Maj Gen Doyle E. Larson, USAF: 2009 Inductee', *National Security Agency/Central Security Service Hall of Honor, 2009 Inductees*, at http://www.nsa.gov/about/cryptologic_heritage/hall_of_honor/2009/larson.shtml; 'Major General Doyle Eugene Larson', *U.S. Air Force*, at <http://www.af.mil/AboutUs/Biographies/Display/tabid/225/Article/106433/major-general-doyle-eugene-larson.aspx>; and 'General Larson Retiring, Successor Named', *Hilltop News*, 21 April 1983, at <http://www.ftva.org/hilltopnews/1983/HilltopNews21Apr1983.pdf>.

²³ Jeffrey T. Richelson, *The Wizards of Langley: Inside the CIA's Directorate of Science and Technology*, (Westview, Boulder, Colorado, 2001), p. 81.

Security Office (SSO) at Camp Zama from 1974 to 1977.²⁴ Vice Admiral Jan E. Tighe, who was appointed commander of the US Navy's Cyber Command in April 2014, served as a 'special operator' aboard EP-3E SIGINT aircraft based at Atsugi and Misawa in 1990-91.²⁵ Joan A. Dempsey, who was Deputy Director of the CIA in charge of Community Management from May 1998 to July 2003 and Executive Director of the President's Foreign Intelligence Advisory Board (PFIAB) from 2003 to 2005, began her intelligence career as a 'cryptologic technician' with the NSGA Activity at Misawa in 1974.²⁶ Edward J. Snowden, the famous NSA 'whistle-blower', was stationed at the NSA post at Yokota from 2009 to 2012; he says that it was while he was at Yokota that he first appreciated the scale of NSA's global civilian Internet monitoring and data-mining activities and decided to expose them.²⁷

²⁴ Patrick M Hughes', *LinkedIn*, at <http://www.linkedin.com/pub/patrick-m-hughes/4/293/8b1>.

²⁵ Matthew Aid, 'New Commander of U.S. Navy SIGINT/Cyber Command', 14 February 2014, at <http://www.matthewaid.com/post/76650516261/new-commander-of-u-s-navy-sigint-cyber-command>.

²⁶ Marjorie Censer, 'Government IT Contractors', *Washington Post*, 28 February 2011, at <http://www.washingtonpost.com/wp-dyn/content/article/2011/02/25/AR2011022506126.html>; and 'Centennial Character Sketch: Joan Dempsey', *YouTube*, 7 April 2014, at <http://www.Youtube.com/watch?v=8-Eol-HYNBA>.

²⁷ Luke Harding, *The Snowden Files: The Inside Story of the World's Most Wanted Man*, (Vintage Books, New York, 2014), pp. 37-39; and Glenn Greenwald, *No Place to Hide: Edward Snowden, the NSA, and the U.S. Surveillance State*, (Metropolitan Books, New York, 2014), p. 43.

Table 1.
U.S. SIGINT sites in Japan, 1945-2015²⁸

Site	Prefecture	US SIGINT agency	Coordinates	Comments
Amagamori. 六ヶ所	Aomori	NSG ???	40.8556373, 141.3878749	Misawa ICEBox Compound.
Aragusuku, Ginowan City ²⁹ , 新城	Okinawa	NSG	26.287927, 127.767063	Naval Supplementary Radio Station Hanza. First NSG station on Okinawa, July 1945 to January 1947. DF station. Located 'a mile or so inland from Sobe.
Ashiya AB³⁰ 芦屋基地	Fukuoka	AFSS	33.883474, 130.649178	Detachment 12, 1 st RSM (Johnson AB), 1 November 1950 to 1 April 1952. 15 th RSM, July 1951. Re-designated the 6922 nd RSM on 8 May 1955, and the 6922 nd RGM on 1 July 1956.

²⁸ The general location of most facilities are accurately known, although the coordinates maybe speciously precise – for example within large bases. In a small number of cases the actual locations are not accurately known, particularly in the earlier periods. In most such cases the city centre or a major railway station serves as an indicator.

²⁹ US veterans' websites place Aragusuku on the southeastern side of the island. See 'Maps of Okinawa - showing locations of NAVSECGRU stations starting from the 1940's thru 1998', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/okinawa_map.html.

³⁰ Now JASDF Ashiya AB.

				<p>Operations ceased on 3 November 1958.</p> <p>Activity transferred temporarily to the 6902nd SCG at Shiroy, and then Kadena, Okinawa, from 15 January 1959.</p>
Atsugi ³¹ 厚着	Kanagawa	NSG	35.454611, 139.450167	<p>NSG Det established on 28 June 1979.</p> <p>Moved to Misawa (as Naval Reconnaissance Det) effective 13 May 1991.</p> <p>VQ-1 ELINT squadron based at Atsugi in January 1960.</p> <p>Moved to Guam in 1971, but maintained a detachment at Atsugi.</p> <p>Rotational EP-3 ELINT/SIGINT Aries aircraft from Guam.</p> <p>VQ-1 moved to Misawa in August 1991.</p>
Atsugi 厚着	Kanagawa	ASA	35.454611, 139.450167	<p>Special Activities Detachment (SAD)-1.</p> <p>Directly subordinate to Commanding General, ASA Pacific.</p> <p>Approximately 20 personnel.</p> <p>Operated aboard US Navy SIGINT aircraft, beginning with EA-3Bs in 1957-58. Ceased in November 1974.</p>
Bolo Point, (Zanpa misaki) Yomitan 残波岬,	Okinawa		26.435761, 127.720333	<p>Detachment of 13th Provisional Radio Intelligence Company, assigned to the 10th Corps HQ, operated DF equipment on the Yomitan Peninsula from May 1945.</p>

³¹ Now MSDF Atsugi Air Base

読谷				
Brady AB, Hakata ブレディ飛行場、 西戸崎	Fukuoka	AFSS	33.67614127, 130.39330935	6918 th RSM, subordinate unit of the 6922 nd RGM. Activated on 1 October 1958 and became operational on 3 November 1958. Inactivated on 30 June 1972.
Camp Drake, Asaki-machi キャンプ・ドレイ ク	Saitama	ASA	North Camp Drake: 35.7885107, 139.5984262 South Camp Drake: 35.777666, 139.5992631	15 miles north of Tokyo. USASA Communications Unit, Japan, North Camp Drake. ASAPAC Primary CRITICOMM Relay Station (PCRS). Signal Research Detachment (Prov.), attached to 500th Intelligence Corps Group, concerned with acquisition of collateral intelligence. Four field offices: Team A, Tokyo; Team B, Saigon; Team C, Seoul; and Team D, Chitose. TAREX mission and personnel relocated to Camp Zama in 1964.
Camp Fuchinobe, Sagamihara キャンプ淵野辺	Kanagawa	NSA	35.557115, 139.391689	NSA Representative Japan. Occupied Buildings 98 and 118.
Camp Fuchinobe, Sagamihara キャンプ淵野辺	Kanagawa	ASA	35.557115, 139.391689	126 th ASA Company, 1945 to November 1974.

Camp Hansen キャンプ・ハンセン	Okinawa		26.4870599, 127.9216313	Relocated Wullenweber CDAA and other facilities from Hanza.
Camp Kue Kuwae, Chatan-cho キャンプ桑江	Okinawa	ASA	26.315940, 127.763936	400 th USASA Special Operations Detachment (Airborne). Attached to 1 st Special Forces, Fort Buckner, and provided ASA support to Special Action Forces in Asia.
Camp Matsushima, Sendai ³² 松島	Miyagi	ASA	38.404722, 141.219444	Detachment of 126 th ASA Company at Camp Fuchinobe.
Camp Mercy, Sukiran キャンプ・マーシー 瑞慶覧	Okinawa	ASA	26.298515, 127.773971	400 th USASA Special Operations Detachment (Airborne). Located in Building T-100 within the Special Action Forces complex at Camp Mercy and the Machinato Service Area, Fort Buckner. Attached to 1 st Special Forces, Fort Buckner, and provided ASA support to Special Action Forces [in] Asia.
Camp Momoyama,	Kyoto	ASA	34.9338902, 135.7633768	Detachment of 126 th ASA Company at Camp Fuchinobe. Also known as Camp Stafford.

³² Now JASDF Matsushima AB.

Fushimi Momoyama ³³ キャンプ桃山				
Camp Moriyama ³⁴ , Nagoya 守山駐屯地	Aichi	ASA/ AFSS	35.1982244, 136.9581277	18 th Security Section (of the 136 th Radio Security Detachment), 1948. Transferred to AFSS, 1949; subsequently became Detachment 6 of the 136th Communications Security Squadron. Detachment 1, 6932nd CSS on 8 May 1955.
Camp Zama キャンプ座間	Kanagawa	NSA	35.502116, 139.397278	NSA/CSS Representative Japan. Co-located with HQ, US Army Japan.
Camp Zama キャンプ座間	Kanagawa	ASA	35.502116, 139.397278	HQ USASA Pacific. 35 miles SW of Tokyo. USASAPAC CRITCOMM terminal. In 1963-65, included Vietnamese nationals. `Exercised command over all assigned or attached USASA units in Japan, Okinawa, Korea, Taiwan, Philippine Islands, Hawaii, South Vietnam and Thailand`. Relocated to Heleman, Hawaii, in July 1965.

³³ Not clear where this was. Asking Kyoto friends. The coordinates are the Fushimi Momoyama Keihan line railway station.

³⁴ JGSDF Camp Moriyama.

TAREX HQ established in 1964, with mission and personnel from the Signal Research Detachment (Prov.) at North Camp Drake.				
Camp Zama キャンプ座間	Kanagawa	ASA	35.502116, 139.397278	Detachment of 126th ASA Company at Camp Fuchinobe, mid-1950s.
Camp Zama キャンプ座間	Kanagawa	ASA	35.502116, 139.397278	500 MI Group.
Camp Zama キャンプ座間	Kanagawa	AFSS	35.502116, 139.397278	OL-10, 6970 th Support Group (Fort George G. Meade) activated on 1 June 1968, redesignated OL-JJ, 6970 th Support Group on 30 October 1970; OL-FJ, 6970th Support Group on 1 December 1971; and OL-FJ, 6970th Air Base Group on 1 July 1972.
Chitose 千歳	Hokkaido	ASA	42.828583, 141.744061	<p>12th ASA Field Station. Also known as Kuma Station. Located approximately 28 miles southeast of Sapporo.</p> <p>USASAPAC CRITICOMM terminal.</p> <p>12th ASA FS consisted of three installations: Chitose 1, south of the city of Chitose, jointly occupied by the HQ, US military dependents, and 5,000 JASDF personnel; Chitose II, east of the city, the Transmitter and Receiver/DF site; and Chitose III, northeast of the city, which contained the Operations Area.</p> <p>12th USASA Field Station was organised into HQ and HQ Company, 11th Operations Company, and 12th Operations Company.</p> <p>11th Operations Company and 12th Operations Company renamed Company A and</p>

<p>Company B on 7 September 1965.</p> <p>Signals Operations Unit (SOU) No. 24 was co-located with 12th USASA FS.</p> <p>Discontinued 1965 and personnel assigned to the 11th Operations Company.</p> <p>Signal Research Unit (SRU) No. 4 at Misawa was organisationally subordinate to the 12th Field Station at Chitose.</p> <p>Team D of Signal Research Detachment (Prov.) at North Camp Drake, attached to element of 500th Intelligence Corps Group, and known as Management Research Detachment 81.</p>				
Chitose AB 千歳基地	Hokkaido	AFSS	42.8061662, 141.6514956	Detachment 7, 6926 th RSM (Kelly AFB, Texas), 8 June 1955 to 1 July 1956.
Fort Buckner フォート バックナー	Okinawa	ASA	26.295714, 127.777090	Provides ASA support to 1 st Special Forces.
Fort Buckner フォート バックナー	Okinawa	NSG	26.295714, 127.777090	NSGA Hanza, which operates the Wullenweber CDAA at Camp Hansen, is a tenant unit at Fort Buckner.

Fuchinobe, Sagamihara ³⁵ 淵野辺	Kanagawa	AFSS	35.5763288, 139.3929745	OL-JJ, 6970 th Support Group (Fort George G. Meade). Organised (as OL-10, 6970 th SG) on 1 June 1968.
Fuchu	Tokyo	AFSS	35.675810, 139.495618	Detachment 2, 6920 th SW, 4 April 1957 to 1 April 1958. 6988 th RSM. Moved (as the 6932 nd CSS) from downtown Tokyo on 1 July 1956. Mission was TRANSEC. Absorbed personnel and mission of Detachment 2, 6920 th SW on 1 April 1958. Became 6988 th SF on 1 October 1958. Became Detachment 1 of 6988 th RSM when the 6988 th transferred to Yokota on 1 February 1963. Discontinued on 31 January 1969.
Fuchu 府中基地	Tokyo	AFSS	35.675810, 139.495618	Pacific Command ELINT Center.
Fuchu AS 府中基地	Tokyo	AFSS	35.675810, 139.495618	10 miles west of Tokyo. FEAF HQ. 6971 st CSF, 20 December 1950 to 8 December 1953.
Fukakusa ³⁶ 深草	Kyoto	ASA	34.964828, 135.770153	Field Station 8610 th AAU (Army Administrative Unit), 1953 to 10 May 1958.

³⁵ Coordinates are the MOD Technical Research GSDF Research Facility, Sagamihara.

³⁶ Location unknown. The coordinates are the Fukakusa Keihan line railway station.

Futenma	Okinawa	NSG	26.270833, 127.748056	<p>NSG site, July 1955 to August 1960.</p> <p>Initially called Naval Communications Unit 37 (moved from Tengan).</p> <p>Designated USN-425 in 1956.</p> <p>Converted from DF site to `a fully-fledged DF and Intercept site` in 1957-59.</p> <p>Moved to NSGA Hanza in August 1960.</p>
Futenma 普天間	Okinawa	ASA	26.270833, 127.748056	<p>327th CRC, December 1949 to May 1952.</p> <p>8603rd AAU, organised 1 April 1951, with only 1 officer and 1 enlisted person assigned. Full contingent arrived (from `another location on Okinawa`) on 15 May 1952.</p> <p>Personnel moved to Sobe on 3 August 1953, and operations ceased on 16 November 1953.</p>
Hakata ³⁷ 博多	Fukuoka	ASA	33.584444, 130.451667	<p>14th ASA Field Station, also known as Hakata Station.</p> <p>Activated as 7202 Field Station on 15 October 1955.</p> <p>(Began as a DF site for 126th Signal Service Company in 1948.)</p> <p>USASAPAC CRITICOMM terminal.</p>

³⁷ Now Fukuoka Airport.

<p>Located at Hakata Administration Annex (formerly Camp Hakata).</p> <p>Tenant unit of USAF's 6348th Support Squadron.</p> <p>Logistical support provided to NSG Detachment, and full operational support was provided to the AFSS's 6918th Security Squadron co-located in the Operations Area.</p> <p>Signal Research Unit (SRU) No. 3 at Itasuke AB was a subordinate unit.</p> <p>The Communications Center at the 14th USASA Field Station at Hakata served not only the FS but also the NSG Detachment and the AFSS's 6918th SS. Operated two on-line CRITICOMM channels to PCRS at Camp Drake, and one Common User Circuit to Fuchu AS.</p>				
Hakata 博多	Fukuoka	NSG	33.584444, 130.451667	<p>Detachment of NSGA Kami Seya. Became NSGA in 1967.</p> <p>85 officers and enlisted men in 1967. Included Mandarin Chinese.</p>
Hanza キャンプ・ハンザ	Okinawa	NSG	26.400597, 127.729865	<p>NSGA Hanza, active from August 1960 (replacing NSGA Futenma) to 1 June 1998, when the station was transferred to civilian control under contract to the Department of Defense.</p> <p>AN/FRD-10 Wullenweber CDAA constructed in 1959-60.</p> <p>Became part of Bullseye HF DF network in 1968.</p> <p>AN/FRD-10 CDAA demolished in May 2007.</p>

Hanza キャンプ・ハンザ	Okinawa	USMC	26.400597, 127.729865	Sub-Unit No. 4 of Company C, Marine Support Battalion. Re-designated Company D, Marine Support Battalion, 1 October 1961. Relocated to Galeta Island, Panama, from October 1984 to January 1985.
Henashi Saki Fukaura ³⁸ 深浦	Aomori	AFSS	40.602956, 139.8627164	Detachment 4, 6921 st RGM (Misawa), 11 May 1956 to 1 September 1956.
Ichigaya 市ヶ谷	Tokyo	NSA	35.692716, 139.728669	NSA Liaison Office, MOD Defense Intelligence Headquarters (DIH).
Itazuke AB 市ヶ谷基地	Fukuoka	ASA		Signal Research Unit (SRU) No. 3. Located at the Itazuke Administration Annex of Itazuke AB, now Fukuoka Airport, some 22 miles south of the 14 th ASA FS at Hakata. Assigned to the 14th ASA FS for administration and logistics, but reported directly to and operational tasking maintained by the ASA Processing Center, Vint Hills Farms Station, Warrenton, Virginia.
Itazuke AB 市ヶ谷基地	Fukuoka	AFSS	33.5846227, 130.4413433	Organised as OL-2 of the 6988 th Security Squadron (Yokota) on 1 July 1969. Re-designated OL-BB, 6988 th Security Squadron on 30 September 1970. Discontinued on 14 February 1971.

³⁸ Precise location not known. Coordinates are for Henashi Saki (Cape Henashi, 戸作崎).

Iwakuni 米海軍岩国航空隊	USN	34.1450044, 132.2419783	<p>Homebase for USN ocean surveillance/ELINT aircraft.</p> <p>VP-1, February 1966 to November 1967 (SP-3H Neptunes), and February 1970 to April 1971 (P-3 Orions).</p> <p>A 'special [US Navy] electronic squadron' was based at Iwakuni in 1956.</p>
Johnson AB, Irumagawa ジョンソン基地	Saitama	AFSS	<p>35.841944, 139.410556</p> <p>Located 30 miles northwest of Tokyo. Now Iruma AB.</p> <p>1st RSM. Moved to Johnson AB on 2 September 1945. Transferred to AFSS on 1 January 1949.</p> <p>HQ of AFSS Pacific Security Region (1 September 1951 to April 1954), organised as 6920th Security Group. Assumed command of all AFSS units in the area on 4 November 1951.</p> <p>Moved to Shiroy AB in April 1954.</p> <p>Flights B and C, 6920th SG, 1953-54.</p>
Kadena	Okinawa	AFSS	<p>26.366014, 127.7766109</p> <p>Detachment 1, 29th RSM (Brooks AFB, Texas), 26 October 1953 to 8 May 1955.</p> <p>Detachment 1 of the 6927th RSM (Onna Point) organised 1 July 1961. Formerly OL-1 of the 6927th RSM.</p> <p>Became Detachment 1, 6927th SG on 1 July 1963.</p> <p>Inactivated 30 June 1971.</p>

Performed TRANSEC functions.				
Kadena 嘉手納	Okinawa	AFSS	26.366014, 127.7766109	AFSS Office, 313rd Air Division in 1956.
Kadena AB 嘉手納基地	Okinawa	AFSS	26.3555608, 127.7676717	<p>6922nd RGM moved to Kadena (from Shiroyi) in January 1959.</p> <p>Subordinate units included the 6918th (Hakata), 6925th (Clark), 6927th (Onna Point), 6929th (Osan) and 6987th RSMs.</p> <p>Served as the AFSS's `second echelon center` in Okinawa, prior to establishment of JSPC at Sobe in 1962.</p> <p>6922nd SW moved to Clark AB, the Philippines, on 1 July 1965.</p>
Kadena, AB 嘉手納基地	Okinawa	AFSS	26.3555608, 127.7676717	<p>6990th SS organised on 15 July 1967 and became operational on 1 September 1967.</p> <p>Flew RC-135 SIGINT missions over North Vietnam.</p> <p>Won the Travis Trophy for 1968.</p> <p>Expanded to 6990th SG on 1 September 1971. Re-designated 6990th SS on 1 July 1974.</p> <p>OL-3, 6927th SG (Onna Point), 1 July 1968 to 1 January 1970.</p> <p>6905th SS activated on 1 July 1972.</p>

6928 th SS activated on 1 July 1974.				
Kami Seya 上瀬谷米海軍受信 所	Kanagawa	NSG	35.486389, 139.490444	<p>Commissioned as an NSG Department on 12 December 1952 (taking over from Yokosuka).</p> <p>586 acres.</p> <p>AN/FLR-7 intercept antenna system. AN/GRD-6 DF antenna system.</p> <p>USN-39 in 1956. Became NSGA in 1960.</p> <p>AN/FLR-7 upgraded to AN/FLR-11 in the early 1960s. AN/GRD-6 high-band elements upgraded (with AN/FRD-10(V) elements) in the early 1960s. Bullseye Data Transfer Sub-System (BDTSS) installed.</p> <p>Downgraded to NSG Detachment in 1971.</p> <p>DF site inactivated in 1971.</p> <p>FOSIF WESTPAC established 15 February 1972, now called J-DET. Type 612 loop array HF DF system.</p> <p>Became NSGA on 23 May 1984.</p> <p>Closed on 1 June 1995.</p>
Kami Seya 上瀬谷米海軍受信	Kanagawa	USMC	35.486389, 139.490444	1 st Special Communications Platoon, established in June 1956.

所				<p>Designated Sub Unit No. 5, Company G, Marine Support Battalion as at June 1960.</p> <p>Became Company E, Marine Support Battalion on 1 October 1961.</p> <p>Four officers and 115 enlisted personnel in 1966.</p> <p>Moved to Misawa on 20 June 1971.</p>
Kami Seya City ³⁹ 上瀬谷市	Kanagawa	AFSS	35.4818505, 139.4776981	<p>Detachment 2, 6988th RSM (Fuchu), 1 July 1961 to 1 January 1962.</p> <p>OL-FX, 6970th ABG (Fort George G. Meade), activated on 1 July 1974.</p>
Kannon Zaki ⁴⁰ 観音崎	Kanagawa	NSG	35.2560672, 139.7427544	<p>Located about five miles south of Yokosuka.</p> <p>Site completed in January 1951, taking over some functions from Naval Communications Unit 35 at Yokosuka.</p> <p>Operated until 7 August 1952, when the HF DF system at Kami Seya achieved an initial operational capacity.</p>
Makubetsu 幕別	Hokkaido	AFSS	42.916667, 143.35	<p>Detachment 1 of the 6986th SG (Wakkanai), 1 July 1961 to 1 July 1964.</p> <p>Previously organised as OL-1 of the 6986th RSM.</p>
Misawa,	Aomori	AFSS	40.705278,	6989 th RSM, designated and organised at Misawa on 1 July 1958, with an

³⁹ Location unknown. Coordinates are for the Nakaseya Fire Station.

⁴⁰ Location unknown. Coordinates are for the JCG facility west of the lighthouse.

Security Hill 三沢	141.371944	<p>authorised strength of 13 officers and 658 airmen.</p> <p>The 6989th SS 'was organised as a first echelon processing center in support of the 6921st SW, which provided second echelon processing functions.'</p> <p>6989th Signals Squadron re-designated 6989th Support Squadron and its 'operational mission' transferred to the 6921st Support Squadron co-located with the 6921st SW on 1 October 1964.</p> <p>AN/FLR-9 CDAA installed in 1963-65.</p> <p>6921st Support Squadron deactivated on 30 March 1970.</p> <p>HQ 6920th Air Base Squadron activated on 1 July 1972 and re-designated HQ 6920th Air Base Group on 1 September 1972.</p> <p>HQ 6920th SG activated 1 July 1974.</p> <p>Operation <i>Ladylove</i> FORNSAT/COMSAT interception program achieved initial operational capacity in 1982.</p> <p>AN/FLR-9 CDAA demolished in January 2015</p>
Misawa 三沢	Aomori ASA	<p>Signal Research Unit (SRU) No. 4.</p> <p>Subordinate to the 12th ASA Field Station at Chitose for administrative and logistical support, but operational control was maintained by the ASA Processing Center at Vint Hill Farms Station, Warrenton, Virginia.</p> <p>Two SRU No. 4 out-stations were off-base, approximately 5 miles from the central</p>

				recording station.
Misawa 三沢		NSG		Detachment of NSGA Kamiseya established on 5 January 1962. Commissioned NSGA Kamiseya on 1 July 1971, with detachments at Atsugi, Kamiseya, and Yokosuka. About 400 personnel in 1998 (including eight Japanese nationals). Won the Travis Trophy in 1971, 1980 and 1982.
Misawa 三沢		USMC		Company E, Marine Support Battalion. Moved from Kamiseya on 20 June 1971.
Misawa 三沢		AFSC	40.705278, 141.371944	3 rd Surveillance Squadron, 21 st Space Wing, US Air Force Space Command. Maintained three 18-metre satellite communications ground terminals. Monitored transmissions from geosynchronous satellites for triangulation/location and identification purposes.
Misawa AB 三沢基地	Aomori	AFSS	40.705278, 141.371944	Detachment 11, 1 st RSM (Johnson AB) 10 March 1951 to 28 January 1953. 1 st RSM moved from Johnson AB during January 1953. Re-designated as the 6921 st RSM on 8 May 1955; 6921 st RGM on 11 May 1956; 6921 st SW on 1 September 1962. ‘The 6921 st SW had direct responsibility for the direction and control of subordinate units covering the northern portion of the Far East area.’

Momoyama ⁴¹ 桃山	Kyoto	ASA	34.9338902, 135.7633768	126 th Signal Service Company, moved from Seoul to Camp Stafford, Fushimi Momoyama, just south of Kyoto, in 1946. Also known as Camp Stafford. Re-designated Field Station 8610 th AAU (Army Administrative Unit) in April 1951. Expanded into Fukakusa, 1-2 miles north of Fushimi Momoyama, in 1951-53. FS 8610 th moved to Fukakusa in 1953. 326 th CRC in 1956.
Mount Chokai (Chokaiyama) 鳥海山	Yamagata	NSG USMC	39.104621, 140.0544377	Small group from NSGA Sakata, 1956-62. Small Marine SIGINT unit 1961-62.
Nagoya AFB 名古屋基地	Aichi	AFSS	35.255, 136.924444	Detachment 1, 32 nd CSS (Tokyo), 8 December 1953 to 8 May 1955. Detachment 1, 6932 nd CSS (Tokyo), 8 May 1955 to 1 July 1956.
Naha AB 那覇基地	Okinawa	AFSS	26.195833, 127.645833	Detachment 3, 32 nd CSS (Tokyo), 8 December 1953 to 8 May 1955. Detachment 3, 6932 nd CSS (Tokyo), 8 May 1955 to 1 July 1956.
Nemuro	Hokkaido	AFSS		Detachment1, 1 st RSM (Misawa), 15 November 1954 to 8 May 1955.

⁴¹ Location unclear. The coordinates are the Fushimi Momoyama Keihan line railway station.

根室				
Detachment 1, 6921 st RGM (Misawa), 8 May 1955 to 1 October 1957.				
Niigata ⁴² 新潟	Niigata	AFSS	37.956515, 139.32518	Detachment from 1 st RSM/6921 st RGM (Misawa), 1950s.
Obu AB 大府基地	Aichi	AFSS	35.2539155, 136.9542318	Detachment 3, 6922 nd RGM (Ashiya AB), 1 July 1956 to 1 February 1957.
Oji ⁴³ 王子	Tokyo	ASA	35.754997, 139.729367	HQ ASA Pacific, First Tokyo Arsenal, 1946 – 1958.
Okushiri Shima ⁴⁴ 奥尻島	Hokkaido	AFSS	42.1601684, 139.4439066	Detachment 3, 1 st RSM (Misawa), 15 November 1954 to 8 May 1955. Detachment 3, 6921 st RGM (Misawa), 11 May 1956 to 30 September 1957.
Ominato 大湊	Aomori	NSG	41.243577, 141.126863	First US NSG site in Japan, called Communications Supplementary Activity Detachment, 15 December 1945 to 22 April 1946 (when moved to Yokosuka).
Onna Point 恩納村	Okinawa	AFSS		Moved to Onna Point from Kadena (and previously Yomitan) as 6927 th RSM in September 1956. Re-designated the 6927 th SS on 1 July 1963 and the 6927 th SG on 1 July 1965.

⁴² Location not known. Coordinates are for JGSDF Camp Shibata, which was used by US forces postwar.

⁴³ Location unknown. Coordinates are for JGSDF Camp Jujo (十条駐屯地).

⁴⁴ Coordinates are the location of the JASDF Okushiri AC&W Station.

				Subordinate to the 6922 nd SW (Kadena, then Clark).
				Discontinued on 30 June 1971.
Sakata ⁴⁵ 酒田市	Yamagata	NSG	38.910571, 139.842396	NSG Activity. Located 2.5 miles from Sakata. Deactivated on 15 October 1962.
Sasebo 佐世保	Nagasaki	USMC	33.16275, 129.711444	USMC 1 st and 5 th Radio Intelligence Platoons, September-December 1945.
Shiroi 白井市	Chiba	AFSS	35.798889, 140.012222	6920 th SW and HQ AFSS Pacific Security Region, April 1954 to 1 November 1958 (transferred to Wheeler AFB, Hawaii). HQ 6902 nd Special Communications Group (SCG), 1 August 1955 to 1 December 1959, took over the “operational functions” of the 6920 th SW. 6903 rd CS, 1 November 1956 to 1 October 1957. Detachment 4, 6921 st RGM (Misawa), 1 November 1956 to 11 April 1957.
Shiroi ⁴⁶ 白井市	Chiba	AFSS	35.798889, 140.012222	6922 nd SW moved from Ashiya to Shiroi in November 1958 before moving to Kadena in January 1959.
Shiroi ⁴⁷	Chiba	AFSS	35.798889,	HQ 6926 th RSM.

⁴⁵ Location unknown. Coordinates are for downtown Sakata.

⁴⁶ Location unknown. Coordinates are for Shiroi AB.

⁴⁷ Location unknown. Coordinates are for Shiroi AB.

白井市			140.012222	Project Green Moon, 1955-56. 'Numerous detachments scattered throughout the Pacific.'
Shiroi AB ⁴⁸ 白井基地	Chiba	AFSS	35.798889, 140.012222	Flight A, 84 th RSM (Brooks AFB, Texas), 24 October 1953 to 8 March 1954. 6924 th RSM, 1 May 1955 to 1 November 1956. Detachment 1, 6926 th RSM (Kelly AFB, Texas), 8 July 1955 to 1 July 1956.
Sobe City 楚辺市	Okinawa	AFSS	26.3823084, 127.7174335	Detachment 2, 6927 th SG, organised 1 July 1965. Moved to Torii Station on 1 July 1967 (and re-designated OL-1 of the 6927 th SG).
Tachikawa AB 立川基地	Tokyo	AFSS	35.710833, 139.403056	Detachment 3 of the 6988 th SS (Fuchu/Yokota), 1 July 1961 to 1 July 1965. Previously organised as OL-2 of the 6988 th RSM (Fuchu).
Tengan 天願	Okinawa	NSG	26.391773, 127.859423	Naval Communications Unit 37. DF site only. Occupied from November 1949 to July 1955, when moved to Futenma.
Tokyo 東京		NSA	35.6687277, 139.7433496	US Embassy. 1-10-5 Akasaka, Minato-ku.

⁴⁸ Now MSDF Shimofusa Air Base.

Tokyo, FEAF HQ⁴⁹ 東京		AFSS	35.678964, 139.761469	6971 st Communications Security Flight (CSF), 20 December 1950 to 8 December 1953); 32 nd CSF (to May 1955); 6932 nd CSF (to 1 November 1958). Activated 20 December 1950. Ceased 1 November 1958, and TRANSEC function passed to the 6988 th Security Flight at Fuchu AB.
Torii Station, Sobe トリステーション	Okinawa	ASA	26.398808, 127.728918	Opened as 8603 Army Administrative Unit (transferred from Futenma) on 16 November 1953. Became 3 rd ASA Field Station and facility named Torii Station on 1 January 1957. Became 51 st ASA Special Operations Command (SOC) on 14 July 1961. Prior to June 1965, composed of HQ, HQ and Service Company, and 3 rd USASA Operations Company. Re-organised on 15 June 1965 to consist of HQ, HQ and Service Company, and Companies A, B, and C. Subordinate units were the 104 th ASA Security detachment at Torii Station and the 76 th ASA Special Operations Unit at Taipei, Taiwan. NSA, NSG and Marine personnel attached to the 51 st ASA SOC. The Army element of the Joint Sobe Processing Center (JSPC) was andorganic element' of the 51 st SOC.

⁴⁹ Meiji Seimei Kan, or Meiji Building.

				Won the 1976 Travis Trophy.
				Closed in December 1985.
Torii Station, Sobe トリステーション	Okinawa	AFSS	26.398808, 127.728918	<p>Organised as OL-1 of the 6927th SG (Onna Point) on 1 July 1967 (when moved from Sobe City).</p> <p>Re-designated OL-5, 6970th Support Group, on 1 April 1968. Discontinued on 30 May 1970.</p> <p>6971st Support Group organised on 31 May 1970. Inactivated on 1 July 1971.</p> <p>OL-RR, 6970th Support Group, activated 1 July 1971.</p> <p>Became OL-FR, 6970th Support Group on 1 December 1971.</p> <p>Inactivated on 30 June 1972.</p>
Torii Station, Sobe トリステーション	Okinawa	ASA	26.398808, 127.728918	<p>Detachment 4, 126th ASA Company (Camp Fuchinobe) became 104th USASA Security Detachment in 1958.</p> <p>Mission was `to install, operate, control and maintain Signal Security measures`.</p> <p>Provided SIGSEC support to US Army Ryukyu Islands, IX Corps, MAAG ROC, and HQ US Army Japan.</p>
Torii Station, Sobe トリステーション	Okinawa	ASA	26.398808, 127.728918	<p>USASAPAC CRITICOMM Relay Station, Okinawa (CRC SO).</p> <p>In 1964, was the fifth largest station (in terms of traffic handled) in the worldwide CRITICOMM network.</p>

ン				In March 1964, four-circuit Automatic Distribution Center installed for handling all traffic terminating at JSPC.
Torii Station, Sobe トリステーション ン	Okinawa	AFSS	26.398808, 127.728918	<p>Joint Sobe Processing Station (JSPC), activated in 1961.</p> <p>‘The entire 2nd echelon processing function’ was moved from Kadena to JSPC in July 1962 (excluding Vietnamese processing, which was handled at Clark and San Miguel in the Philippines).</p> <p>Supported 2nd Air Division in South Vietnam during the Vietnam War.</p>
Wakkanai AB 稚内	Hokkaido	AFSS	45.43749, 141.651535	<p>6986th SG.</p> <p>Originally organised as Detachment 12 of the 1st RSM (Johnson AB) during August 1951.</p> <p>Became Operations B of Detachment 11 of the 1st RSM in late 1952; then Detachment 2 of the 1st RSM from 28 January 1953 to 8 May 1955; then Detachment 2 of the 6921st RSM until 1 July 1958.</p> <p>Wakkanai Air Station was controlled by the AFSS, but contained ASA and NSG contingents, under the Integrated Command Agreement of 1 July 1959. Re-designated the 6986th RSM on 1 July 1958, the 6986th RGM on 1 October 1962, and the 6986th SG on 1 July 1963.</p> <p>AN/FLR-12 panoramic VHF/UHF/SHF collection system installed in 1965-66.</p> <p>Closed on 30 June 1972.</p>

				US NSA/Air Force SIGINT contingent (Project CLEF).
				Monitored the shutdown of KAL007 on 1 September 1983.
Yamato AS⁵⁰ 大和基地	Tokyo	AFSS	35.710833, 139.403056	Organised as OL-2 6920 th SW (Wheeler AFB, Hawaii) on 1 July 1961. Re-designated Detachment 1, AFSS, Pacific Security Region, 1 September 1962. Discontinued on 1 July 1964. Mission was 'installation and maintenance of AFSS equipment'.
Yokosuka 横須賀	Kanagawa	NSG	35.286475, 139.666486	Communications Supplementary Activity Detachment, moved from Ominato in April 1946. Organised as Naval Communications Unit 35 on 22 February 1948. DF function added with installation of the first Rhombic antenna in October-November 1948. Became Pacific HF DF net control station in October 1950. Operations ceased on 2 December 1952. Detachment of NSGA Misawa, 1971 – January 1989. Detachment of NSGA Kamiseya, January 1989 to 1 June 1995. NSGA Yokosuka established on 1 June 1995.

⁵⁰ Now Tachikawa Airfield.

Yokosuka 横須賀	Kanagawa	AFSS	35.286475, 139.666486	AFSS 6905 th SF, 1 June 1952 to 1 October 1954.
Yokota 横田	Kanagawa	AFSS	35.734843, 139.340715	Detachment 1, 6903 rd CS (at Shiroy AB), 1 November 1956 to 5 April 1957.
Yokota 横田	Kanagawa	AFSS	35.734843, 139.340715	AFSSO Office, 6007 th Radio Group in 1956.
Yokota AB 横田基地	Kanagawa	AFSS	35.734843, 139.340715	<p>6988th SS. Began as Detachment 1, 6924th RSM (Shiroy), 1 October 1955 to 1 November 1956.</p> <p>Detachment 1, 6988th RSM activated December 1959.</p> <p>Became 6988th RSM on 1 February 1963 (with Detachment 1 moving to Fuchu).</p> <p>In 1965, furnished personnel for SIGINT flights in Vietnam.</p> <p>Inactivated on 30 June 1972.</p>
Yomitan 読谷村	Okinawa	AFSS	26.406473 127.732482	<p>Activated as Detachment 152 of the 15th RSM (Ashiya) in April 1952.</p> <p>Re-designated Detachment 2 of the 15th RSM, September 1952 to November 1952.</p> <p>Detachment 5 of the 6926th RSM (Kelly AFB, Texas), 8 June 1955 to 1 July 1956.</p>

2. Post-War Occupation and the beginning of the Cold War, 1945-50

The first five years of US SIGINT operations in Japan, from 1945 to 1950, were chaotic. There was great uncertainty about the missions to be performed, the chains of command, and the expected tenure of particular operations. The Service SIGINT organisations suffered the same rapid demobilisation and enormous budget cuts after the end of the Second World War as every other military unit. The frequent reorganisations of the US intelligence agencies, in both Washington and Japan, were debilitating. Chains of command were complex, fluid and confusing. The activities of the Service Cryptologic Agencies (SCAs) were poorly coordinated, even after the establishment of the Armed Forces Security Agency (AFSA) in May 1949. Missions were unclear until around 1948, when Soviet Morse Code communications emerged as the principal objective. In Tokyo, from 1945 until the outbreak of the Korean War in June 1950, under General MacArthur's High Command, counter-intelligence and counter-espionage operations were accorded the highest priority.⁵¹

The collection stations were usually quite basic. The personnel and equipment were mostly housed in temporary facilities, such as tents and Quonset huts. Quonset huts were semi-cylindrical structures with arched ribs supporting insulated roofing, with 20-foot (6-metre) diameters and an exterior length of 56 feet (17 metres). A variant called Jamesway huts, which were 16 foot (5 metres) square and better insulated, were used at Wakkanai and Misawa. Few sites lasted more than a couple of years, some only months. The Army and Air Force units typically used TC-9 SIGINT equipment, which was usually set up with 12 radio receivers, tape recorders and M88 typewriters. The TC-9s were initially housed in HO-17 shelters, mounted on 6x6-wheeled trucks, available from war-time stocks, although the Quonset or Jamesway huts were usually also used for intercept and transcription operations. According to a former USAFSS veteran, 'the mobile TC-9 system antenna mast was easy to set up but only reached a height of 30 feet'⁵²

The Army, Navy and Marines had introduced SIGINT capabilities into Japan as they proceeded north from the Philippines through the Ryukyu island chain to Okinawa through the first half of 1945. When the Army and Marines landed on Okinawa's shores in April-May, the Marines were accompanied by their 3rd Radio Intelligence Platoon, which intercepted Japanese communication and located the locations of the transmitters. From

⁵¹ Matthew M. Aid, 'US Humint and Comint in the Korean War', pp. 18-20, 28-29.

⁵² Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1169-1172.

September to December 1945, the Marines had SIGINT units on Okinawa (4th RI Platoon) and at Sasebo, Kyushu (1st and 5th RI Platoons) as part of the Occupation forces.⁵³ The HQs of the Army's 10th Corps and 77th Division each had a Provisional Radio Intelligence Company. According to the official history of the US Army Signal Corps in World War II, by May, detachments of the 13th Provisional Radio Intelligence Company, assigned to the 10th Corps HQ at Yomitan, deployed 'on Okinawa and adjacent islands in the Kerama Retto [Kerama Islands], had set up their intercept and DF (direction finding) facilities and were obtaining excellent fixes on enemy transmitter locations'.⁵⁴ It had a long-range DF system at Bolo Point, at the end of Yomitan Peninsula.⁵⁵ The 1st Operating Platoon of the 126th Signal Service Company of the US Army's Signal Security Agency arrived in Okinawa on 8 April, a week after the beginning of the invasion.⁵⁶ Other units were assigned to subordinate commands. For example, an intercept unit with the 17th Infantry Regiment monitored the radio communications of the opposing Japanese forces on 11 June, during the fighting for Yaeju-dake, a mountain in the southern part of the island.⁵⁷ The Army Air Force deployed its 1st Radio Squadron Mobile (RSM) to Kischinchin on the Motobu Peninsula on 14 July 1945. It used TC-8 and TC-9 SIGINT equipment. It transferred to Irumagawa Field outside Tokyo on 2 September as 'part of the post-war occupation force'.⁵⁸

In the case of the Navy, 'task force group[s] of volunteer intercept operators' from the Fleet Radio Unit Pacific (FRUPAC) at Wahiawa in Hawaii were deployed in radio shacks

⁵³ 'US Invasion Forces, Okinawa, 1 April 1945', at <http://usacac.army.mil/CAC2/CGSC/CARL/nafziger/945PDAA.pdf>; and Jim Quisenberry, 'The Evolution of Marine Cryptologic Units', *Marine Corps Cryptological Association*, at http://www.mccaonline.org/msb_evolution.html.

⁵⁴ George Raynor Thompson and Dixie R. Harris, *The United States Army in World War II. The Technical Services. The Signal Corps: The Outcome (Mid-1943 Through 1945)*, (Office of the Chief of Military History, United States Army, Washington, D.C.), p. 297.

⁵⁵ 'Oral History Interview with James H. Bartelt, Radio Intelligence, Army, World War II', Wisconsin Veterans Museum Research Center, OH 116, 1997 at http://www.wisvetsmuseum.com/collections/oral_history/transcriptions/B/Bartelt,%20James%20_OH%2016_.pdf.

⁵⁶ 'Brief History of Signal Intelligence on Okinawa', *Torii Typhoon [Official Newsletter of ASA Okinawa]*, (Vol. 4, No. 3), March 2005, p. 6, at <http://www.mlrsinc.com/asaokinawa/newsletters/ToriiTyphoon0305.pdf>; and 'Field Station Okinawa: Known as Torii Station', *INSCOM Journal*, October 1982, p. 9.

⁵⁷ Ian Gow, *Okinawa 1945: Gateway to Japan*, (Grub Street, London, 1986), p. 181.

⁵⁸ Bob W. Rush, *Historical Resume: Development and Expansion of USAFSS Capability in the Pacific Area, 1949-1957*, (US Air Force Security Service, Kelly AFB, San Antonio, Texas, n.d.), p. 1; Larry Tart, *Freedom Through Vigilance: History of U.S. Air Force Security Service (USAFSS). Volume I, USAFSS Headquarters History and Women in USAFSS*, (Infinity Publishing, West Conshohocken, Pennsylvania, November 2012), p. 16; Herbert C. Gimpl, *1st Radio Squadron Mobile (J), 1944-1945*, (US Air Force, Intelligence, Surveillance, Reconnaissance [ISR] Agency History Office), pp. 28-29, at <http://www.afisr.af.mil/shared/media/document/AFD-120215-032.pdf>.

aboard the flagships of the commanders of the 5th and 3rd Fleets during the Okinawa battle. In March, a FRUPAC unit assigned to the USS *Indianapolis*, then being used as the flagship of the 5th Fleet commander, Admiral Raymond Spruance, participated in the invasion of the Kerama Islands, a group of small islands about 30 km southwest of Okinawa, which was needed as a base to support US military forces in the lead-up to the invasion of Okinawa itself.⁵⁹

In late March, the *Indianapolis* began operations just off the Okinawa shore, moving backwards and forwards along the coast, bombarding the island while the FRUPAC unit monitored radio communications concerning attacks on the fleet by kamikaze pilots. When the *Indianapolis* was badly damaged in a kamikaze attack on 31 March, Admiral Spruance moved his flag to the old battleship USS *New Mexico*, with the FRUPAC task force group moving with him, continuing its communications interception activities. The *New Mexico* was hit by a kamikaze aircraft and severely damaged on 12 May 1945. The radio shack was destroyed, one of the FRUPAC members, Walter Rougeux, was killed, and nearly all the others in the shack were wounded. Rougeux is believed to be the only member of FRUPAC to lose his life in action during the Pacific War. Before it was knocked out of action, the unit 'had [from our intercepts] been able to inform the fleet that kamikazes were headed our way'.⁶⁰

A member of the FRUPAC unit which served aboard the USS *Indianapolis* and the USS *New Mexico* at this time has written that:

Probably at no time during the war was a task force group assigned to a flag at sea able to furnish tactical intelligence of more value to the fleet than during those days around Okinawa. By intercepting messages to and from kamikazes, sent in either plain language or simple code, my group was able to warn ships in the area well ahead of the time to be especially alert and prepare for attack because kamikazes had departed their bases and were enroute to the Okinawa area. Usually the warning could give an indication of how many planes to expect, and even their estimated time of arrival over the fleet. Then a warning that an attack was imminent was flashed to the fleet when we intercepted that final in-the-clear "Banzai" (Japanese cheer of triumph sent by kamikaze pilots just before diving to their death).⁶¹

In July 1945, after Okinawa had been captured, the NSG set up a radio interception and DF station in Quonset huts, near the small town of Aragusuku, in a field of rice paddies

⁵⁹ Hayden H. Huston, 'Task Force Duty During World War II', *NCVA Cryptolog*, Spring 1997, p. 3.

⁶⁰ Ibid., pp. 1-8; and Hayden H. Huston, 'Letters', *NCVA Cryptolog*, Summer 1998, p. 4.

⁶¹ Hayden H. Huston, 'Task Force Duty During World War II', p. 6.

and sweet potatoes, about two km inland from Sobe. It had an initial complement of five men, with Richard S. Katzenberger in charge. It was called a Naval Supplementary Radio Station until January 1947, when it was renamed Communications Support Activity No. 3256. It remained at Aragusuku until November 1949.⁶²

The US maintained several SIGINT activities on Iwo Jima during and after the famous battle for the island. Located in the western Pacific, about 1,200 km south-southeast of Tokyo, the island was able to monitor signals emanating from a wide arc around the southern air and maritime approaches to Japan. US Marine Corps SIGINT units accompanied the Marines during the ferocious fighting on the island in February-March 1945.⁶³ The USS *Indianapolis*, flag of the 5th Fleet, with its FRUPAC intercept team aboard, operated off the island throughout the battle, before proceeding to the Kerama Islands.⁶⁴ The US Army Air Force's 8th Radio Squadron Mobile (RSM) established an interception and DF Platoon on Iwo Jima soon after it was captured. An American-Japanese (Nisei) group 'was assigned Voice Intercept missions'.⁶⁵ The US Navy maintained a Supplementary Radio Station (SUPRADSTA) for radio intercept and DF activities on Iwo Jima from April 1945, when it moved from Tarawa, to December 1945.⁶⁶

When General Douglas MacArthur arrived at Atsugi Airfield, about 50 km southwest of Tokyo, on 30 August, he was accompanied by Major General Spencer B. Akin, his Chief Signal Officer and director of Central Bureau, the joint US-Australian SIGINT/cryptological organisation which served MacArthur's GHQ SWPA (South West Pacific Area).⁶⁷ Elements of Central Bureau, including the 126th Signal Service Company, had moved with MacArthur through New Guinea and the Philippines in 1944-45, before proceeding to Okinawa and Camp Stafford near Kyoto.⁶⁸ A FRUPAC unit was present at the signing of the surrender aboard the main deck of the USS *Missouri* in Tokyo Bay on 2 September 1945. The unit 'had

⁶² 'NSGA Hanza: 53 Years of Faithful Service', at <http://www.geocities.com/Tokyo/Flats/3244/hanza>; correspondence from George McGinnis, 18 August 1999; and 'NAVSECGRU Stations Past and Present', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/CI_Stations_past_and_present_alphabetical_3a.html.

⁶³ Judy Emerson, '2 Brothers at Iwo Jima, 1 Survived', *Rockford Register Star*, 11 November 2007, at http://iwo-jima-memoirs.tripod.com/marines_iwo_k_w_johnson2.html.

⁶⁴ Hayden H. Huston, 'Task Force Duty During World War II', p. 3.

⁶⁵ 'Japanese Code Intercept Unit WWII: History of 958th', *Ancestry.com*, at <http://freepages.military.rootsweb.ancestry.com/~braden/>.

⁶⁶ 'NAVSECGRU Stations Past and Present'.

⁶⁷ Desmond Ball and David Horner, *Breaking the Codes: Australia's KGB Network, 1944-1950*, (Allen & Unwin, St Leonards, NSW, 1998), pp. 61-64.

⁶⁸ 'Brief History of Signal Intelligence on Okinawa', p. 6.

a great view of the entire proceedings, looking down from outside our radio shack in the superstructure'.⁶⁹

MacArthur, in his new capacity of Supreme Commander Allied Powers (SCAP) in charge of the post-War Allied occupation of Japan, set up his HQ in the Dai-Ichi Mutual Life Insurance Building overlooking the Imperial Garden. His office was on the fifth floor, while the Signal Center was on the sixth.⁷⁰ He had two intelligence units also headquartered in the Dai-Ichi Building. One, the SCAP G-2, 'performed civil intelligence gathering and counterintelligence functions exclusively in Japan'. The second, Far East Command (FECOM) G-2, was concerned with 'monitoring military and political developments throughout the Far East', for which it relied largely on reporting from the Service SIGINT agencies. Within FECOM, access to SIGINT materials was 'strictly controlled by the GHQ FECOM Special Security Office (SSO)', located in Room 703, 'a guarded windowless office on the seventh floor' of the Dai-Ichi Building. According to Major General Charles Willoughby, MacArthur's Chief of Intelligence in charge of both the SCAP and FECOM G-2 units, the 'Daily Summary' produced by FECOM's Operations Section, based mainly on 'radio intelligence', was an 'outstanding' product.⁷¹ The ASA assigned a 'permanent liaison officer' to the FECOM G-2s Order of Battle Section in November 1949. However, given MacArthur's concentration on 'civil administration and restructuring of Japan', SCAP G-2 received most of his attention and most of the resources, with counter-intelligence activities being its highest priority.⁷²

Soviet intelligence agencies (both the MGB, a predecessor of the KGB, and the GRU, or Soviet military intelligence) had been very active in Japan before the Second World War. The GRU ran Richard Sorge and his espionage network in Tokyo from 1933 until Sorge's arrest in October 1941. In 1952, General Willoughby described this network as 'the most complete and successful espionage operation in Japanese history' and 'probably... the most successful... organization of Red Army Intelligence [GRU] anywhere in the world'.⁷³ Diplomatic cables between Moscow and the Soviet Embassy in Tokyo decrypted several

⁶⁹ Hayden H. Huston, 'Task Force Duty During World War II', p. 7.

⁷⁰ Mo Ludan, 'General MacArthur's Tokyo HQ', *Armchair General*, at <http://www.armchairgeneral.com/general-macarthur-tokyo-hq.htm>.

⁷¹ Major General C. A. Willoughby, *A Brief History of the G-2 Section, GHQ SWPA, and Affiliate Units*, (GHQ Far East Command, Tokyo, 1948), pp. 13-14.

⁷² Matthew M. Aid, 'US Humint and Comint in the Korean War', pp. 18-20, 28-29.

⁷³ C. A. Willoughby, *Shanghai Conspiracy: The Sorge Spy Ring*, (E. P. Dutton & Company, New York, 1952), pp. 24, 119.

years later at Arlington Hall in the *Venona* project show that both the MGB and GRU were still active in Tokyo in 1943-44, but nothing later than 31 December 1944 was ever decrypted.⁷⁴

The first Service SIGINT units arrived in the Tokyo area in September 1945. The 1st RSM, the Army Air Force's pioneer unit in Japan, arrived at Irumagawa Field, now called Iruma Air Base, about 50 km northwest of Tokyo, on 2 September. The HQ of the Army Security Agency Pacific (ASAPAC) was initially located in the Sanshin Building in downtown Tokyo, about 100 metres from MacArthur's HQ in the Dai-Ichi Building.⁷⁵ It moved to the First Tokyo Arsenal, a large concrete structure, on the northern side of the city, in 1946. The site had lain deserted since the end of the war, and parts were still 'a total mess' when the ASA arrived. It had 'a penetrating odor of mildew'.⁷⁶ An IBM unit with 10 punched-card machines and about 15 staff was set up in 1949. One group of seven ASA recruits spent 'several weeks of intense training in using IBM machines to create matrixes for coding and decoding' at an ASA training camp in Virginia before being assigned to ASAPAC at the First Tokyo Arsenal.⁷⁷ The site was later more commonly called Camp Oji, Oji being the name of the local neighbourhood.

The HQ ASAPAC's Operations Branch supervised the intercept operations of the ASA stations in the western Pacific region, performed processing and cryptanalytic activities, and coordinated the intelligence flow to higher commands. With regard to intercept operations, the HQ received a group of 72 newly-trained Morse intercept operators in early February 1950, and because it 'did not anticipate being able to absorb them into its intercept mission until July or August', it 'loaned' them out to other units. For example, 25 were posted to the USAFSS's 1st RSM at Johnson Air Base on 8 February.⁷⁸ In June 1950, the HQ ASAPAC had a staff of 'only 47 officers, 3 warrant officers and 192 enlisted men assigned'.⁷⁹

⁷⁴ 'Soviet Diplomatic, Tokyo: Cables Decrypted by the National Security Agency's Venona Project', at <http://www.wilsoncenter.org/sites/default/files/Venona-Tokyo-Diplomatic.pdf>.

⁷⁵ Boye De Mente, *The Incredible Power of Serendipity: Highlights of an Uncommon Life*, (CreateSpace Independent Publishing Platform, 2012), p. 73.

⁷⁶ Ibid., p. 74; and John Steele, 'Chitose as I Saw It: The Tokyo Arsenal', *ASA Chitose Association*, at <http://www.asachitose.com/page10.htm>.

⁷⁷ Ward Miller, in Earl Steinbicker, "'Oji Campu'", *Life's Little Adventures*, 2 January 2007, at http://lifeslittleadventures.typepad.com/lifes_little_adventures/2007/01/oji_campu_page_.html; and Boye De Mente, *The Incredible Power of Serendipity*, pp. 70-71.

⁷⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1151-1152.

⁷⁹ Matthew M. Aid, 'US Humint and Comint in the Korean War', p. 25.

The ASAPAC had a substantial cryptanalytic branch, which worked on the codes and ciphers of Soviet Army and Air Force in the Far East. An officer who was assigned to Camp Oji as a Russian cryptanalyst in 1949-51 has recalled that:

By 1949, we had broken the operational codes of two principal Soviet Air Force units – the 9th and 10th Russian Air Armies – in the Far East.

After meticulous analysis, I demonstrated that traffic emanating from Siberia was dummy traffic. This was the first instance of Soviet fabrication or bluffing during the Cold War.⁸⁰

Around 1948-49, Camp Oji operated a van equipped with DF equipment, which roamed around the Tokyo area ‘looking for suspicious signals’. ASA operators at Johnson Air Base were sometimes employed. The mission was evidently not transferred to the USAFSS when it succeeded the ASA at Johnson in 1949.⁸¹

The ASA had five SIGINT stations in Japan in the early post-War period. Chitose, in the southwest part of Hokkaido, soon became the site of its largest station, primarily concerned with monitoring Soviet Army signals in the Far East. Its second major station was Fushimi Momoyama, just south of Kyoto, which was occupied by the ASA’s 126th Security Service Company and called Camp Stafford in 1945. The company had been formed in Melbourne in 1942 and had gradually moved north through New Guinea, the Philippines and Okinawa in 1943-45.⁸² The company set up a DF station at Hakata around 1948. According to a former ASA officer who visited it on several occasions in 1949-51, ‘it consisted of a dozen men living in a Quonset hut... and operating out of a 6x6 hut on the edge of the golf course just off the end of the Fukuoka AFB runway’.⁸³ The 126th Signal Service Company also maintained a unit at Sendai, called Detachment 3. Material was sent by courier to Fushimi Momoyama for analysis. According to the ASA veteran, the unit was operational ‘in the Fall’ of 1949, when he arrived in Japan, but had probably been established some time before then.⁸⁴

⁸⁰ Cited in Michael Haydock, ‘The Cold War in Asia’, *VFW Magazine*, at http://www.americancoldwarvets.org/understanding_the_cold_war/The%20Cold%20War%20in%20Asia.doc.

⁸¹ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1142.

⁸² ‘Army Security Agency Reunions’, *Veterans Memorial Museum*, at <http://www.veteransmuseum.org/asa/htm>; and Robert L. Drury, ‘126 Signal Radio Intelligence Company, US Army Signal Corps, in Australia During WW2’, *Australia @ War*, at <http://www.ozatwar.com/usarmy/126sric.htm>.

⁸³ Correspondence from Wayne Gilbert, 9 December 1999.

⁸⁴ Correspondence from Wayne Gilbert, 3 April 2001 and 5 March 2001.

The fifth ASA station, in Okinawa, originated with the arrival of the 1st Operating Platoon of the 126th Signal Service Company on 8 April 1945, since when US Army SIGINT units have ‘maintained a continuous presence on the island’. The 125th Signal Service Company arrived in July, and occupied ‘the new site on the north site of Motobu Peninsula’. The 1st Operating Platoon of the 126th Signal Service Company remained at Shimabaku, southeast of Kadena, until July 1948, when its unit designation was transferred to Kyoto. It was replaced by the 111th Signal Service Company, previously located in Seoul, ‘which assumed the personnel and mission previously assigned to the 1st Operating Platoon of the 126th’.⁸⁵ The station had ‘a few intercept positions’ assigned to ‘monitoring low-level Chinese civil communications traffic’.⁸⁶ It was moved to Futenma in April-May 1951, where it hosted the 8603rd Area Administrative Unit. The 111th Signal Service Company was redesignated the 327th Communication Company on 25 October 1951.⁸⁷

The first US Navy SIGINT site in Japan (not counting Okinawa) was established at a US Army base at Ominato, northwest Honshu, on 15 December 1945, and involved a detachment of seven men from Adak, Alaska. Officially called the Communications Supplementary Activity Detachment Ominato, it was located in the headquarters building of a company of the Army’s 11th Airborne Division. It remained at Ominato until 22 April 1946, when it moved to Yokosuka, where it was located on the Tokyo Bay side of the base, not far from the dock area.⁸⁸

In Okinawa, the NSG’s station at Aragusuku was relocated to Tengan, on the southeast side of the island, about 25 miles northeast of Naha, in November 1949. Called Naval Communications Unit 37 (NCU-37), it was ‘a DF site only’. It was a ‘make-do’ facility, with no permanent buildings, and working conditions quite inferior to ‘the comparable Army arrangements’. It had a single Quonset hut, half of which served as a mess hall while the other half contained a reporting desk and an administration area. The remote DF site

⁸⁵ ‘Brief History of Signal Intelligence on Okinawa’, p. 6.

⁸⁶ David A. Hatch and Robert Louis Benson, ‘The Korean War: The SIGINT Background’, (NSA Korean War 1950-1953 Commemoration, National Security Agency, Fort George G. Meade, Maryland), at http://www.nsa.gov/korea/papers/sigint_background_korean_war.htm; and Matthew M. Aid, *The Secret Sentry: The Untold History of the National Security Agency*, (Bloomsbury Press, New York, 2009), p.29.

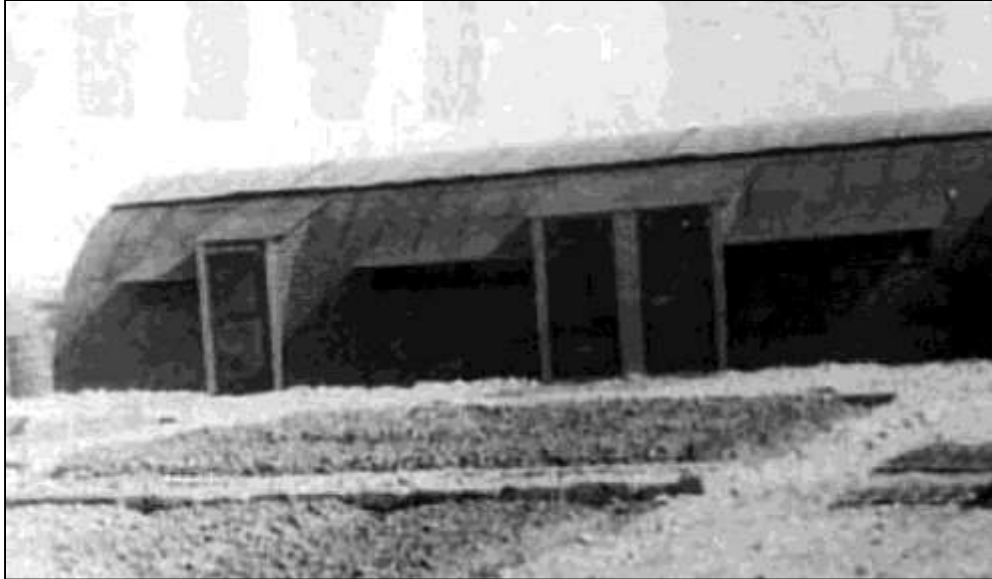
⁸⁷ ‘Brief History of Signal Intelligence on Okinawa’, p. 6.

⁸⁸ Jay R. Browne, ‘Kami Seya Update P-2’, *NCVA Cryptolog*, (Vol. 16, No. 2), Spring 1995, p. 1; and George McGinnis, ‘Early Kami Seya’, *NCVA Cryptolog*, (Vol. 18, No. 4), Fall 1997, p. 2.

was connected to the reporting desk by a voice land-line. It remained at Tengan until July 1955. The station used a van-mounted DAW-1 DF system.⁸⁹

⁸⁹ Richard S. Katzenberger, '1945-1946', *Closing Ceremony NSGA Hanzu: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 5, at http://www.navycthistory.com/images/Ok_page_5_big.jpg; correspondence from George McGinnis, 16 August 1999; and Roland C. Delmotte, 'Tengan, Okinawa', at http://www.answers.org/free/navyscpo/roland_intro.html.

Plate 1
Naval Supplementary Radio Station near Aragusuku, Okinawa,
August 1945



Source: 'NSGA Hanza: 53 Years of Faithful Service', *Torii Net*, at <http://www.oocities.org/tokyo/flats/3244/hanza.htm>.

Plate 2
The five founding personnel, Naval Supplementary Radio Station near Aragusuku,
Okinawa, August 1945



Source : 'NSGA Hanza: 53 Years of Faithful Service', *Torii Net*, at <http://www.oocities.org/tokyo/flats/3244/hanza.htm>.

Plate 3
1st Tokyo Arsenal, Camp Oji, Tokyo, c.1950



Photo by Bob Pickard.

Plate 4
**Headquarters of the US Army Security Agency Pacific,
Camp Oji, Tokyo**



Source: Earl Steinbicker, 'Part V. Life at Camp Oji, Japan', *Life's Little Adventures: My Army Experiences*, 11 July 2006, at http://lifeslittleadventures.typepad.com/lifes_little_adventures/2006/07/my_army_experie.html.

3. The Air Force's 1st RSM, Johnson Air Base, 1945-50

The 1st Radio Squadron Mobile (RSM) was the first and the most important Air Force SIGINT organisation in Japan in the period 1945-51. According to an official history of the USAFSS, 'the 1st RSM was the forerunner of USAFSS activity in the Pacific and Far East'.⁹⁰ Its major contribution during World War II was 'the provision of vital intelligence on enemy air services throughout the New Guinea, Dutch New Guinea, and Philippines campaigns'.⁹¹ It had been established in Port Moresby in 1943 and moved through the Philippines in 1944-45, and on 14 July moved to Kischinchin, Okinawa, where it participated in the peace negotiations with the Japanese.⁹²

It moved to Irumagawa Field, about 50 km northwest of Tokyo, on 2 September 1945 and was transferred from the ASA to the new USAFSS on 1 January 1949. Irumagawa Field was renamed Johnson Air Base in February 1946. In August 1949, it had six officers and 96 airmen, or one-third its authorised strength of 17 officers and 285 airmen. According to a former ASA sergeant who transitioned to the USAFSS at Johnson: 'The mission continued to be largely Russian Morse intercept and some Chinese. We also had direction finding capabilities'. A 'voice circuit' connected the 1st RSM with units at Okinawa and Kyoto, 'coordinating DF shots on certain targets to pinpoint their location'.⁹³

In Okinawa, a DF facility was operated by the 623rd Aircraft Warning and Control (AW&C) Squadron and located at Bashagawa, just below Radar Hill, on top of a ridge-line just north of Kadena Air Base. It was operational before 1948.⁹⁴

The USAFSS regarded the inherited site at Irumagawa as terrible. The 'squadron facilities were inadequate' and site was unsuitable for performance of its mission. It was situated within the main Air Force complex, and base communications antennas severely interfered with the USAFSS's antenna system.⁹⁵ In August 1949, 1st RSM HQ requested authorization to find an available alternative for re-location of the 1st RSM. On 7 August

⁹⁰ Bob W. Rush, *Historical Resume: Development and Expansion of USAFSS Capability in the Pacific Area, 1949-1957*, p. 1.

⁹¹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, (United States Air Force Security Service, Kelly AFB, San Antonio, Texas, 15 February 1963), p. xiv.

⁹² *Ibid.*, p. xiv.

⁹³ Bob W. Rush, *Historical Resume*, p. 1; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1139-1142.

⁹⁴ Walter James Murray, 'Okinawa: Recollections 1948-1949', at http://www.bobbrohrer.com/pdf_files/okinawa_by_jim_murray.pdf.

⁹⁵ Larry Tart, *Freedom Through Vigilance, Volume III*, p.1149.

1949, the commanding officer informed the Assistant Chief-of-Staff Intelligence (A-2) of FEAF [Far East Air Force] that:

The present location of the 1st Radio Squadron, Mobile at Johnson AFB does not meet the present operational and technical requirements for this organisation and will be completely inadequate for the planned future expansion of the unit.⁹⁶

He stated that 'future plans' required a strength of 50 officers and 550 airmen.⁹⁷ The 1st RSM wanted to relocate to Nagoya, about 350 km southwest of Tokyo, but this was rejected by FEAF. Instead, it moved 'to a more remote location on Johnson Air Base'.⁹⁸ By the end of August, it had eleven officers and 135 airmen, and by February 1950, it had gained another 44 airmen. It had eleven officers and 182 airmen in April 1950, and 243 airmen on 30 June 1950.⁹⁹

By early 1950, the 1st RSM was actively planning to establish detachments elsewhere around Japan. In March-April, 'potential additional 1st RSM intercept sites' were investigated at Misawa, Wakkanai, and Ashiya Air Base in northern Kyushu.¹⁰⁰ A survey unit called Team A was deployed to Misawa on 1 April 1950. It used a TC-9 COMINT set housed in a HO-17 shelter mounted on a 6x6 truck. Five additional Morse intercept operators were sent on 7 April. They found 'a vast signal environment of interest at Misawa', and the unit 'just grew. It just morphed into a detachment'.¹⁰¹

In the case of Wakkanai, a 'hearability' study and site survey was conducted in April-May 1950. The survey team departed from Johnson Air Base aboard a freight train on 22 April, with two HO-17 shelters and two 6x6 trucks. The HO-17s housed a TC-9 Tactical Communications system, a BC-342 HF receiver (2 to 18 MHz), and a Hammarlund VHF AM receiver. The team 'confirmed the existence of a rich target signal environment that could be exploited at Wakkanai'. It was within intercept range of numerous Soviet Air Force bases located in the Far East Military District to the west, Sakhalin Island to the north, and the Kurile Islands to the east. The team returned to Johnson Air Base on 20 May 1950.

⁹⁶ 'Request for Relocating 1st Radio Squadron, Mobile', 7 August 1949, in *Unit History: 1st Radio Squadron, Mobile, U.S. Air Force Security Service, 1-31 August 1949, 1 March-30 April 1950*, (SRH-137, U.S. National Archives and Records Administration, Washington, D.C.).

⁹⁷ Ibid.

⁹⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p.1149.

⁹⁹ Ibid., pp. 1150-1153.

¹⁰⁰ Ibid., p. 1150.

¹⁰¹ Ibid., pp. 1163-1164.

However, plans to activate an intercept detachment at Wakkanai were interrupted by the outbreak of the Korean War.¹⁰²

On 6 February 1950, the ASA attached a contingent of 25 Morse intercept operators to the 1st RSM at Johnson. However, they were just ‘becoming proficient and contributing to the unit mission’ when the Korean War started. The ASA requested them back, ‘leaving a significant void in the squadron’s operator manpower pool’.¹⁰³

¹⁰² Ibid., pp. 1166-1169.

¹⁰³ Ibid., pp. 1151-1152.

4. Chitose, Hokkaido, 1945-51

ASA elements were first posted to Chitose, about 35 km southeast of Sapporo, in the southwestern part of Hokkaido, in 1945. From 1946 to 1949, they were located in the area later known as Chitose 1. In January 1950, ASA's 51st Signal Service Detachment was transferred to Chitose. It was redesignated the 356th Communications Reconnaissance Company in early 1951. In April 1951, it was redesignated the 8612th Army Administrative Unit and became an ASA Field Station, also called Kuma Station. It consisted of three sections: Chitose I, south of the city of Chitose, which was occupied by the HQ, HQ personnel and US military dependents; Chitose II, east of the city, which comprised the transmitter and receiver/DF sites; and Chitose III, northeast of the city, which contained the Operations area.¹⁰⁴

¹⁰⁴ U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, (US Army Security Agency, Arlington Hall, Virginia), p. 352; and Roy Van Order, 'History of Kuma Station, Chitose, Hokkaido, Japan', *ASA Chitose Association*, at <http://asachitose.com/page8.htm>.

5. Yokosuka and Kannon Zaki, 1946-50

NSG HQ had decided in 1946 that the emerging Soviet threat required a large permanent presence in Japan, and in November 1946 had started formulating plans for expanding operations at Yokosuka. Other steps were taken, including the deployment of an NSG detachment aboard the USS *Estes*, the 7th Fleet communications flagship, but austerity programs delayed any expansion for another 18 months.¹⁰⁵

New and much more capable antenna systems were procured in 1948, and the Yokosuka station was designated Naval Communications Unit (NCU) 35 on 22 November 1948. The first rhombic antenna was installed in October, and operational testing began in November. A complete rhombic field had been constructed by February 1949. The distance from the rhombics to the operations building (Building 69) was 'about one-half mile', so that the 'RF loss in the coaxial cable feed line [exceeded] the gain from the rhombic antennas'. A DF function was assigned to the unit in late 1948, and the DF site was in full operation, using 'DAB' and 'DAG' receivers, by February 1949. An Advanced Exploitation Unit (AEU) moved from Guam to Yokosuka in February 1949.¹⁰⁶

By July 1949, the NSG had formulated another plan to expand operations in Japan, which could not be accommodated within the space available at Yokosuka. Several sites were surveyed for the relocation of the Yokosuka unit, and a suitable area was found at Kannon Zaki (also called Obara Dai), about five miles south of Yokosuka. However, it was decided by the Navy authorities in Washington that the search should be continued for an even larger site, while Kannon Zaki was developed as an interim measure.¹⁰⁷

The Kannon Zaki site was completed in January 1951. The Yokosuka station retained the command, signals interception and cryptographic functions, but other functions, including DF and radio finger-printing (RFP), were moved to Kannon Zaki. The Kannon Zaki DF facility operated as part of the Pacific HF DF Network, on behalf of Yokosuka, until it was closed in August 1952.¹⁰⁸

¹⁰⁵ Jay R. Browne, 'Early Development', *NCVA Cryptolog*, Fall 1997, p. 26; and Jay R. Browne, 'Kami Seya Update P-2', p. 1.

¹⁰⁶ Jay R. Browne, 'Kami Seya Update P-2', p. 1; George McGinnis, 'Early Kami Seya', p. 2; Jay R. Browne, 'Early Development', p. 26.

¹⁰⁷ Jay R. Browne, 'Early Development', p. 26.

¹⁰⁸ *Ibid.*, p. 26; Jay R. Browne, 'Kami Seya Update P-2', p. 1; and correspondence from George McGinnis, 7 May 2000.

In July 1950, NSG began making plans to shift the net control of the Pacific HF DF Network to Yokosuka from Wahiawa in Hawaii. To meet the new requirements, buildings were renovated at Yokosuka and the facilities at Kannon Zaki were expanded, and NCU 35's personnel increased to 38 officers and 392 enlisted men. The Pacific HF DF net, which was activated on 2 October 1950, comprised eight stations:

- Yokosuka (Net Control)
- Adak, Alaska
- Tengan, Okinawa
- Guam
- Wahiawa, Hawaii
- Bainbridge Island, Washington
- Skaggs Island, California
- Imperial Beach, California.¹⁰⁹

¹⁰⁹ Jay R. Browne, 'Early Development', p. 26.

6. The Korean War, 1950-53

On 25 June 1950, the North Korean People's Army (NKPA) swarmed across the 38th Parallel and initiated the Korean War. The US SIGINT establishment was caught by surprise. As an official report noted in June 1952, 'COMINT failed to warn us of the attack on South Korea'. The US SIGINT authorities were 'so poorly prepared to handle Korean traffic when the invasion occurred' that it took several months to establish an effective SIGINT capability in the theatre. This report led to the creation of the National Security Agency (NSA) in October 1952.¹¹⁰ Dr Louis Tordella, former Deputy Director of the NSA, later stated that North Korea had not been targeted for COMINT collection because of 'administrative confusion and inadequate resources'.¹¹¹

In fact, the Armed Forces Security Agency (AFSA) had initiated 'North Korean collection' on 21 April 1950, when it 'tasked an intercept position in Japan to search for North Korean communications'. A second position was added a few weeks later. About 220 messages were collected by the two operators before the war began. On the analytic side, in June the AFSA at Arlington Hall had 'one traffic analyst working on North Korean communications part-time, one part-time cryptanalyst, and one Korean linguist, who was actually a Japanese linguist who 'had been studying Korean in his spare time since July 1949'. They were able to produce little intelligence from the small volume of available intercepts.¹¹² By November 1950, the AFSA had 36 analysts and linguists working on North Korean traffic. It had 49 by early 1951, and 87 by March 1953.¹¹³ By 'the end of July 1950, AFSA was solving and translating over one-third of all intercepted North Korean enciphered messages'.¹¹⁴

In June 1950, the US had only seven intercept/DF stations in Japan (including Okinawa). The Army's ASA maintained four (located at Fushimi Momoyama, Chitose,

¹¹⁰ George A. Brownell, *The Origin and Development of the National Security Agency*, pp. 23, 42.

¹¹¹ Matthew M. Aid, 'US Humint and Comint in the Korean War', pp. 38-39.

¹¹² Thomas L. Burns, *The Origins of the National Security Agency, 1940-1952*, (Center for Cryptologic History, National Security Agency, Fort George G. Meade, Maryland, 1990), p. 84, at http://www.nsa.gov/public_info/_files/cryptologic_histories/origins_of_nsa.pdf; and Jill Frahm, 'So Power Can Be Brought into Play: SIGINT and the Pusan Perimeter', (NSA Korean War 1950-1953 Commemoration, National Security Agency, Fort George G. Meade, Maryland), at http://www.nsa.gov/about/cryptologic_heritage/center_crypt_history/publications/sigint_and_pusan_perimeter.shtml.

¹¹³ David A. Hatch and Robert Louis Benson, 'The Korean War: The SIGINT Background'.

¹¹⁴ Matthew M. Aid, *The Secret Sentry: The Untold History of the National Security Agency*, p. 27.

Hakata and Sendai); the Navy maintained NCU-35 at Yokosuka and the DF unit (NCU-37) at Tengan in Okinawa; the USAFSS had only its 1st RSM at Johnson Air Base, which was considerably under-strength.

Initially, the US intercept stations in the Far East ‘were ordered to concentrate their Comint collection efforts, not against North Korea [with the exception of a few intercept positions], but rather against Soviet military radio traffic in the region’.¹¹⁵ As an official USAFSS history has noted, ‘at first U.S. officials were primarily concerned about possible Soviet reaction to the invasion, particularly their reaction to U.S. intervention.’¹¹⁶ It took two weeks before US concerns about possible Soviet military intervention were relieved and COMINT collection priorities ‘shifted to North Korean military activities’.¹¹⁷

The AFSA established a Field Activity, Far East (FAFE) at Yokosuka around September 1950, which provided direct SIGINT support to Far East Command in Tokyo. It was initially commanded by Captain Wesley A. Wright, the commanding officer of NCU-35 and a ‘veteran Navy cryptologist’. He was succeeded by Captain Thomas H. Dyer in October 1952, when it became NSA Field Activity, Far East. Dyer had been ‘the lead cryptanalyst’ at Station Hypo, the US Navy’s signals interception and cryptanalytic intelligence unit, also known as the Fleet Radio Unit Pacific (FRUPAC) at Pearl Harbor in Hawaii from 1936 to 1945. He moved to the NSA HQ at Fort Meade in February 1954. The NSA Activity had only a small staff, which consisted almost entirely of NCU-35 personnel.¹¹⁸

The HQ ASAPAC remained at the First Tokyo Arsenal (Camp Oji), also designated the 8621st Army Administrative Unit (AAU), through the Korean War.¹¹⁹ An ASA veteran who served at the First Tokyo Arsenal during the war has said that when he arrived in July 1950, ‘the entire roof was a forest of antennas, some of which reached one hundred feet high’.¹²⁰ The cryptanalytic branch was located on the third floor of the 3-storey building. The Communications Center was on the second floor. According to another ASA veteran who served at Camp Oji in 1949-52: ‘We were heavily involved in the ASA mission before and

¹¹⁵ Matthew M. Aid, ‘US Humint and Comint in the Korean War’, p. 43.

¹¹⁶ Bob W. Rush, *Historical Resume*, p. 5.

¹¹⁷ Matthew M. Aid, ‘US Humint and Comint in the Korean War’, p. 43.

¹¹⁸ ‘Captain Thomas H. Dyer’, at <http://www.navy.mil/midway/dyer.html>; and Matthew M. Aid, ‘US Humint and Comint in the Korean War’, p. 50.

¹¹⁹ Leroy W. Gardner, in ‘8610 AU – ASA Field Station’, *Korean War Project*, at <http://www.koreanwar.org/html/units/8610au.htm>.

¹²⁰ W. T. Naud, *Oji: Spy Girls at the Gate*, pp. 39-40.

during the Korean War and produced some significant output that was very useful to the war effort'.¹²¹

The AFSA and the HQ ASAPAC worked together 'very closely' throughout the war, although there was considerable duplication of effort. An NSA historical study has described the relationship as follows:

It is sometimes difficult to determine exactly who processed a particular message, AFSA or ASAPAC. However, throughout the war, the two organizations cooperated very closely, sharing all analytical results. Although, because ASAPAC was closer to the action, their reports may have arrived in the field before AFAS's, one unit always assisted the other. At first, ... there was a great deal of overlap between ASAPAC and AFSA translation efforts. When the translation times for both entities are stated on reports, they are usually only minutes apart. A plan was initiated later in the war to divide the work, moving as much of the translation to the field as possible in order to speed up turn-around time. Most of the long-term analytic effort, however, remained at AFSA throughout the war, and all results were passed to ASAPAC and the field elements as quickly as possible.¹²²

The Service SIGINT agencies also initiated direct contact soon after the outbreak of the war. In July 1950, direct teletype links were established between the 1st RSM at Johnson Air Base, the HQ ASAPAC at Camp Oji, and NCU-35 at Yokosuka, which 'were used to pass intercepted radio traffic back and forth among the units'.¹²³ However, there was little coordination of operations, at least until June 1952, when the USAFSS's 6905th Security Flight was established at Yokosuka.¹²⁴ With regard to HF DF operations, the AFSA 'was unable to force a common DF net control for the Korean problem for more than a year'. By the end of 1950, the USAFSS and the ASA had agreed to link their DF stations (at Johnson Air Base, Misawa, Hakata and Sendai), but 'the Navy kept its DF system separate'.¹²⁵

The FECOM HQ in the Dai-Ichi Building in downtown Tokyo also received COMINT from the British Government Code and Cypher School (GC&CS) SIGINT station at Hong Kong.¹²⁶ This was initially located at Tai Po Sai, near Kai Tak airport, but

¹²¹ Ward Miller, in Earl Steinbicker, "Oji Campu".

¹²² Jill Frahm, 'So Power Can Be Brought into Play: SIGINT and the Pusan Perimeter'.

¹²³ Matthew M. Aid, 'US Humint and Comint in the Korean War', p. 50.

¹²⁴ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1344.

¹²⁵ Thomas R. Johnson, *American Cryptology during the Cold War, 1945-1989. Book I: The Struggle for Centralization, 1945-1960*, (Center for Cryptologic History, National Security Agency, 1995), p. 30, at <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB260/nsa-1.pdf>.

¹²⁶ Major Patrick C. Roe, 'The Ghost Armies of Manchuria', in Jacob Neufeld and George M. Watson (eds), *Coalition Air Warfare in the Korean War 1950-1953*, (U.S. Air Force History and Museums Program, Washington, D.C., 2005), p. 230.

was moved to a site at Little Sai Wan, on the northern coast of Hong Kong Island, in February 1951.¹²⁷

¹²⁷ Desmond Ball, 'Over and Out: Signals Intelligence (Sigint) in Hong Kong', *Intelligence and National Security*, (Vol. 11, No. 3), July 1996, p. 477.

7. ASA stations in Japan during the Korean War

The ASA had two main intercept stations in Japan at the outset of the Korean War. The largest station, at Chitose in Hokkaido, maintained by the 8612th Army Administrative Unit (AAU), was concerned with intercepting Soviet Army Morse radio traffic in the Far East. During the war, the 8612th Unit ‘functioned as a supporting unit responsible to the Chief, ASA Far East [ASAPAC]’.¹²⁸

The second station was Camp Stafford, at Fushimi Momoyama, near Kyoto, maintained by the 126th Signal Service Company. It first intercepted North Korean radio traffic on the morning of 29 June, four days after the North Korean invasion began. However, because of the shortage of linguists at the AFSA, this message was not translated until 3 July.¹²⁹ In April 1951, the 126th Signal Service Company was assigned to Korea and renamed the 326th Communications Reconnaissance Company (CRC), and the SIGINT activity was redesignated Field Station 8610 Army Administrative Unit (AAU). It was relocated to Fukakusa, about 8 km away, in June 1952. Camp Stafford was then occupied by the 326th and 327th CRCs.¹³⁰ The 126th Signal Service Company also established two HF DF stations. The first, at Hakata, was set up around 1948, and the second, at Sendai, in late 1949.¹³¹

The ASA began planning for the establishment of ‘a permanent ASA installation’ on Okinawa in early 1949. The 111th Signal Service Company was stationed at Shimabaku in 1948, but it was still considered a temporary deployment. Field Station 8603 Army Administrative Unit (AAU) was organised at Futenma on 1 April 1951, but that site was only used for two years. The 8603rd AAU moved to Sobe (later called Torii Station) in 1953.¹³²

By 1950, the Okinawa station had ‘a few intercept positions... which were monitoring low-level Chinese civil communications traffic, primarily unencrypted Chinese government cables and the communications traffic of the Chinese Railroad Ministry’. These intercepts were sent to the AFSA at Arlington Hall for translation and analysis. In July-October 1950, the AFSA was able to report on several occasions, based on Okinawa

¹²⁸ Roy Van Order, ‘History of Kuma Station, Chitose, Hokkaido, Japan’.

¹²⁹ Matthew M. Aid, *The Secret Sentry*, p. 26.

¹³⁰ Correspondence from Wayne Gilbert, 9 December 1999; and ‘Veterans Memorial Museum: Army Security Agency Reunions’.

¹³¹ Correspondence from Wayne Gilbert, 9 December 1999, 5 March 2001 and 3 April 2001.

¹³² ‘Field Station Okinawa: Known as Torii Station’, pp. 9-10.

intercepts of Chinese civil communications, that major PLA units were being moved from southern and central China to Manchuria and ‘toward the Sino-Korean border areas’. However, it was not enough to prevent ‘complete surprise’ when Chinese forces entered the war on 25 October.¹³³

With regard to the ASA’s communications security (COMSEC) activities, the 50th Signal Security Detachment, which was organised in Tokyo before the war, was quickly dispatched to Korea, where it was the first ASA activity ‘to operate in a tactical situation’. It returned from Korea in May 1951 and was stationed at Camp Matsushima, just north of Sendai. It was redesignated the 851st Communications Reconnaissance Detachment in October 1951. It moved to the HQ ASAPAC at Camp Oji in September 1952. It was transferred back to Camp Matsushima in June 1955, where it stayed for only five months before being moved to Camp Fuchinobe.¹³⁴

¹³³ David A. Hatch and Robert Louis Benson, ‘The Korean War: The SIGINT Background’; and Matthew M. Aid, *The Secret Sentry*, pp.29-33.

¹³⁴ Dave Whitney, ‘Torii/Sobe/Okinawa COMSEC Operations’, p. 3.

Plate 5
126th Signal Service Company,
Camp Stafford, Fushimi Momoyama, c. 1946



Source: *Momoyama Trauma - Korean War Stories*,
<http://www.momoyamatrauma.com/FIL187.jpg>

Plate 6
8610th AAU SIGINT station at Fukakusa, 1952



Source: Photo by Glen Drellishak, *Momoyama Trauma - Korean War Stories*, at
<http://www.momoyamatrauma.com/stories7.htm>

Plate 7
Entrance to the 8610th AAU station, Fukakusa, 1952



Source: Photo by Glen Drellishak, *Momoyama Trauma - Korean War Stories*, at <http://www.momoyamatrauma.com/stories7.htm>.

8. The USAFSS during the Korean War

In the case of the USAFSS, the FEAF in Tokyo ‘ordered that the 1st RSM go into a full war status immediately’ on 27 June.¹³⁵ According to Matthew Aid, ‘the delay in bringing American COMINT units in the Far East to full alert status was due to the fact that it took almost two full days before FECOM determined that the NKPA incursion across the 38th Parallel was not a raid’.¹³⁶ Panic ensued at Johnson Air Base, the USAFSS’s prime SIGINT station in Japan. The 1st RSM commander, Major Lowell R. Jameson, ‘in the best tradition of the wild west,... ordered all the squadron’s vehicles placed in a circle around the base football field with their bumpers touching. The squadron’s personnel were hastily armed with whatever weapons were available and placed inside the circle to await the impending [North Korean] assault’.¹³⁷

By September 1950, the 1st RSM had 27 officers and 408 airmen. It had expanded considerably since June, but was still under-manned. Moreover, ‘the headcount was deceiving – the vast majority of the men, including newly arrived officers and senior NCOs, lacked communications intelligence field experience’.¹³⁸

In addition to its Morse intercept operations, the 1st RSM moved fairly quickly to develop capabilities for intercepting Soviet Air Force voice communications. Three Privates First Class who had just ‘completed a 12-month Russian language course’ at the Army Language School in Monterey, California, were assigned to the unit in July. They were sent to the NSG’s station at Yokosuka (NCU-35) for several weeks for ‘intercept training’. They formed a voice intercept section within the 1st RSM around September 1950.¹³⁹ The section ‘made one of the most important contributions to signals intelligence in its history’ on 30 March 1951, when intercepts of MiG-15 radio traffic confirmed that at least some of the fighters were being flown by Soviet pilots at the direction of Soviet ground controllers. The 1st RSM was awarded a Meritorious Unit Commendation for the period 26 November 1950

¹³⁵ Bob W. Rush, *Historical Resume*, p. 5.

¹³⁶ Matthew M. Aid, ‘US Humint and Comint in the Korean War’, p. 42.

¹³⁷ Ibid; and T. Wayne Babb, *Honto! The Unofficial History of the USAF Security Service at Misawa, Japan*, (2009), p. 177.

¹³⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1153.

¹³⁹ Ibid., pp. 1162-1163.

to 18 July 1951, largely because of its success in maintaining ‘voice intercept coverage of MiG operations over Korea’.¹⁴⁰

The 1st RSM continued to provide Order-of-Battle intelligence concerning the Soviet and Chinese Air Forces. One veteran, for example, has said that: ‘During my tenure [January 1952-May 1954] our main job was to identify Russian and Chinese strengths by determining where their bases were, how many and what type of aircraft they had, and how long it would take them to scramble and intercept a hostile. We did this by monitoring their radar stations’.¹⁴¹

In terms of new facilities and enhanced signal coverage, however, the USAFSS was fairly slow to react to the events in Korea. Some moves were made in late 1950, but most of the major changes, such as the establishment of a higher-level Security Group at Johnson, a second RSM at Ashiya, Kyushu, and of a detachment at Wakkanai, were not implemented until August-September 1951, some 14-15 months after the start of the war. Through the course of the war, the USAFSS experienced a myriad of organisational changes. As the SIGINT commitment expanded, and with the newly independent US Air Force and USAFSS just getting started, unit designations changed frequently and confusingly.

The first move was for the 1st RSM to establish detachments elsewhere in Japan and in South Korea. Detachment 12 was activated at Ashiya on 1 November 1950, Detachment 11 at Misawa on 10 March 1951, a new Detachment 12 at Wakkanai in August 1951, and Niigata later in 1951. In South Korea, they were located at Taegu and Seoul.

Detachment 11 at Misawa originated with Team A, which conducted the site survey in April 1950. A planning team arrived at Misawa Air Base on 10 August to ascertain a specific location for the detachment. The Misawa base commander allocated ‘a remote plateau area in the northwest quadrant of the base’, west of Anenuma Lake and south of Lake Ogawara, for ‘the new USAFSS intercept site’, about five km from the main base. It became known as ‘Security Hill’ or just ‘The Hill’. Team A was housed in a Quonset hut on the main base, but used a HO-17 van/shelter on Security Hill for operations. It was equipped with two TC-9 HF receivers and two MC-88 typewriters. However, the TC-9 system antenna mast ‘only reached a height of 30 feet’, which was unsatisfactory. A DF station was

¹⁴⁰ Matthew M. Aid, *The Secret Sentry*, pp. 35-36; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1266-1267.

¹⁴¹ Ronald D. Schultz, ‘Updates [on the 1st Radio Squadron and Misawa]’, at <http://www.bobnfumi.com/1radioupdate.html>.

activated on 6 September 1950. It was located near the runway on the main base, and worked to the DF net control station at Johnson.¹⁴²

In early 1951, Detachment 11 was given two old houses and two Quonset huts; Operations shared one of the houses with living quarters. Antennas were strung from 75-foot masts. The operations compound was declared mission-ready on 21 January 1951.¹⁴³

When it became Detachment 11 on 31 March 1951, it had an assigned strength of one officer and 28 airmen. It established a new operations compound around September 1951, consisting of 'three large 26-foot vans, one maintenance shop truck and one Jamesway [Quonset] hut'. By the end of 1952, the compound consisted of 'four vans backed together'.¹⁴⁴ The DF system was moved to a new site, with another HO-17 shelter, about 100 metres from the operations building. It was manned by only one person, with three 8-hour shifts per day. It 'was not fun duty'. The first 'permanent' operations building (S-1555), located between the interim operations compound and the antenna field to the west, was opened in December 1952.¹⁴⁵

The 1st RSM moved from Johnson to Misawa, 'lock, stock and antennas', in December 1952 and January 1953. It officially opened at Misawa on 26 January 1953. It subsumed the personnel, facilities and resources of Detachment 11. Its principal mission 'continued [to be] intercept coverage of Soviet air force activities in the Far East Military District'.¹⁴⁶

On 18 July 1951, the USAFSS directed the 1st RSM to establish a detachment at Wakkanai, where the site survey team had found 'a rich target signal environment' in April-May 1950. It was designated Detachment 12 of the 1st RSM on 1 August 1951. It began with just 13 officers and enlisted men, led by Captain J. C. Thigpin, who thence became the first commander of the Wakkanai SIGINT station. Eight Morse intercept operators arrived on 8 August, and the station became operational the next day. A VHF intercept capability was added soon after Soviet military aircraft began using the VHF range for communications in August 1952. Detachment 12 was joined in November 1952 by a unit from Misawa called

¹⁴² Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1169-1172.

¹⁴³ Ibid., p. 1172.

¹⁴⁴ Ibid., pp. 1178, 1182.

¹⁴⁵ Ibid., pp. 1172-1174, 1182-1183; and T. Wayne Babb, *Honto!*, p. 395.

¹⁴⁶ Ibid., p. 1184; and T. Wayne Babb, *Honto!*, pp. 152-153.

Operations B of Detachment 11. In January 1953, when the HQ 1st RSM was established at Misawa, the Wakkanai units were consolidated and designated Flight A of the 1st RSM.¹⁴⁷

Detachment 4 of the 1st RSM was set up at Niigata, on the west coast of Honshu across the Sea of Japan from Vladivostok, in late 1951. It initially worked out of two HO-17 containers, with doors facing each other a few feet apart and an entrance ‘foyer’ between them. Each HO-17 had two intercept positions, with TC-9 sets. It became Flight A of the 1st RSM when the latter moved to Misawa in 1953.¹⁴⁸

The 6920th Security Group was activated at Johnson Air Base in September 1951, and assumed command of all USAFSS facilities in the Far East on 4 November 1951. It displaced the 1st RSM as the senior USAFSS unit in the region, although the 1st RSM remained at Johnson and continued to command operations at the intercept and DF stations. It ‘was established to perform senior echelon functions for the rapidly increasing Security Service effort in [the Far East]. Personnel were drawn from the 1st RSM’.¹⁴⁹

In order to coordinate operations with the NSG and the ASA in the Far East, the 6920th Security Group established the 6905th Security Flight at the NSG’s station at Yokusaka on 1 June 1952, and maintained Flight A at the 12th ASA Field Station at Chitose in 1953-54. The 6920th SG moved to ‘more spacious accommodations’ at Shiroy Air Base, about 75 km from Johnson, on the other side of Tokyo, in April 1954.¹⁵⁰

In July-August 1953, the 6920th Security Group at Johnson played the primary role in the processing and analysis of SIGINT concerning the shoot-down of a USAF RB-50 reconnaissance aircraft on a VHF intercept mission over the Sea of Japan off the southern coast of the Soviet Maritime Military District on 29 July. The initial intelligence received by the Group from its forward units consisted only of ‘fourteen positions reported by Soviet air surveillance radar tracking stations’, which showed the RB-50’s flight route up until its disappearance. Over the next several days, COMINT provided details of Soviet

¹⁴⁷ ‘Wakkanai Air Station’, 15 August 1972, at <http://6986thrms.homestead.com/Misc2.html>; Bob Lepper, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’, *Wakkanai Air Station*, at <http://www.wakkanaiwasmyhome.citymax.com/page/page/424267.htm>; Larry Tart and Robert Keefe, *The Price of Vigilance*, pp. 145, 202; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1166-1168, 1281-1284, 1603.

¹⁴⁸ Billy A. Leopard, ‘Updates [on the 1st Radio Squadron and Misawa]’, at <http://www.bobnfumi.com/1radioupdate.html>; Larry Tart, *Freedom Through Vigilance, Volume III*, pp.1311-1312; and T. Wayne Babb, *Honto!*, pp. 172-174.

¹⁴⁹ Bob W. Rush, *Historical Resume*, p. 3.

¹⁵⁰ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1344.

reconnaissance flights in the area of the incident, and identified the Soviet Air Army unit involved in the shoot-down.¹⁵¹

In February 1951, the USAFSS activated the 15th RSM at Brooks Air Force Base in Texas, and moved it to Ashiya Air Base in July-August. Ashiya is located on the northeast side of Kyushu, about 40 km northeast of Fukuoka and is the closest point on the main islands to Korea. The area had been surveyed by a USAFSS team in March 1950 'to determine the possibility of establishing a detachment there'. It used a TC-9 intercept system, and 'copied signals of interest that the squadron's intercept operators could not reliably intercept from Johnson AB'. The USAFSS approved establishment of a detachment there on 13 April 1950, but no action to send personnel or equipment was taken for several months. A ground-breaking ceremony was held at the site on 14 September 1951, and Detachment 12 of the 1st RSM was activated there six weeks later. It was used by the 1st RSM 'to intercept Soviet air force targets in Russia's southern maritime district'. It was organised into an intercept unit, equipped with TC-9 units, a message centre, and a traffic/analysis (T/A) unit. Detachment B of the 1st RSM maintained a DF station, part of the HF DF network controlled from Johnson Air Base. By January 1951, 'it had become the primary USAFSS intercept station in the Far East for Russian voice communications'.¹⁵²

The 15th RSM moved into the facilities set up by Detachment 12. Indeed, many members of Detachment 12 decided to join the 15th RSM rather than return to Johnson Air Base. This meant that 'the initial group of 15th RSM intercept operators and analysts began contributing to the intercept mission right away'. The squadron had an authorized strength at this time of 197 men.¹⁵³

The 15th RSM was assigned all USAFSS detachments in Korea. In addition, Detachment 152 of the 15th RSM was set up at Kadena Air Base in Okinawa in May 1952.¹⁵⁴ It moved to Yomitan, north of Kadena, in September 1952, where it was located 'on a hill

¹⁵¹ Michael L. Peterson, 'Maybe You Had to Be There: The SIGINT on Thirteen Soviet Shootdowns of U.S. Reconnaissance Aircraft', *Cryptologic Quarterly*, (Vol. 12, No. 2), Summer 1993, pp. 114-15, at https://www.nsa.gov/public_info/_files/cryptologic_quarterly/maybe_you_had_to_be_there.pdf.

¹⁵² 'Request for Relocating 1st Radio Squadron, Mobile', 7 August 1949; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1222-1224, 1245.

¹⁵³ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1316-1317.

¹⁵⁴ Bob W. Rush, *Historical Resume*, p. 11.

overlooking the Army Security Agency site on Red Beach [Torii Station, Sobe]'. It had both intercept and DF capabilities.¹⁵⁵

The 15th RSM was awarded the Air Force Outstanding Unit Award in 1954. The citation said that:

The 15th Radio Squadron Mobile distinguished itself by extraordinary achievement in the performance of outstanding service in providing information for tactical control of combat aircraft of the Fifth Air Force in the Korean conflict from 1 November 1952 through 27 July 1953.... The 15th Radio Squadron Mobile provided unique information upon which basis United Nations aircraft located and destroyed hundreds of enemy MiG aircraft.¹⁵⁶

The USAFSS also maintained a COMSEC unit at Nagoya during the Korean War. It was initially formed at Nagoya by the ASA as the 18th Radio Security Section of the 136th Radio Security Detachment in 1948. The detachment and its sections were transferred to the USAFSS on 1 February 1949. On 15 March, the detachment was elevated to a squadron, and the 18th Section became Detachment F. In September 1950, it became the first USAFSS unit to deploy to Korea, where it was 'sent to the front to secure Fifth Air Force communications against interception by enemy forces'. It returned to Nagoya in November. It was redesignated Detachment 6 of the 136th Communications Security Squadron (CSS) on 1 February 1951. Detachment 6 deployed a mobile COMSEC monitoring team to Seoul in late 1951.¹⁵⁷

In addition, the 6971st Communications Security Flight was activated at FEAF HQ in downtown Tokyo on 20 December 1950. It performed TRANSEC activities, and was also responsible 'for the distribution of cryptomaterial to all USAF holders'. It was redesignated the 32nd Communications Security Squadron on 8 December 1953.¹⁵⁸

¹⁵⁵ '15th Radio Squadron Mobile – USAFSS', *Korean War Project*, at <http://www.koreanwar.org/html/units/usaf/15comm.htm>.

¹⁵⁶ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1319.

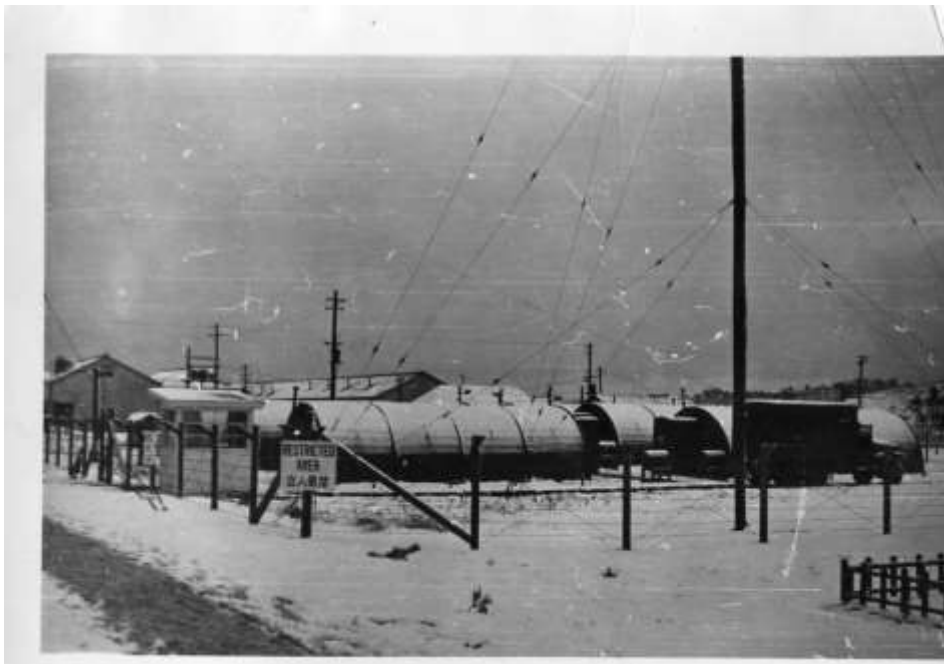
¹⁵⁷ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. xvii; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1230, 1234.

¹⁵⁸ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, pp. 20, 42; and Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, p.44.

Plate 8
USAFSS Det 4, 1st RSM, Niigata, 1951



Plate 9
USAFSS Det 4, 1st RSM, Niigata, c. 1953



9. The NSG during the Korean War

The NSG was much less involved in the Korean War than the ASA or USAFSS. As an NSA history of US SIGINT activities has stated:

Naval cryptology was a bit player in Korea. The DPRK had no blue-water navy, and [the NSG] was not concerned with the small collection of DPRK coastal patrol craft. The organization concentrated instead almost entirely on the Soviet navy in the Pacific, to determine what moves, if any, the Soviets would make toward the U.S. presence on the Korean Peninsula.¹⁵⁹

At the beginning of the war, the NSG had a single intercept station in Japan, at Yokosuka, maintained by NCU-35, with a HF DF and radio finger-printing (RFP) facility at nearby Kannon Zaki. Another DF site was situated at Tengan (NCU-37) in Okinawa. NCU-35 became the Net Control station for the NSG's Pacific HD DF network on 2 October 1950. There were 430 personnel in NCU-35 in July 1950.¹⁶⁰ The commander in June 1950 was Commander Daniel W. ('Pop') Heagy, who was succeeded by Captain Wesley Wright a few months later.¹⁶¹ As noted above, the Yokosuka station became host to the new AFSA Field Activity, Far East (FAFE) around September 1950, while NCU-35 provided nearly all its personnel.¹⁶² In addition, because of the lack of North Korean naval traffic, some NCU-35 intercept operators 'worked with ASA Far East on Korean collection'.¹⁶³

When Chinese forces crossed the Yalu River and entered the Korean War in October/November 1950, the NSG personnel at Yokosuka feared for the safety of their own activity. One veteran has recalled that news of the Chinese entry caused 'an eerie feeling and called back memories of Pearl Harbor'. He has said that, 'since we were at the entrance to Tokyo Bay, we were in a position which could easily be attacked'. The sailors spent more than 24 hours 'burning sensitive material'. Soon after, members of the unit were given 'basic

¹⁵⁹ Thomas R. Johnson, *American Cryptology during the Cold War, 1945-1989. Book I*, p. 51.

¹⁶⁰ Jay R. Browne, 'Early Development', p. 26; Jay R. Browne, 'Kami Seya Update P-2', p. 1; Richard S. Katzenberger, '1945-1946', *Closing Ceremony NSGA Hanzu: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 5; correspondence from George McGinnis, 16 August 1999; and Roland C. Delmotte, 'Tengan, Okinawa'.

¹⁶¹ Austin ('Jack') Rutledge, 'COMM UNIT #35', *NCVA Cryptolog*, Spring 1995, p. 5; and Matthew M. Aid, 'American Comint in the Korean War (Part II): From the Chinese Intervention to the Armistice', *Intelligence and National Security*, (Vol. 15, No. 1), Spring 2000, p. 19.

¹⁶² Matthew M. Aid, 'US Humint and Comint in the Korean War', p. 50.

¹⁶³ David A. Hatch and Robert Louis Benson, 'The Korean War: The SIGINT Background'.

combat training' and 'were advised we would defend our station long enough to destroy equipment and material then fall back into the hills'.¹⁶⁴

Both the Yokosuka and Kannon Zaki sites suffered from space constraints, and construction of a replacement site for both intercept and DF activities at Kami Seya, about 30 km to northwest of Yokosuka, began in 1951. The Kami Seya station became operational in late 1952, and was commissioned on 12 December 1952.¹⁶⁵

Another NSG unit, NCU-38, was set up at Yokosuka in 1951. It moved to Far East Command in Tokyo in 1957, where it remained until 1959. It maintained a Signal (Wire Recorders) Analysis Center while it was located at both Yokosuka and FEC. It also served as a Direct Support Unit, providing the personnel and logistical support for US Navy ship-based and airborne SIGINT collection operations.¹⁶⁶ Four Martin P4M-1Q *Mercator* long-range ELINT aircraft were assigned to NCU-38 in October 1951. They constituted a Special Electronics Search Program which provided SIGINT and ECM support to the Pacific Fleet.¹⁶⁷

¹⁶⁴ Austin ('Jack') Rutledge, 'COMM UNIT #35', p. 5.

¹⁶⁵ George McGinnis, 'Early Kami Seya', pp. 2-3; and Donald C. Polk, 'Kami Seya in the Mid 1950s', *NCV/A Cryptolog*, (Vol. 18, No. 4), Fall 1997, pp. 8-9.

¹⁶⁶ Bill Lockert, 'Yokosuka, Japan NCU-38, 1951-1956; Tokyo, Japan NCU-38, 1957-59', *The Worldwide CT Community and Our Naval Security* Group, at http://www.navycthistory.com/tokyo_ncu-38_intro.html.

¹⁶⁷ 'Fleet Air Reconnaissance Squadron One', *Declassified US Government Internal Documents on the Central Intelligence Agency (CIA)*, at https://archive.org/stream/CIADocuments/CIA-530_djvu.txt.

Plate 10
NCU-35, Yokosuka, January 1951



Source: Photo by Bob Torstenson.

Plate 11
US Navy Signal Analysis Centre, NCU-38, Tokyo



Source: Photo by Bill Lockert, 'Yokosuka, Japan NCU-38, 1951-1956;
Tokyo, Japan NCU-38, 1957-59',
The Worldwide CT Community and Our Naval Security Group, at
http://www.navycthistory.com/tokyo_ncu-38_intro.html.

Plate 12
US Navy Signal Analysis Centre, NCU-38, Tokyo



Source: Photo by Bill Lockert, 'Yokosuka, Japan NCU-38, 1951-1956; Tokyo, Japan NCU-38, 1957-59', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/tokyo_ncu-38_intro.html.

Plate 13
US Navy Signal Analysis Centre, NCU-38, Tokyo



Source: Photo by Bill Lockert, 'Yokosuka, Japan NCU-38, 1951-1956; Tokyo, Japan NCU-38, 1957-59', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/tokyo_ncu-38_intro.html.

10. USAF DF sites, 1952-54

In 1952, the USAF's Air Control and Warning (AC&W) Squadrons in Japan established at least eight DF stations for intercepting and determining the direction of radar transmissions and other signals emitted by enemy aircraft. They complemented the far more numerous radar stations operated throughout Japan. Most of them were closed in 1954, although some of them remained operational for another few years. At least two were set up on Hokkaido, where they monitored movements of Soviet military aircraft. Detachment 30 of the 511th AC&W Squadron, which was at Rumoi, on Hokkaido's western coast, used a DF system housed in a van; the van's antenna was damaged by a typhoon in September 1954.¹⁶⁸ At Wakkanai, in the northwest corner of Hokkaido, Detachment 18 of the 548th AC&W Squadron set up a DF facility on what was later called Hill 1, which was soon to become the large SIGINT station. It was initially just a small shack, 'less than ten feet long and maybe five feet wide', which housed the DF equipment and just enough space for a single operator and an electric heater. Operators worked 12-hour shifts, either 'all day or all night'. In 1952, a new DF site was established on Hill 3, three km away, with a Quonset hut large enough to house the DF equipment plus two beds, a table and a pot-bellied stove.¹⁶⁹

Further south, Detachment 17 of the 618th AC&W Squadron maintained a DF facility on Mishima Island in the Sea of Japan, about 40 km northwest of Yamaguchi Prefecture in the southwestern part of Honshu, around 1952-54.¹⁷⁰ Four were on Kyushu. One was maintained by Detachment 43 of the 610th AC&W Squadron at Seburiyama, a mountain range on the western side of Fukuoka;¹⁷¹ another was at Kitakyushu, northeast of Fukuoka; one was at Nagasaki, in the northwestern part of Kyushu; and one was maintained by Detachment 11 of the 610th AC&W Squadron at Nameki, in the southwestern part of

¹⁶⁸ John Rosso, 'John Rosso at Detachment 30', at <http://po8.com/det45/jr/jr30/>.

¹⁶⁹ Richard E. Waldron, *Site 18: Short Stories from an Isolated Air Force Radar Detachment in Japan during the Korean War and the Cold War*, (Squantum Publishing, Quincy, Massachusetts, 2005), pp. 116-117.

¹⁷⁰ Jerry Herron, 'Mishima Island Det. 17 1952-54', in '527th Air Control and Warning Group, USAF', *Korean War Project*, at <http://www.koreanwar.org/html/units/usaf/527acw.htm>; and 'DF Tower: Det. 17 Photos (Mishima)', at

<http://beta.communities.msn.com.mx/610thACWSqRadarSitesSouthernJapan/det17mishima.msnw>.

¹⁷¹ Bob Biddle, 'Travel on Seburiyama', *japan-guide.com*, at <http://www.japan-guide.com/forum/quereadisplay.html?0+86256>.

Kyushu. Lastly, one was maintained by Detachment 4 of the 623rd AC&W Squadron at Okino-erabu Island in the Ryukyu archipelago, about 50 km from northern Okinawa.¹⁷²

¹⁷² '610th ACW Squadron: Radar Sites, Southern Japan', at <http://groups.msn.com/610thAcWSqRadarSitesSouthernJapan/yourwebpage.msnw>.

Plate 14
DF Tower at Mishima Island, mid-1952



Source: Photo by James Dozier, at
<http://beta.communities.msn.com.mx/610thACWSqRadarSitesSouthernJapan/det17mishima.msnw?action=ShowPhoto&PhotoID=272>.

11. The British SIGINT station at Sukiran, Okinawa, 1952

The British GC&CS also maintained a SIGINT facility in Okinawa during the Korean War. Britain and the US had previously agreed that if an emergency evacuation of the British COMINT unit in Hong Kong was ever required, it should be relocated to 'American-controlled Okinawa', and after the outbreak of the war sought to implement this arrangement. However, Washington was not helpful. The ASA 'had already made plans to more than double its proposed intercept station on the island from about 300 to 674 people, and this was to be done in the facilities planned for the British. The Commander-in-Chief of US Forces in the Far East (CINCFE) noted in November 1950 that it appeared 'undesirable if not altogether infeasible to plan to locate the British unit on Okinawa', and recommended instead that it go to Guam. The Joint Chiefs in Washington rejected Guam, and in February 1951 suggested that the unit go to Singapore, British North Borneo or Australia. However, the British persisted, and in January 1952 the Joint Chiefs directed CINCFE to provide facilities on Okinawa 'any time the Air Commander-in-Chief British Far East Air Force [in Singapore] considers that conditions warrant removal of the unit to a more secure site'. Tents were set up 'next to the ASA's 111th Signal Service Company in Okinawa's Sukiran area, for the British to use for quarters, messing, and administration facilities'. The intercept equipment was installed 'in a number of steel-and-wood prefabricated buildings nearby'.¹⁷³

¹⁷³ James Bamford, *The Puzzle Palace: A Report on America's Most Secret Agency*, (Penguin, Harmondsworth, Middlesex, 1983), pp. 403, 598.

12. Nagoya, 1946-56

The US Army Air Force established a communications security (COMSEC) monitoring facility at Nagoya in 1946 to support the HQ of the 5th Air Force, which moved to Nagoya City on 20 May 1946. It was taken over by the ASA in 1947, and designated the 18th Radio Security Section of the 136th Radio Security Detachment. The detachment was transferred to the new USAFSS in February 1949 and redesignated the 136th Radio Security Squadron. Based at Brooks Air Force Base in Texas, the mission of the 136th RSS was ‘to monitor Air Force communications for security violations and to assist various commands to establish the necessary safeguards for security in all phases of communications subjected to enemy interception’.¹⁷⁴

The Nagoya facility, designated Detachment F of the 136th RSS in February 1949, was located in a 29-acre compound at Camp Moriyama, about 10 km northeast of Metropolitan Nagoya. In January 1951, the 136th RSS was renamed the 136th Communications Squadron (CSS), and Nagoya was redesignated Detachment 6. The 136th CSS was deactivated on 8 December 1953 and replaced by the 32nd CSS, headquartered in Tokyo. The Nagoya unit then became Detachment 1 of the 32nd Squadron. It was redesignated Detachment 1 of the 6932nd CSS on 8 May 1955. In 1954-55, the receiver antennas were relocated to a newly-constructed site at Obu, on the southwest side of the city. The unit was deactivated on 1 July 1956. (The HQ of the 5th Air Force moved to Fuchu in Tokyo in July 1957).¹⁷⁵

¹⁷⁴ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. xvii-xviii.

¹⁷⁵ Ibid., pp. 54, 61; Larry Tart, *Freedom Through Vigilance*, Volume I, pp. 49, 82, 87-88; Zenro Suzuoki, ‘Moriyama Compound Today’, 14 February 2004, at [http://bobspiwak.com/usafss/moriyama%20\(2013_11_22%2018_46_50%20UTC\).pdf](http://bobspiwak.com/usafss/moriyama%20(2013_11_22%2018_46_50%20UTC).pdf); and ‘Selected References on the History of Communications Security in the USAF’, at [http://bobspiwak.com/usafss/CDContents%20\(2013_11_22%2018_46_50%20UTC\).pdf](http://bobspiwak.com/usafss/CDContents%20(2013_11_22%2018_46_50%20UTC).pdf).

13. Naha, Okinawa

The USAFSS established a detachment at Naha in Okinawa in the early 1950s. It was designated Detachment 3 of the 32nd Communications Security Squadron in Tokyo on 8 December 1953, and redesignated Detachment 3 of the 6932nd CSS on 8 May 1955. The unit had a COMSEC function. It was discontinued on 1 July 1956.¹⁷⁶

¹⁷⁶ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, pp. 54, 61.

14. The establishment of Kami Seya (USN-39)

By the end of 1950, the need for a new NSG station was acute. It was obvious that further expansion of the facilities at Yokosuka and Kannon Zaki was no longer possible. Several sites were surveyed in early 1951 and on 15 March the site at Kami Seya in Kanagawa Prefecture was procured. It was located near Atsugi Air Station, about six miles east of Camp Fuchinobe, and just to the north of Seya-Mura (Seya Village).

Before the Second World War, the area had been cultivated for rice and vegetables as well as mulberry bushes for silk production. During the Second World War, the selected site had been used as a munitions depot, with a network of underground tunnels. The area was bombed by US bombers on several occasions between April and August 1945, but the assembly works were not damaged. However, soon after the Emperor announced Japan's surrender, the Japanese themselves destroyed most of the major structures.¹⁷⁷

The Kami Seya station was 'largely the brain child' of Captain Wesley A. Wright, a pioneer US Navy cryptologist who was Chief of NSA Pacific (NSAPAC) at Yokosuka at the time. He believed that a hardened concrete bunker which had survived the Japanese demolitions 'would make a wonderful receiving location' and 'a secure operating location'. Twenty-two buildings were constructed, many connected to the original bunker (which became Building 42), creating a complex of buildings which mostly remained when the station was eventually closed in 1995.¹⁷⁸

The Kami Seya station was commissioned on 12 December 1952, although it had achieved an initial operational capability a few months before that. The Kannon Zaki site was deactivated on 7 August 1952, and operations ceased at Yokosuka on 2 December 1952. Captain George McGinnis was 'in total charge of moving the station from Yokosuka to the new site'. The operations area was centred inside and attached to a large bunker, which measured some 50-75 feet wide, several hundred feet long and 20 feet or so high, in the middle of rice fields. Operations were conducted in both Building 42 ('the tunnels') and the adjoining Building 1. Manual Morse interception (R Branch) and non-Morse interception (T Branch) were handled in Building 42. Some non-Morse operations were also located on the ground floor of Building 1. Building 1 also served as the Administration building, and housed the officer-in-charge as well as the Processing and Reporting (P&R) and printing

¹⁷⁷ Jay R. Browne, 'Kami Seya Update P-2', p. 2; and George McGinnis, 'Early Kami Seya', p. 2.

¹⁷⁸ Jay R. Browne, 'Kami Seya Update P-2', p. 2; and George McGinnis, 'Early Kami Seya', pp. 2-3.

sections. Communications and COMSEC activities were housed in Building 25. In 1956, there were 69 positions in the tunnels for R operations, where Morse code was copied '24-hours a day, seven days a week'. The Western Pacific (WESTPAC) HF DF Net Control Operations (NCO) centre was located in 'Tunnel 2'.¹⁷⁹

Several large antenna systems were constructed at Kami Seya in 1952 and through the next five years or so. According to McGinnis, 'electronic reception at Kami Seya was wonderful'.¹⁸⁰ The primary interception system in 1952 consisted of nine rhombic antennas laid out in a rosette, located on the southern side of the operations area. One part of the system was a rotatable switch on the antenna input panel at the supervisor's position in the bunker; by rotating the switch to each antenna in turn, the supervisor could pick out the antenna that worked best for the targeted signal and switch that antenna to the intercept operator. Coaxial cables ran from the rhombic antenna poles to the 'antenna vault' next to the mid-section of Tunnel 1. Two other nine-rhombic rosettes were later installed. Three rosettes, with their nine rhombics 'double-ended', effectively provided 54 antenna elements, or one every 6.6 degrees, which McGinnis thought was 'a reasonable beam width for a rhombic'.¹⁸¹ The rhombics were targeted mainly against Soviet Navy communications stations in the Far East. In addition to the rhombic arrays, VHF antennas were mounted on the roof of the bunker; they were able 'to obtain reception via Sporadic-E propagation from areas of interest'.¹⁸²

The HF DF site was located in the southwest part of the base, west of the rhombic fields and operations areas. The HF DF antenna fields were leased out to Japanese

¹⁷⁹ George McGinnis, 'Early Kami Seya', pp. 2-3; and Donald C. Polk, 'Kami Seya in the Mid 1950s', pp. 8-9.

¹⁸⁰ George McGinnis, 'Early Kami Seya', pp. 2-3.

¹⁸¹ Ibid., p. 3; and William D. Keim, 'Early Kami Seya', *NCVA Cryptolog*, (Vol. 18, No. 4), Fall 1997, p. 6.

¹⁸² William D. Keim, 'Early Kami Seya', p. 6. In addition to monitoring line-of-sight VHF communications, Japan is favourably placed for interception of VHF signals from thousands of kilometers away to the southwest due to an anomalously high electron density in the Sporadic E layer (Es) of the ionosphere over the East China Sea. It has been shown, for example, that VHF broadcast transmissions from China in the 39.75 to 72.25 MHz range are clearly receivable in Japan using both Yagi and log-periodic dipole arrays. Indeed, VHF signals transmitted in Southeast Asia, including from Malaysia and the Philippines, can also propagate to Japan via the Es layer. See Takano Toshiaki and Ujigawa Satoshi, 'Propagation Anomaly of Overseas TV Broadcasting Radio Waves and its Model of Mechanism', *Papers of Technical Meeting on Electromagnetic Compatibility, IEE Japan*, (Vol. EMC-03, No. 25-30), 2003, pp. 29-34, at <http://sciencelinks.jp/j-east/article/200402/000020040204A0013243.php>; and H. Nakata, Y. Akaike, Y. Otsuka, T. Takano, S. Ujigawa and I. Nagashima, 'Ray-tracing Calculation of VHF Radio Waves Scattered by Field-aligned Irregularities Associated with Equatorial Plasma Bubbles', *Transactions of the Institute of Electrical Engineers of Japan*, (Vol. 124, No. 12), 2004, pp. 1253-1254, at <http://sciencelinks.jp/j-east/article/200402/000020040204A0013243.php>.

farmers.¹⁸³ The first HF DF system was a huge AN/FLR-7 CDAA with an AN/FRA-44 recorder/analyser sub-system.¹⁸⁴ The AN/FLR-7 system consisted of a large circular antenna array, about 300 metres in diameter, laid on a ground screen of about 320 metres in diameter, and consisting of 120 4.5-metre high monopoles. Inside the monopole ring was a vertical screen, about 18 metres tall, with a diameter of about 290 metres.¹⁸⁵ It reportedly provided a DF accuracy to within 2-3°.¹⁸⁶

In the early 1950s, the Naval Research Laboratory (NRL) in Washington, D.C. developed Project *Boresight*, which ‘permitted a radical improvement in the performance’ of HF DF networks. The key to the project was the AN/FRA-44 recorder/analyser system, which allowed the operators to record Soviet signals and analyse them ‘after the fact’, and then determine the bearing to the source of the transmission.¹⁸⁷ This ‘retrospective direction finding’ capability was later acknowledged to be one of the NRL’s most significant achievements through its long and impressive history.¹⁸⁸ The capability became critically important after November 1958 when Soviet submarines ceased their Manual Morse code transmissions and effectively went silent. A research program called Project *Clarinet Bullseye* was initiated in December 1958 to investigate the issue and develop possible solutions. It was discovered in 1959 that the submarines had switched to HF microbursts for their communications. Microbursts lasted only about seven tenths of a second, whereas Morse transmissions had usually taken many seconds or even minutes.¹⁸⁹

The intercept and DF operators used R-390A/URR high-performance HF radio receivers, designed by Collins Radio Company, which covered the spectrum from 0.5 to 32 MHz. First produced in 1954, it was smaller than the R-390s, and became the standard radio receiver used in US SIGINT activities through to the 1980s. For example, R-390A receivers were also used with the AN/TRD-4 HF DF system employed at Sasebo, the rhombic

¹⁸³ Donald C. Polk, ‘Kami Seya in the Mid 1950s’, p. 9.

¹⁸⁴ W. E. (‘Pat’) Garrett, ‘Kami Seya Memories: 1965 and Further’, *NCVA Cryptolog*, (Vol. 18, No. 4), Fall 1997, p. 15.

¹⁸⁵ Correspondence from Bill Robinson, 28 May 2008.

¹⁸⁶ ‘The R-390A Frequently Asked Questions Page: Systems and Accessories’, at <http://www.r-390a.net/>.

¹⁸⁷ W. Craig Reed, *Red November: Inside the Secret U.S.–Soviet Submarine War*, (Harper, New York, 2010), p. 43.

¹⁸⁸ Don J. De Young, *Naval Research Laboratory 1923-1998: Celebrating 75 Years of Science and Technology Development for the Navy and the Nation*, (National Research Laboratory, Washington, D.C. June 1998), p. 28.

¹⁸⁹ W. Craig Reed, *Red November: Inside the Secret U.S.–Soviet Submarine War*, p. 41; and Ex-NSGA, ‘Red November – Belongs to the Fiction Category’, Customer Review, *Amazon.com*, at <http://www.amazon.com/review/R33RVKQB7NRWGS>.

system at Torii Station, the AN/FRD-10 at Hanza and the AN/FLR-9 at Misawa.¹⁹⁰ Each intercept position had at least one R-390A. Some operators used ‘two of them positioned side-by-side with a pair of headsets split between them so you could monitor both ends of a [Morse] conversation’.¹⁹¹

In the mid-1950s, the NRL developed the AN/GRD-6 system as the standard for Project *Boresight* HF DF networks. It had two separate 8-element arrays for covering the high and low bands of the HF spectrum. The high-band monopole elements were called ‘self-sustaining sleeve antennas’.¹⁹² AN/GRD-6 systems were installed in 1956-58 at Kami Seya, at Adak (Clam Lagoon) and at Cape Chiniak on Kodiak Island in Alaska, at Finegayan on Guam, Midway Island, and Skaggs Island in California, as part of the Pacific HF DF Network, and at Homestead in Florida, Galeta Island in Panama, Bermuda, the Azores, Edzell in Scotland, and Hafnir, near Keflavik in Iceland, as part of the Atlantic HF DF Network. By 1960, the world-wide, quick-reaction *Boresight* project was fully operational, with most NSG stations equipped with AN/GRD-6 systems. During the Cuban Missile Crisis in October 1962, *Boresight* HF DF stations were able to track nearly all Soviet submarines at sea by monitoring their burst transmissions.¹⁹³

A Marine Corps unit arrived at Kami Seya around July 1956. It was formed as the 1st Special Communications Platoon of the Headquarters Battalion based at the USMC HQ. It had an authorised strength of 43 Marines (including officers and enlisted men). They were all R Branch Morse intercept specialists. Nearly all of them worked in Sections 2 and 4 in the Tunnel. In April 1958, the platoon was redesignated Sub-Unit 5 of Company G,

¹⁹⁰ US Department of the Army, *Radio Receiver R-390/URR: Field and Depot Maintenance Manual*, (Department of the Army Technical Manual TM 11-5820-357-35, Headquarters, Department of the Army, Washington, D.C., 8 December 1961), at <http://www.r-390a.net/TM-11-5820-358-35.pdf>; and ‘The R-390A Frequently Asked Questions Page: Systems and Accessories’.

¹⁹¹ ‘I AMA Vietnam Veteran’, *Reddit*, at http://www.reddit.com/r/IAmA/comments/u6flf/i_ama_vietnam_veteran_us_army_from_19651969/.

¹⁹² Jerry Proc, ‘AN/GRD-6 HFDF Set’, Radio Communications and Signals Intelligence in the Royal Canadian Navy, September 2013, at http://jproc.ca/rrp/grd_6.html; and ‘Kamiseya HF DF 1969’, *The Worldwide CT Community and Our Naval Security Group*, (11 March 1935 – 30 September 2005), at <http://www.navycthistory.com/images/kami1969hdfd.gif>.

¹⁹³ James Bamford, ‘Body of Secrets: Additional Backnotes’, p. 111, at <http://www.randomhouse.com/features/bamford/notes.html#top>.

Headquarters Battalion, USMC HQ. It became Company E of the Marine Support Battalion on 1 October 1961.¹⁹⁴

An ASA DF detachment from the 12th Field Station at Chitose arrived at Kami Seya in late 1959 and began operating in January 1960. They worked ‘out at the GRD-6 site’, in the DF operations building located between the low-band and high-band antenna systems; they reported directly to Chitose.¹⁹⁵

The COMINT collected at Kami Seya included Soviet reactions to USAF and US Navy reconnaissance flights along the Soviet coast-line, and sometimes into Soviet airspace. In September 1956, for example, the Kami Seya station (designated USN-39 by the NSA) intercepted Soviet communications concerning the disappearance of a USAF RB-50G ELINT aircraft (No. 47-133) near Vladivostok. This included HF Morse and voice communications between Soviet radar tracking stations and ‘tracking data on Soviet fighters’. On 12 and 14 September, two and four days after the disappearance, USN-39 reported details of overflights of the search area by IL-28 reconnaissance aircraft, and on 13 September it ‘also reported that there were indications that at least one Soviet submarine was operating in the vicinity’.¹⁹⁶

By the end of the 1950s, the Kami Seya station had functionally subsumed NCU-38 in central Tokyo. It formed its own Direct Support Unit, later called the 5th Division, for providing personnel and logistical support for US Navy ship-based and airborne SIGINT collection operations. It also maintained a Signals Analysis Laboratory, later also called 30 Department, which effectively replaced NCU-38’s Signals Analysis Center. By the late 1950s, the Direct Support Units were generally equipped with magnetic tape recorders, replacing the wire recorders that were the centerpiece of NCU-38’s Signals Analysis Center.

In June-July 1960, two NSA employees, William H. Martin and Bernon F. Mitchell, defected to the Soviet Union. They had served together at the NSG stations at Yokosuka and Kami Seya in 1951-54, where they ‘became firm friends’, and later at NSA HQ at Fort Meade (1957-59). Martin also worked as a civilian at an Army SIGINT station in Japan in

¹⁹⁴ Donald C. Polk, ‘Kami Seya in the Mid 1950s’, p. 8; Lieutenant Colonel Pete Brown, USMC, ‘Marine Corps History and Tradition’, *NCVA Cryptolog*, (Vol. 18, No. 4), Fall 1997, pp. 32-33; and Phil Dorsett, in ‘Kamiseya Roster Part Four’, at groups.msn.com/KamiSeyaReunion/kamirosterpart4.msnw.

¹⁹⁵ Norm Kitchin, ‘Army ASA Detachment at NSGA Kami Seya, Japan, 1960-61’, *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/kami_sechrist01.html; and Norm Kitchin, in ‘Kamiseya Roster Part Six’, at groups.msn.com/KamiSeyaReunion/kamirosterpart6.msnw.

¹⁹⁶ Michael L. Peterson, ‘Maybe You Had to Be There’, pp. 23, 42.

1955-56. At a press conference in Moscow on 6 September, they described the organisation and operations of the NSA and its 'methods of SIGINT' targeting of the Soviet Union and the People's Republic of China'. They said that the practice to which they objected most was the deliberate violation by US 'ferret' aircraft of the airspace of other countries in order to detect and record electronic data. They were familiar with this 'provocative' activity from their period at Kami Seya, which was tasked with monitoring 'the frequencies used by radar reporting stations of the target country, i.e., the Soviet Union or Communist China', whenever a reconnaissance flight was scheduled. 'At the same time, radio direction finders would tune in on these frequencies to seek out the locations of the radar reporting stations'.¹⁹⁷

¹⁹⁷ David P. Mowry, 'Betrayers of the Trust', (Center for Cryptologic History, National Security Agency, Fort George G. Meade, Maryland), at http://www.nsa.gov/public_info/_files/crypto_almanac_50th/betrayers_of_the_trust.pdf; and Wayne G. Barker and Rodney E. Coffman, *The Anatomy of Two Traitors*, pp. 31, 35, 71.

Plate 15
**Captain George P. McGinnis, designer of the antenna systems
at Kami Seya in 1952**



Source: 'Shaping the evolution of cryptology', *I Like The Cut Of His Jib*, 7 October 2008, at <http://navycaptain-therealnavy.blogspot.com.au/2008/10/shaping-evolution-of-cryptology.html>.

Plate 16
Tunnel and antennas, Kami Seya, 1953-1954



Source: Victor Pepper, 'Kami Seya, Japan, 1953-1954',
The Worldwide CT Community and Our Naval Security Group, at
http://www.navycthistory.com/images/kami_tunnel_and_antenna_big.jpg.

Plate 17
Antennas at Kami Seya, 1953-1954



Source: Victor Pepper, 'Kami Seya, Japan, 1953-1954',
The Worldwide CT Community and Our Naval Security Group, at
http://www.navycthistory.com/images/kami_tunnel_and_antenna_2_big.jpg.

15. Ashiya Air Base, 1953-58

The 15th RSM at Ashiya, the USAFSS's principal station for direct SIGINT support activities during the Korean War, was renamed the 6922nd RSM on 8 May 1955. It maintained three detachments. Detachments 1 and 2 were located at Osan Ni and Paengnyong-do in South Korea in 1956-58. Detachment 3 was located at Obu Air Base, near Nagoya, in 1956-57.¹⁹⁸

The 6922nd RSM was deactivated and operations at Ashiya ceased on 3 November 1958. Some of the personnel and equipment moved to the 6918th RSM at Brady Air Station at Hakata.¹⁹⁹ Some went to the 6989th RSM at Misawa.²⁰⁰ One officer and an airman were assigned to Kadena Air Base.²⁰¹ The 6922nd RSM maintained a Special Security Office (SSO) with the 43rd Air Division at Itazuke Air Force Base, which was closed around August 1958.²⁰²

¹⁹⁸ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 52; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1602-1603.

¹⁹⁹ 'Jim Clark', Misawa Veteran Profiles, *USAFFS Misawa Family*, 17 November 2004, at <http://www.usafssmisawa.com/prd/vets.php>.

²⁰⁰ Bob W. Rush, *Historical Resume* p. 5.

²⁰¹ Colonel Joseph L. Hurst, '6922 Electronic Security Squadron History', at <http://members.tripod.com/~cobrasite/6922hist.html>.

²⁰² Frank Hogan, 'Frank Hogan's Adventure with the NSA-USAF Security Service', at www.itcybersec.net/usafss/myadv.htm.

16. Shiroi Air Base, 1953-59

The USAFSS began SIGINT operations at Shiroi Air Base with the activation of Flight E of the 6920th Security Group, based at Johnson Air Base, in 1953.²⁰³ The 6920th Security Group itself moved to Shiroi in April 1954, making it one of the most important USAFSS second echelon processing centres in Japan. It became the 6920th Security Wing in May 1955. It maintained Detachment 2 at Fuchu from April 1957 to April 1958.²⁰⁴

The 6920th Security Group was responsible for processing, analysing and reporting SIGINT concerning the shoot-down of a US Navy P2V *Neptune* aircraft on a reconnaissance mission over the Sea of Japan by two Soviet Naval MiG-17 fighters on 4 September 1954. Intercepted communications between ‘the Soviet air surveillance radar tracking stations’ included a change in the designation of the *Neptune* from ‘suspicious’ to ‘hostile’, while transcriptions of the ‘recorded VHF air[-to]-ground tactical voice communications’ revealed that one of the fighters had been damaged by return fire from the *Neptune*, although it evidently landed safely at its home base at Uglovaya Northwest.²⁰⁵

Similarly, the 6920th Security Group processed and reported SIGINT concerning the shoot-down of a Yokota-based USAF RB-29 on a photographic reconnaissance mission off the northeast coast of Japan, near Nemuro, on 7 November 1954. COMINT collected at the Group’s field stations included HF Morse communications between the radar tracking stations, which tracked the RB-29 for more than an hour before the attack; communications from the ground controllers to two MiG-15s giving the order to attack (and ‘repeating the command three times over the next two minutes’); and ‘considerable tactical air-ground voice material... from the reacting fighters’. However, this COMINT was not processed and reported until more than three and a half hours after the shoot-down, and ‘all voice material had not yet been transcribed’ fourteen and a half hours after.²⁰⁶

The 6924th RSM and the 6926th RSM were also active at Shiroi in 1955-56. The 6924th RSM served as the second echelon processing station for its Detachment 1, based at Yokota, which flew SIGINT-equipped C-54 ‘Boxcar’ and RB-50 ‘Superfortress’ aircraft. Following the return to Yokota of each collection flight, some initial processing was

²⁰³ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1602.

²⁰⁴ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 52.

²⁰⁵ Michael L. Peterson, ‘Maybe You Had to Be There’, pp. 17-18.

²⁰⁶ *Ibid.*, pp. 18-20.

undertaken, then a copy of tapes of the raw data together with any preliminary analysis was sent by armed courier to Shiroy for further processing and analysis.²⁰⁷

The 6902nd Special Communications Group (SCG) was set up at Shiroy on 1 August 1955. It 'absorbed the traffic analysis mission' as well as analysts from the 6920th Wing. The 6920th Security Wing relocated to Wheeler Air Force Base in Hawaii on 1 November 1958, and the 6902nd Group went to Kadena Air Base in 1959, although many personnel transferred to Misawa.²⁰⁸

The 6926th RSM had a single mission, called Project *Grayback* (later changed to *Genetrix*), of which Project *Green Moon* comprised the ground processing part. It had nine detachments located throughout the western Pacific region. Detachment 1 was located with the squadron HQ at Shiroy, Detachment 2 was at Anderson Air Force Base on Guam, Detachment 3 was at Wake Island, Detachment 4 was at Clark Air Base in the Philippines, Detachment 5 was at Yomitan in Okinawa, Detachment 6 at Pyong Taek in South Korea, Detachment 7 at Chitose, Detachment 8 was at Midway Island, Detachment 9 was at Shemya in Alaska, and Detachment 10 was at Elmendorf in Alaska.²⁰⁹

Project *Green Moon* was the SIGINT element of *Grayback*, which involved the release of high-altitude balloons carrying cameras and radio interception antennas; they were recovered by C-119 aircraft over the Pacific, after being slowly carried across the Soviet Union and China by the prevailing westerly winds. The launches began on 10 January 1956 and continued until 6 February, by which time 516 balloons had been released. A member of the USAFSS's 6970th Support Group at the NSA HQ at Fort Meade who analysed the field reports has described the results as 'underwhelming'.²¹⁰ The project 'was abandoned after the Soviet Government, at a press conference on 9 February 1956, released detailed information about the reconnaissance equipment carried by the balloons', including equipment 'for recording military radio conversations'.²¹¹

²⁰⁷ Donald Wertz Boyd, *The 6924th, 1955-1956*, pp. 256, 457.

²⁰⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1345; 'Dick Barnard', *USAFSS Misawa Family Guestbook*, at <http://usafssmisawa.com/guestbook/index.php?page=11>; and 'Al Divers', *USAFSS Misawa Family Guestbook*, at <http://usafssmisawa.com/guestbook/index.php?page=22>.

²⁰⁹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, pp. 53-54; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1356, 1601-1603.

²¹⁰ Larry Tart, *Freedom Through Vigilance. Volume I*, pp. 110-112.

²¹¹ Dick van der Aart, *Aerial Espionage: Secret Intelligence Flights by East and West*, (Arco/Prentice Hall Press, New York, 1986), p. 10.

The final USAF assets left Shiroy on 12 December 1959; the base was returned to the Japanese Government, and renamed Shimofusa Air Base, in June 1960.

17. Yokota Air Base, 1950-72

The 91st Strategic Reconnaissance Squadron moved to Yokota from the US soon after the outbreak of the Korean War. During the war it mapped air defence radar sites in and around Korea and provided ELINT to the FEAF. It began overflights of ‘Soviet-controlled islands in the Far East’ in 1951. In late 1952, six RB-36 aircraft were sent to Yokota for the 91st Squadron to use for high-altitude reconnaissance missions over Manchuria.²¹² Four RB-45C reconnaissance aircraft were assigned to Yokota on 1 December 1953.²¹³

Captain Howard S. Myers, commander of the RB-45C unit from November 1952 to March 1953, was later awarded the Distinguished Flying Cross (DFC). His citation stated that:

While piloting a RB-45C jet reconnaissance aircraft, staging from Yokota and Misawa Air Bases in Japan, and forward air bases in Korea, the exceptional ability, diligence, and devotion to duty of Capt. Myers was instrumental in successful collection of highly classified photographic and radar intelligence information over enemy territory, during reconnaissance penetration missions into North Korea, Central and Northern communist Asian countries, and Soviet territory. Accuracy of the intelligence information collected on these missions provided vital targeting data for follow-on fighter and bomber strike missions over the North Korean Peninsula.²¹⁴

During the Korean War, the USAF realized the potential for interception of line-of-sight VHF communications by airborne platforms. RB-29 aircraft were outfitted with VHF interception systems and assigned to the 91st Squadron at Yokota. The first RB-29 mission was flown in April 1954.²¹⁵ Two RB-29s, which were ‘full of all kinds of electronic junk’, were used for ELINT missions over China.²¹⁶ An RB-29 from Yokota was shot down by Soviet MiG fighters during a mission over the Kurile Islands on 7 November 1954. Ten of the eleven crew members parachuted to safe landings near Nemuro in northeastern

²¹² ‘91st Network Warfare Squadron’, *Wikipedia*, [accessed 22 November 2015], at http://en.wikipedia.org/wiki/91st_Network_Warfare_Squadron.

²¹³ Colonel Wolfgang W. E. Samuel, *I Always Wanted to Fly: America’s Cold War Airmen*, (University Press of Mississippi, Jackson, Mississippi, 2001), pp. 153-154.

²¹⁴ *Ibid.*, p. 160.

²¹⁵ *The National Security Agency and the EC-121 Shootdown*, (United States Cryptologic History, Special Series, Crisis Collection, Volume 3, Office of Archives and History, National Security Agency/Central Security Service, 1989), p. 7, at http://www.nsa.gov/public_info/_files/cryptologic_histories/EC-121.pdf.

²¹⁶ Colonel Wolfgang W. E. Samuel, *I Always Wanted to Fly*, pp. 169-170.

Hokkaido.²¹⁷ The 91st was redesignated the 6091st Reconnaissance Squadron in December 1954.

In 1955, the USAFSS initiated its Airborne Communications Reconnaissance Program (ACRP), for which Yokota served as one of the key bases. It involved SIGINT (COMINT and ELINT) collection flights along the coasts of the Soviet Far East, North Korea and China. Ten RB-50 'Superfortress' aircraft were initially acquired by the USAFSS, five of which were based at Yokota (and the other five in Europe). The RB-50s 'were equipped primarily to record voice transmissions in the VHF/UHF range, but also involved HF, DF (Direction Finding), and CW (continuous wave) or manual Morse capabilities'.²¹⁸

Yokota's involvement in the ACRC required that linguists, and ELINT specialists be based there to staff the flights and that first echelon processing facilities be organised to off-load, copy and sort the intercepted material immediately after the aircraft landed. Detachment 1 of the 6924th RSM at Shiroy Air Base was established at Yokota on 1 October 1955. It became Detachment 1 of the 6920th Security Wing at Shiroy on 5 April 1957. From 1958 to 1963, with the closure of Shiroy, it served as Detachment 1 of the 6988th RSM at Fuchu. Yokota was home to the 6988th RSM from 1963 to 1972.²¹⁹ It maintained OL-BB at Itazuke Air Base from 1 July 1969 to 14 February 1971.²²⁰

By 1956, the Pacific Air Forces (PACAF) HQ in Hawaii had established the PACAF ELINT Center (PEC) at Yokota for processing and analysis of ELINT collected by the increasing number of reconnaissance flights by aircraft based at Yokota. The PEC was originally housed in Building 206, but it was gradually squeezed out by the more rapidly increasing Photographic Interpretation (PI) Flight which developed and processed photographs taken on the flights. The PEC moved to Fuchu Air Base where it became the Air component of the new PACOM ELINT Center.²²¹

The first RB-50G-2 'Superfortress' or 'Haystack' ELINT aircraft (No. 47-133) arrived at Yokota Air Base on 21 August 1956. It departed from Yokota on its first mission, flying

²¹⁷ 'Reds Down U.S. Bomber; 1 Dead', *Historic Wings*, at <http://fly.historicwings.com/2012/11/reds-down-us-bomber-1-dead/>.

²¹⁸ *The National Security Agency and the EC-121 Shootdown*, p. 7.

²¹⁹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 43; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1350-1351, 1603.

²²⁰ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, (United States Air Force Security Service, Kelly AFB, San Antonio, Texas, 1 September 1971), p. 55.

²²¹ Colonel Roy M. Stanley, *Asia From Above: The 67th Reconnaissance Technical Squadron, Yokota AB, Japan, July 1957 to March 1971*, (AuthorHouse, 11 May 2006), pp. 34, 45, 46, 121, 169, 293.

over the Sea of Japan ‘in the South Vladivostok area’, on 10 September; however, it did not return and was presumed to have crashed, possibly shot down by Soviet fighters. A replacement RB-50G-2 arrived in February 1957.²²² The RB-50s mainly flew ‘peripheral missions’ around the Vladivostok area and around the Sea of Okhotsk. RB-50s from Yokota also regularly flew along the Korean Demilitarized Zone (DMZ), flying just south of the 38th parallel.²²³

Yokota-based RB-50 aircraft and Russian linguists also participated in ‘*Peggy Ann*’ and ‘*Party Doll*’ programs which monitored the re-entry and splash-down of Soviet ICBMs in the Pacific during tests in 1960. One of the linguists on a ‘*Peggy Ann*’ mission monitored the Soviet ship-to-ship communications in the splash-down area.²²⁴

Six Martin RB-57Ds were stationed at Yokota in 1956-57, where they were involved in Projects code-named ‘*Black Knight*’ and ‘*Sea Lion*’.²²⁵ On 11 December 1956, the six RB-57Ds approached the Soviet coast near Vladivostok; three turned back, but the other three overflew the Vladivostok region, prompting a protest to the US by the Soviet Government. After they left Yokota, these aircraft were generally used for ‘short, clandestine operations, for example flights along the borders of other countries’.²²⁶

In July 1956, three RB-47 reconnaissance aircraft arrived at Yokota to complement the RB-50s with respect to the Sea of Okhotsk mission, now code-named ‘*Bonus Baby*’. According to a veteran of the ‘*Bonus Baby*’ program:

All flights took off and landed at Yokota,... and all flights were at night. The route was the inner perimeter of the Sea of Okhotsk. All flights went up the west side of the Kurile Islands to near Magadan, then turned left (west) to the north end of Sakhalin Island, then left (south) down the east coast of Sakhalin Island to Hokkaido and YAB [Yokota Air Base].²²⁷

In January 1962, a modified RB-47 was delivered to Yokota to enhance the ‘*Bonus Baby*’ mission. On its first flight, it had ‘circumscribed most of the Sea of Okhotsk without

²²² Bob W. Rush, *Historical Resume*, p. 18.

²²³ Colonel Roy M. Stanley, *Asia From Above: The 67th Reconnaissance Technical Squadron, Yokota AB, Japan, July 1957 to March 1971*, p. 59.

²²⁴ Larry Tart, *Freedom Through Vigilance: History of U.S. Air Force Security Service (USAFSS). Volume IV, USAFSS Airborne Reconnaissance, Part 1*, (Infinity Publishing, West Conshohocken, Pennsylvania, November 2012), pp. 2074-2075.

²²⁵ Dick van der Aart, *Aerial Espionage*, p. 24.

²²⁶ Colonel Bill Grimes, *The History of Big Safari*, (Archway Publishing, Bloomington, Indiana, 2014), p. 32; and Ed Marek, ‘Airborne Peripheral Reconnaissance, Cold War Losses’, *Talking Proud*, 7 August 2013, at <http://www.talkingproud.us/Military/Military/AirborneRecce.html>.

²²⁷ Cited in Larry Tart, *Freedom Through Vigilance*, Volume IV, Part 1, pp. 2158-2159.

incident', when a Russian linguist aboard 'heard the Sakhalin Island Air Traffic Controller initiate a scramble' and the order to two MiG fighters to shoot the spy plane down; the RB-47 managed to escape.²²⁸

A U-2 high-altitude reconnaissance aircraft sometimes accompanied the RB-50 and RB-47 flights to monitor the Soviet reactions. Sometimes, as for example in the case of the RB-47 '*Bonus Baby*' flight on 30 August 1962, the U-2 flew out of Osan Air Base in South Korea.²²⁹ In other periods, from around August 1957 and into the early 1960s, a U-2 was based at Yokota.²³⁰

From 1963 to 1969, the 91st Strategic Reconnaissance Squadron maintained a KC-97G aircraft (No. 51-7269), configured for both photographic intelligence and ELINT operations, at Yokota. It was initially code-named '*Brave Bull*', but was renamed '*Purple Passion*' on 9 April 1965 and '*Rivet Pusher*' on 1 August 1967.²³¹

By the mid-1960s, RB-47H electronic reconnaissance aircraft based at Yokota were undertaking missions 'along the periphery of the Asian mainland from the Gulf of Tonkin to the Sea of Okhotsk'. According to a former crew member:

Their principal objective was to update the electronic order of battle [EOB]. These missions' bread-and-butter targets were early warning radars and SAM and AAA acquisition and tracking radars, their technical parameters, and locations.²³²

On 28 April 1965, an ERB-47H (No. 3290) from Yokota was attacked by two North Korean MiG fighters over the Sea of Japan. It was on the last leg of a routine (or 'canned') ELINT collection mission which had taken it up to 'the southern tip of Sakhalin Island, then along the coast of the Soviet mainland past Vladivostok, the major Soviet naval base in the region', and was passing along the east coast of North Korea when the fighters struck. Although the aircraft was badly damaged by the North Korean 20-mm guns, the crew was able to land back at Yokota.²³³

In the early 1960s, the RB-50s were phased out and replaced by SIGINT-configured C-130B-II *Sun Valley* reconnaissance aircraft, the first of which arrived at Yokota in April

²²⁸ Bill Martin, 'Bill Martin's 55th Story', Nov 2013 Assoc Web Site Message Traffic, *55th Wing Association*, 11 November 2013, at <http://www.55wa.org/MAILROOM/2013/1311.index.html#55story>.

²²⁹ Larry Tart, *Freedom Through Vigilance*, Volume IV, Part 1, p. 2159.

²³⁰ Colonel Roy M. Stanley, *Asia From Above: The 67th Reconnaissance Technical Squadron, Yokota AB, Japan, July 1957 to March 1971*, pp. 41, 58.

²³¹ Colonel Bill Grimes, *The History of Big Safari*, (Archway Publishing, Bloomington, Indiana, 2014), pp. 40-41.

²³² Colonel Wolfgang W. E. Samuel, *I Always Wanted to Fly: America's Cold War Airmen*, p. 234.

²³³ *Ibid.*, pp. 239-254.

1961.²³⁴ They initially conducted operations against Soviet, Chinese and Korean traffic. In July 1964, two additional C-130B-IIs were deployed to Yokota 'to collect COMINT' off the coast of North Vietnam under the QUEEN BEE [program]'. The *Queen Bee* aircraft 'collected air defense information from the Vietnamese in support of ROLLING THUNDER bomb raids [on North Vietnam]'.²³⁵ Another two arrived in September 1964 for *Silver Dawn* operations over the Gulf of the Tonkin and Laos. The *Silver Dawn* program was renamed *Commando Lance* in 1966.²³⁶ From February to June 1967, two C-130Bs were deployed to Yokota from Germany on Operation 'Creek Mark'.²³⁷ The C-130Bs were withdrawn from Yokota in August 1971.²³⁸ The 6091st Reconnaissance Squadron was replaced by the 556th Reconnaissance Squadron in 1968.

In 1967, Yokota became the first operational base for new RC-135M SIGINT aircraft, which flew radio and radar intercept operations in support of the Vietnam theatre. According to a crew member, a typical flight involved aerial refueling over Okinawa, passing through the Taiwan Strait and following the Chinese coast south to Vietnam, and then orbiting the Gulf of Tonkin for several hours before returning to Yokota.²³⁹ However, the RC-135M unit was relocated to Kadena in Okinawa in January 1968. A veteran has said that the 'new aircraft and new facility didn't last long' because 'as soon as Japan found out we were supporting operational missions in Southeast Asia they booted us out'; the unit relocated to Kadena because Okinawa was still under US control.²⁴⁰ The flight crew was happy with the relocation because it cut four hours off the 2-way flight.²⁴¹

At the beginning of the 1970s, Mandarin Chinese, Russian, Korean and Vietnamese linguists were stationed at Yokota. The 6988th RSM was deactivated and USAFSS activities

²³⁴ John Treiber, 'Yokota History Part 4: Yokota and the Cold War, 1952-64', *Yokota Air Base*, 18 December 2014, at <http://www.yokota.af.mil/news/story.asp?id=123434792>.

²³⁵ Colonel Bill Grimes, *The History of Big Safari*, pp. 118-119, 164; and Bill Person, *The Queen Bee Delta Project*, (BookSurge, 2003).

²³⁶ Colonel Bill Grimes, *The History of Big Safari*, p. 119; 'Obituary for Larry Eshleman', *Honoring America's Silent Warriors*, at <http://sw.propwashgang.org/eshleman.html>; and Glen Farmer, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www.ftva.org/juldec02.html>.

²³⁷ '7406 Support Squadron', at <http://www.7406suppron.com/history/history6.asp>.

²³⁸ Martin Streetly, *World Electronic Warfare Aircraft*, (Jane's Publishing Company, London, 1983), p. 79.

²³⁹ Bruce M. Bailey, 'The RB-47 and RC-135 in Vietnam', *The Cold War Museum*, at http://www.coldwar.org/text_files/rb47_rc135.pdf.

²⁴⁰ Jon Waldon, in 'Boeing RC-135M "Stratolifter"', *Aviation Enthusiast Corner*, at <http://www.aero-web.org/specs/boeing/rc-135m.htm>.

²⁴¹ Bruce M. Bailey, 'The RB-47 and RC-135 in Vietnam'.

closed at Yokota for budget reasons, effective on 30 June 1972.²⁴² The Soviet/Russian mission was transferred to Misawa, while the Chinese, Korean and Vietnamese operations went to Kadena.

²⁴² James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 11.

18. Fushimi Momoyama and Fukakusa, Kyoto, 1953-58

At the end of the Korean War, the 326th and 327th Communications Reconnaissance Companies (CRCs) were stationed at Fushimi Momoyama, while the 8610th Army Administrative Unit (AAU) was at Fukakusa. The 327th moved to a newly-opened station at Shu Lin Kou in Taiwan in February-March 1955.²⁴³ The 326th CRC moved to Miho, about 25 km from Kyoto, in May 1957.²⁴⁴

The 8610th AAU was redesignated the 10th USASA Field Station in 1956. The unit had its own DF station.²⁴⁵ The 10th USASA Field Station was deactivated and the Fukakusa station closed on 10 May 1958.²⁴⁶ Some of the personnel transferred to the 14th USASA Field Station at Hakata.²⁴⁷

The 8610th AAU maintained a small unit at Kumamoto in central Kyushu around 1955-56. The site survey was conducted in 1955. Personnel from Fukakusa were stationed at Kumamoto on temporary postings.²⁴⁸

²⁴³ 'Shu Linkou Air Station, 1955: Establishment of Linkou', *Shulinkou Air Station Taiwan: 6987th Security Group - 1955 to 1977*, at <http://shulinkou.tripod.com/dawg2f.html>.

²⁴⁴ Robert Hoskins, 'The 14th, End of the Trail', at <http://members.aoi.com/cyberdenis/army/stories/trailend.htm>.

²⁴⁵ William H. Baker, in '8610 AU – ASA Field Station', *Korean War Project*, at <http://www.koreanwar.org/html/units/8610au.htm>; 'Michael G. Mulich, 1938-2005', *USASADF Net*, at <http://www.usasadf.net/mulich.html>; and Arby Edwards, in '8610 AU – ASA Field Station'.

²⁴⁶ Correspondence from Wayne Gilbert, 9 December 1999; 'Veterans Memorial Museum: Army Security Agency Reunions'; and 'Shu Linkou Air Station, 1955: Establishment of Linkou'.

²⁴⁷ 'James T. Anderson', *Dave Johnson's Korea*, at <http://dave-johnsons-korea.usasadf.net/anderson.html>.

²⁴⁸ Duane Borski, in '8610 AU – ASA Field Station'; and Arby Edwards, in *ibid*.

Plate 18
327th Communications Reconnaissance Company,
Camp Stafford, Fushimi Momoyama,
Headquarters, February 1955



Source: Photo by Bob Skinner, 'February 1955: 327th CRC, ASA Departs Camp Momoyama, Japan for Linkou (USNS LST-47)', *Shu Lin Kou Air Station, 1955: Establishment of Lin Kou*, at <http://shulinkou.tripod.com/dawg2f.html>.

Plate 19
327th Communications Reconnaissance Company,
Camp Stafford, Fushimi Momoyama.
Antenna field (foreground) and Operations Building, February 1955



Source: Photo by Bob Skinner, 'February 1955: 327th CRC, ASA Departs Camp Momoyama, Japan for Linkou (USNS LST-47)', *Shu Lin Kou Air Station, 1955: Establishment of Lin Kou*, at <http://shulinkou.tripod.com/btmomoy1a.jpg>.

Plate 20
Doyle E. Larson, Commander of the 6990th Security Squadron,
Kadena, Okinawa, July 1967-July 1970



Source: 'Major General Doyle Eugene Larson', *Biographies*, US Air Force, at <http://www.af.mil/AboutUs/Biographies/Display/tabid/225/Article/106433/major-general-doyle-eugene-larson.aspx>.

Plate 21
327th Communications Reconnaissance Company,
Camp Stafford, Fushimi Momoyama, Operations Building,
February 1955



Source: Photo by Bob Skinner, 'February 1955: 327th CRC, ASA Departs Camp Momoyama, Japan for Linkou (USNS LST-47)', *Shu Lin Kou Air Station, 1955: Establishment of Lin Kou*, at <http://shulinkou.tripod.com/btmomoy3.jpg>.

19. The ASA at Torii Station, Sobe, Okinawa

The 8603rd Area Administrative Unit (AAU) was established at Futenma on 1 April 1951, although initially ‘only one officer and one enlisted person [were] assigned’. On 15 May 1952, it received ‘a full contingent of personnel’ from ‘an ASA Company at another location on Okinawa’. However, ‘congestion and other problems made this location [Futenma] unfavourable for operations’, and the unit moved from Futenma to Sobe in 1953. The construction of new facilities was completed at Sobe in mid-1953, and personnel moved from Futenma to Sobe on 3 August. Operations continued at the Futenma site until 16 November, when they were transferred to Sobe. The 8603rd AAU was redesignated the 3rd USASA Field Station on 1 January 1957, at which time it was named Torii Station. Its motto of the ‘Best in the Business’ was adopted in 1958. It was redesignated the 51st USASA Special Operations Command on 14 July 1961.²⁴⁹

By 1955-57, USAFSS and NSG personnel were also stationed with the 8603rd AAU/3rd USASA Field Station at Sobe. In addition, personnel from the British SIGINT station at Hong Kong were deployed to the station ‘from time to time’.²⁵⁰ In the mid-1960s, Torii Station was primarily engaged in ‘intercepting Chinese Army and diplomatic radio communications’.²⁵¹ By the late 1960s, Chinese diplomatic traffic sent in ‘high-speed’ Morse was monitored in a small ‘Embassy ditty-bop room’, staffed by just three men per shift.²⁵²

On 1 July 1965, OL-5 of the USAFSS’s 6970th Support Group based at Fort Meade was activated at Torii Station. It was redesignated OL-RR on 1 July 1971 and OL-FR on 1 December 1971. It was inactivated on 30 June 1972.²⁵³ The 6970th Support Group was responsible for providing USAFSS personnel and other assets to the HQ NSA, as well as providing administrative and logistics support for USAFSS personnel on duty with NSA. Similar units to OL-5 at Torii Station were maintained at Camp Fuchinobe, Camp Zama and Kami Seya from around 1968 into the mid-1970s (as well as at Taipei City, Bangkok, and Tan Son Nhut Air Base in South Vietnam).²⁵⁴

²⁴⁹ ‘Field Station Okinawa: Known as Torii Station’, pp. 9-10.

²⁵⁰ Correspondence from Dick Carlson, 30 November 1999; and Jack L. Morgan, in ‘Torii Station’, at <http://htmlgear.lycos.com/guest/control.guest>.

²⁵¹ ‘I AMA Vietnam Veteran’.

²⁵² Ray Kopczynski, ‘Rays Torii Story ... and More: Torii Station, July ’68-January ’71’, *Army Security Agency ONLINE USASAPAC*, at <http://www.asalives.org/ASAONLINE/raystory.htm>.

²⁵³ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, pp. 34, 53; and James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 48.

²⁵⁴ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1601-1606.

The 51st USASA Special Operations Command at Torii Station also maintained a subordinate unit designated the 76th USASA Special Operations Unit at Shu Lin Kou Air Station near Taipei, Taiwan, through the mid-1960s. It was a tenant unit of the USAFSS's 6987th Security Group.²⁵⁵

Torii Station also housed the 104th ASA Detachment, which was responsible for communications security (COMSEC) activities. It had previously been the 7514th Security Detachment, based near Machinato Airfield, overlooking the South China Sea, just north of Naha. It was redesignated Detachment 4 of the 126th ASA Company in late 1956 or early 1957, and moved to Sukiran later in 1957. It became the 104th ASA Detachment in early 1958. Somewhat expanded, it later moved to the relatively large Torii Station.²⁵⁶

According to a veteran of Detachment 4 when it was stationed above Machinato Airfield:

The detachment supplied all the COMSEC monitoring activities for various American forces on Okinawa....

We were responsible for monitoring American phone traffic into and out of the island, radiotelephone, radioteletype, CW and voice transmissions from and to U.S. military units serving on or near Okinawa. In addition we monitored the U.S. codes and their use and turned over for apprehension any clandestine operators we identified and located in the Ryukyan Islands.²⁵⁷

The detachment had 'mobile monitoring units [for] tracking down clandestine operators, particularly in the northern hill country of Okinawa'.²⁵⁸ According to an ASA history for Fiscal Year 1966, when it was located at Torii Station, 'specific activities' undertaken by the 104th Security Detachment 'included communication jamming, imitative communication deception, and communications security'.²⁵⁹

In the early 1960s, Torii Station became the focus of large political protests by Okinawan people opposed to the enormous US military presence on the island. The main

²⁵⁵ U.S. Army Security Agency, *Annual Historical Summary, FY 1966*, (US Army Security Agency, Arlington Hall, Virginia), p. 132; and 'ASA Taiwan', *The Hallmark*, May 1970, at <http://www.asalives.org/ASAONLINE/taiwan.htm>.

²⁵⁶ Dave Whitney, 'Mail Call', *Torii Tribune: Official Newsletter of ASA Okinawa*, (Vol. 5, No. 1), July 2003, pp. 6-7, at <http://www.mlrsinc.com/asaokinawa/newsletters/ToriiTribune0703.pdf>; and Dave Whitney, 'Torii/Sobe/Okinawa COMSEC Operations', July 2011, pp. 3-4, at <http://www.mlrsinc.com/asaokinawa/newsletters/ToriiTyphoon0711.pdf>.

²⁵⁷ *Ibid.*, pp. 3-4.

²⁵⁸ *Ibid.*, p. 4.

²⁵⁹ U.S. Army Security Agency, *Annual Historical Summary, FY 1966*, p. 137.

entrance had to be closed because of a large demonstration by the Okinawan People's Party (OPP) in front of the station in April 1964.²⁶⁰

²⁶⁰ Ralph R. Reinhold, 'Memories of an 058', at <http://www.asalives.org/ASAONLINE/rrtorii.htm>; and 'Torii Station', at <http://www.geocities.com/Tokyo/Flats/3244/torii.htm>.

20. The USAFSS at Yomitan, Okinawa, 1952-56

Detachment 152 of the 15th RSM at Ashiya was deployed to Okinawa in May 1952.²⁶¹ It was briefly located at Kadena Air Base, but soon established its operations facility at Yomitan, which was extant by 1 October 1952. The site was located just northwest of Kadena, near the site used by the 13th Provisional Radio Intelligence Company in May-July 1945, overlooking Red Beach, one of the main landing points during the US invasion of the island. It was redesignated Flight C of the 15th RSM in April 1953.²⁶² It maintained both Intercept and HF DF operations.²⁶³

On 1 October 1953, the 29th RSM was activated at Clark Air Base in the Philippines, and the Yomitan unit became Flight A of the 29th RSM. Two Technical Sergeants were sent to Yomitan from the 15th RSM on 19 October 'to close unit records and inventory holdings of Flight C that had been deactivated'. Flight A was renamed Detachment 1 of the 6929th RSM on 18 November 1954. It was redesignated the 6927th Security Flight on 8 May 1955.²⁶⁴

Detachment 5 of the 6926th RSM based at Shiroy was also located at Yomitan in 1955-56. It was part of Project *Green Moon*, and involved the initial processing of ELINT collected by high-altitude balloons recovered after flights over the Soviet Union and China.²⁶⁵

In 1954, the USAFSS decided to establish a new station at Onna Point, about 15 km to the north. In February 1956, the barracks and mess hall at Onna Point were complete and the squadron moved its living quarters there, commuting between Onna Point and Yomitan 'pending completion of the Operations Building at Onna'. This had been scheduled for September-October, but Yomitan was hit by a typhoon in August and 'it was decided to move to the almost completed Operations compound at Onna Point ahead of schedule rather than try to repair the damaged buildings at [Yomitan]'.²⁶⁶

²⁶¹ Bob W. Rush, *Historical Resume*, p. 11.

²⁶² Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1321, 1604; and '15th Radio Squadron Mobile – USAFSS'.

²⁶³ Bill Grahill, in *ibid.*

²⁶⁴ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1321, 1343, 1604; and Paul Laffitte, in 'USAFSS Dad', 3 May 2013, at <http://usafssdad.com/2009/08/02/51-years-ago/>.

²⁶⁵ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1604.

²⁶⁶ 6927th Radio Squadron Mobile, Onna Point, Okinawa, at <http://6927.53merc.com/>.

21. Kadena Air Base, Okinawa, in the 1950s, 1960s and 1970s

Since 1952, Kadena Air Base, just 22 km north of Naha City, has hosted numerous SIGINT-related units, most of which supported airborne collection operations. From May to September 1952, it hosted Detachment 152 of the 15th RSM based at Ashiya, before the detachment moved to nearby Yomitan.²⁶⁷ It hosted Detachment 1 of the 29th RSM at Clark Air Base in the Philippines from 26 October 1953 to 8 May 1955.²⁶⁸

Two USAFSS units were stationed at Kadena in the mid-1950s. An Air Force Special Security Office (AFSSO) was maintained with the HQ of the USAF's 313th Air Division, which was responsible for the air defence of the Ryukyu Islands from 1955 to 1991, and for which the AFSSO handled all necessary SIGINT duties. A USAFSS unit also operated the RJAO communications station, a counterpart to RJAP at Fuchu, which provided rapid relay of critical COMINT material to the major US SIGINT stations in the region as well as the appropriate Commands.²⁶⁹

Elements of the 6927th Security Flight were temporarily based at Kadena in 1955-56, before the unit moved to Onna Point and became the 6927th RSM. The 6927th Squadron maintained an operating detachment (called Detachment 1 and OL-3 at different times) at Kadena from 1961 to 1971.²⁷⁰ It 'was organized to perform TRANSEC functions'.²⁷¹ Responsibility for the ACRP's TRANSEC was assigned to the detachment during 1961.²⁷²

At the beginning of 1959, both the 6902nd Special Communications Group from Shiroi and the two-person unit from the 6922nd RGM at Ashiya moved to Kadena. The USAFSS HQ was persuaded that only one was needed, and the 6922nd RGM was reconstituted. It was redesignated the 6922nd Security Wing in 1962.²⁷³ At Kadena, it was the USAFSS's second echelon centre for processing SIGINT from Southeast Asia. In the early

²⁶⁷ '15th Radio Squadron Mobile – USAFSS'.

²⁶⁸ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 60; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1604.

²⁶⁹ 'Notes by the Secretaries to the Joint Communications-Electronics Committee'.

²⁷⁰ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1603-1604.

²⁷¹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 47; and Ron Pike, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www/ftva.org/juldec04.html>.

²⁷² Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 47.

²⁷³ Colonel Joseph L. Hurst, '6922 Electronic Security Squadron History'.

1960s, it 'had mission control of Viet Nam operations'.²⁷⁴ Squadrons assigned to it included the 6918th RSM at Brady Air Base, the 6925th RSM at Clark Air Force Base, the 6927th RSM at Onna Point, the 6929th RSM at Osan Air Base in South Korea, and the 6987th RSM at Shu Lin Kou in Taiwan.²⁷⁵

The 6922nd RGM suffered, soon after its formation at Kadena, from the establishment of the Joint Sobe Processing Station (JSPC) at Torii Station, where it effectively provided the whole of the Air Division (JSPC-3) as well as other support elements. In June 1965, it moved to Clark Air Base in the Philippines, where a new AN/FLR-9 CDAA had just been installed.²⁷⁶

Kadena, however, accumulated an increasing variety of airborne SIGINT-related activities. From 1964 to 1971, it was the home-base for long-range surveillance flights over China, North Korea and North Vietnam by *Lightning Bug* unmanned aerial vehicles (UAVs) or 'drones'. Produced by Ryan Aeronautical Company, the drones were launched from the wing of a Lockheed DC-130 aircraft; they had a range of more than 3,800 km and flew at altitudes above 18,000 metres. The drones were landed at Toayuan Air Base in Taiwan, and the photographic intelligence and recorded SIGINT flown to Kadena for processing and analysis. The first mission, over Communist China, took place on 20 August 1964; the first of many was shot down over China on 15 November 1964.²⁷⁷

Several variants were produced. For example, the AQM-34N *Compass Dawn* model, which carried both imaging and ELINT payloads, flew 138 missions over China and Vietnam from March 1967 to July 1971. The AQM-34Q and AQM-34R were dedicated COMINT versions, code-named *Combat Dawn*, with antennas attached along the fuselage. Some of the drones were used as 'bait' to activate the *Fan Song* radar associated with the SA-2 *Guideline* SAM system. These carried a special 'SAM sniffer' payload to monitor the radar

²⁷⁴ *Project Corona Harvest: The Deployment and Development of a Tactical USAF Security Service Capability in Southeast Asia, 1962-64*, (Headquarters United States Air Force Security Service, San Antonio, Texas, 15 July 1969, pp. 67-69.

²⁷⁵ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 44.

²⁷⁶ Colonel Joseph L. Hurst, '6922 Electronic Security Squadron History'.

²⁷⁷ 'Ryan AQM-34N Reconnaissance Drone', USAF Museum, Wright-Patterson Air Force Base, at http://www.wpafb.af.mil/museum/air_power/ap53.htm, and at and at http://www.knowingemergencies.com/uploads/2/4/4/2/24428883/unmanned_aerial_vehicles.pdf; and Dick van der Aart, *Aerial Espionage*, pp. 73-75.

emissions and the SAM data links; the intercepted data was relayed to an ERB-47 SIGINT aircraft flying over international airspace. Routine flights ceased in 1971.²⁷⁸

In retrospect, 1967 was probably the most momentous year in the history of Kadena's SIGINT activities. It saw the establishment of the 6990th Security Squadron, the beginning of its home-basing of the USAF's erstwhile fleet of RC-135 SIGINT aircraft, which are still deployed at Kadena today, and the arrival of the first A-12 *Oxcart* high-altitude, high-speed reconnaissance aircraft, with its successor, the SR-71 *Blackbird*, coming in 1968.

In early 1964, the HQ USAFSS had requested that the Air Force provide it with six RC-135 aircraft for SIGINT collection against China and Vietnam. These were delivered in 1967, and Kadena 'was selected as the most desirable location for the aircraft'. On 19 June 1967, HQ USAF ordered the establishment of the 6990th Security Squadron at Kadena, with the unit to be operational by 1 September 1967. The first RC-135 mission was flown from Kadena on 12 September 1967.²⁷⁹

The first commander of the 6990th Security Squadron was Lieutenant Colonel Doyle E. Larson, who was appointed on 15 July 1967 and served until 5 July 1970. Larson was a major figure in the history of US Air Force SIGINT activities. He had previously commanded the 6985th Security Squadron at Eielson Air Force Base in Alaska. At Kadena, he 'developed innovative uses of the RC-135 aircraft for strategic and tactical collection', and personally flew 71 RC-135 combat support missions over Southeast Asia in 1967-70. In 1971, he became the senior military representative of the NSA at the Pentagon. As a Major General, he served as the first commander of the Electronic Security Command (ESC), which replaced the USAFSS on 1 August 1979.²⁸⁰ The 6990th Security Squadron won the Travis Trophy for 1968.²⁸¹ It was elevated to the 6990th Security Group in September 1971

²⁷⁸ 'Ryan AQM-34N Reconnaissance Drone'; and Steven J. Zaloga, *Unmanned Aerial Vehicles: Robotic Air Warfare 1917-2007*, (Osprey Publishing, Botley, Oxford, 2008), p. 12.

²⁷⁹ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 13; and James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 7.

²⁸⁰ 'Maj Gen Doyle E. Larson, USAF: 2009 Inductee'; and 'Major General Doyle Eugene Larson'.

²⁸¹ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 10.

‘to cope with its expanding cryptologic role in the Pacific theater as well as the addition of communications security responsibilities’.²⁸²

From 1967 to 1972, the 6990th Squadron/Group was principally concerned with monitoring Chinese and North Vietnamese signals. Chinese and Vietnamese linguists flew aboard the RC-135 *Rivet Card* aircraft on *Combat Apple* missions. In 1971-72, the C-130B SIGINT aircraft at Yokota were transferred to Europe, the 6988th Security Squadron at Yokota was inactivated, and ‘the airborne intelligence mission to monitor the North Korean air force was moved from ... Yokota to the 6990th Security Squadron at Kadena’. The mission statement for the 6990th Security Group was adjusted to include the new North Korean responsibilities: ‘Keep the North Korean air force under surveillance and collect related intelligence information’, and ‘Monitor North Korean air force communications to provide an early warning capability for the aircraft and mission in the event of an attack by enemy aircraft’. These were essentially similar to those in its mission statements for the Chinese and Vietnamese air forces.²⁸³

The first RC-135M *Combat Apple* mission was staged out of Kadena in September 1967. The aircraft were equipped with both ELINT and COMINT systems. While still undertaking weekly Sino-Soviet missions, the Kadena-based RC-135s began daily flights over the Gulf of Tonkin, ‘up and down the coast from Da Nang to Haiphong’, operating at an altitude of about 10,000 metres, and with about 12 hours on station. As additional aircraft arrived at Kadena, they were able to provide a continuous, 24-hour a day intercept capability off North Vietnam. In 1972, they began overland missions across North Vietnam and Laos. About 30 personnel from the 6990th Security Group served aboard each flight, as well as ‘several electronic warfare officers’.²⁸⁴

In 1971-72, the *Rivet Card* aircraft were modified to carry a system called ‘*Yogi Bear*’, consisting of ‘dual operation positions with multiple receivers, demodulators, recording, and analysis capability’. Six G-175 receivers and a 28-track recorder allowed ‘bulk collection’. A primary objective was North Vietnamese Army traffic ‘up and down the Ho Chi Minh Trail’. After returning to Kadena after each mission, ‘the mission tape was taken to Torii Station

²⁸² ‘U.S. Air Force Fact Sheet: 390th Intelligence Squadron’, *Offutt Air Force Base*, at http://www.offutt.af.mil/library/factsheets/factsheet_print.asp?fsID=18531&page=1.

²⁸³ ‘6990th Security Sq., Kadena AB, Okinawa, Japan’, at <http://www.geocities.com/Tokyo/Lights/2052/page5.html>.

²⁸⁴ Bruce M. Bailey, ‘The RB-47 and RC-135 in Vietnam’; and Tom Bernard and T. Edward Eskelson, ‘U.S. Spy Plane Capable of Interceding in Attack on Korean Jet’, *Denver Post*, 13 September 1983, p. 3B.

and mounted on a 28-track reproducer to strip off all the channels and distribute them to G-176 single-track recorders for linguists to transcribe'.²⁸⁵

In addition to SIGINT collection, the RC-135s were able to alert US fighter/bomber pilots operating North Vietnam whenever they detected that the US aircraft were being tracked by North Vietnamese radars. According to two COMINT specialists who flew aboard the RC-135s from Kadena during the war, 'crew members aboard RC-135s transmitted real-time warnings' to the fighter/bomber pilots, and 'in some cases, the warnings permitted U.S. pilots to evade missiles about to be launched at them from either the ground or the air'.²⁸⁶

Other RC-135 variants were also sent to Kadena 'for the purpose of collecting specific electronic intelligence' during the Vietnam War, including RC-135Cs, KC-135Rs and RC-135Us. The RC-135C was a strategic reconnaissance version operated by the 55th Strategic Reconnaissance Wing at SAC HQ at Offutt AFB, Nebraska. When deployed to Kadena the aircraft made weekly flights to the Vietnam 'war zone', covering the Chinese coast while going there and back. The RC-135C was nick-named the '*Chipmunk*' because of its large 'cheeks' which housed the AN/ASD-1 multi-receiver ELINT system. A crew-member has recalled that the AN/ASD-1 'had such broad coverage [of the frequency spectrum] and processed so many signals at such an incredible rate it became known as the "Vacuum Cleaner", and that:

It intercepted all electronic data wherever it flew, recorded it in digital and analog format, established the location of each emitter, through its many direction finders, and highlighted each signal that varied from the norm in any way or that had been programmed for special processing. The volume of data collected by that system was sufficient to require an entire unit and elaborate equipment to process it.²⁸⁷

The AN/ASD-1 was connected to an AN/ALD-5 radar analysis system, a state-of-the-art system comprised of 'many types of special detectors that, for the first time, could break a radar or data pulse down and look inside it to detect special features or capabilities of the emitter', and record the data for later evaluation.²⁸⁸

The KC-135R aircraft were 'strictly special mission platforms'. They were 'configured to meet whatever requirement was levied and then deployed to Kadena', with

²⁸⁵ Colonel Bill Grimes, *The History of Big Safari*, p. 171.

²⁸⁶ Tom Bernard and T. Edward Eskelson, 'U.S. Spy Plane Capable of Interceding in Attack on Korean Jet'.

²⁸⁷ Bruce M. Bailey, 'The RB-47 and RC-135 in Vietnam'.

²⁸⁸ Ibid.

fairly frequent re-configurations for other objectives. They ‘operated much like *Combat Apple*, orbiting wherever the fishing was best’.²⁸⁹

The RC-135U *Combat Sent* aircraft were reputedly ‘the most elaborate and capable special mission aircraft ever’. Only two of the type were produced, to cover the whole world, so there was usually only one based at Kadena for ‘about three months a year’. Its activities were divided between the Southeast Asian war zone and Sino-Soviet areas of interest. Among its accomplishments, ‘it detected significant changes in the fusing and guidance signals of [North Vietnamese] missile systems’.²⁹⁰

The 6990th Security Group’s involvement in the Vietnam War continued through to its very end in April 1975, when it participated in Operation ‘*Frequent Wind*’, supporting the final withdrawal of US forces from Saigon.²⁹¹

Other USAFSS units were also stationed at Kadena during the 1970s. The 6928th Security Squadron was activated at Kadena on 1 July 1974, where it was located until 1976. Members of this unit worked at the ASA’s Torii Station.²⁹² The 6905th Security Squadron was activated at Kadena on 1 July 1972. It was a COMSEC unit, a direct successor to Detachment 1 of the 6927th Security Group which had operated at Kadena since 1961. It was consolidated into the 6990th Squadron in July 1975.²⁹³ Some of its personnel worked at Torii Station, while serving at numerous temporary locations ‘all over’ the PACAF area.²⁹⁴

Three A-12 *Oxcart* reconnaissance aircraft, the predecessor of the SR-71s, were based at Kadena (OL-8) in 1967-68. The A-12s were produced by Lockheed Aircraft Corporation in Burbank, California, for the CIA. They were designed to fly over a target at very high speed (up to Mach 3.3) and high altitude (with a maximum ceiling of around 23,000 metres). They were mostly flown by CIA civilian pilots, although these were usually USAF pilots on secret CIA contracts (‘sheep-dipped’). The CIA unit which ran the A-12 program was designated the 1129th Special Activities Squadron, which was based at Groom Lake (also

²⁸⁹ Ibid.

²⁹⁰ Ibid.

²⁹¹ ‘U.S. Air Force Fact Sheet: 390th Intelligence Squadron’, *Offutt Air Force Base*.

²⁹² James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 27; Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1604; and ‘USAFSS Units’, *USAFSS Dad*, at http://usafssdad.com/files/USAFSS_Units.pdf.

²⁹³ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 14; and ‘Security Units Will Combine’, *Stars and Stripes*, 7 July 1975.

²⁹⁴ Martin Davidson, in ‘USAFSS Misawa Family Guestbook’, at <http://v8v.us/kniga/index.php?page=209>.

known as 'Area 51') in Nevada. The *Oxcart* activity at Kadena involved about 260 personnel.²⁹⁵

The A-12 operation at Kadena was code-named '*Black Shield*'. The first support components for *Black Shield* were airlifted to Kadena on 17 May 1967. The first A-12 aircraft (No. 131) arrived on 22 May 1967, the second (No. 127) on 24 May, and the third (No. 129) on 27 May. The *Black Shield* unit was declared operational on 29 May. The first operational mission was flown by No. 131 over North Vietnam on 31 May. The first A-12 flight over North Korea, designated Mission BX6847, was undertaken by No. 131 on 26 January 1968, following the North Korean seizure of the USS *Pueblo* three days before. The aim of the flight 'was to discover whether the North Koreans were preparing any large-scale hostile move on the heels of this incident'. A second flight, Mission BX6853, was undertaken over North Korea on 19 February. The last *Black Shield* operational mission, which was flown over North Korea, was on 8 May 1968.²⁹⁶ In total, 29 missions were undertaken from 31 May 1967 to 8 May 1968, 24 over North Vietnam, two over Cambodia/Laos, and three over North Korea.²⁹⁷

The A-12 *Oxcart/Black Shield* program was really only an interim measure until the new SR-71 *Blackbird* aircraft became available. Also produced by Lockheed, the *Blackbirds* were assigned to the 9th Strategic Reconnaissance Wing based at Beale AFB in California. The SR-71 had a much longer range than the A-12 (about 6,000 km compared to about 4,000), as well as a higher maximum altitude (over 26,000 metres). It carried both imaging and SIGINT payloads, including special ELINT-collection devices needed for its mission of post-nuclear-strike reconnaissance.²⁹⁸ The aircraft at Kadena were called '*Habu*' by the

²⁹⁵ 'A-12 Blackbird', *SR-71 Online*, at <http://www.sr-71.org/blackbird/a-12/>; Adelbert 'Buzz' Carpenter, 'A-12, YF-12A, and SR-71 Timeline of Events, June 2010', *Roadrunners Internationale*, at http://roadrunnersinternationale.com/carpenter/bb_timeline_c10.pdf; and 'Black Shield', *Roadrunners Internationale*, at <http://roadrunnersinternationale.com/blackshield.html>.

²⁹⁶ Central Intelligence Agency, Directorate of Science & Technology, 'BLACK SHIELD Reconnaissance Missions 1 January – 31 March 1968', (DST-BS/BYE/68-2, 30 April 1968), at http://www.foia.cia.gov/sites/default/files/document_conversions/89801/DOC_0001472531.pdf; 'A-12, YF-12A, and SR-71 Timeline of Events, June 2010', *Roadrunners Internationale*, at http://roadrunnersinternationale.com/carpenter/bb_timeline_c10.pdf; 'The Pueblo Incident: US Reactions. OXCART and the Pueblo Incident', *USS Pueblo (AGER-2)*, at http://www.usspueblo.org/Pueblo_Incident/US_Reactions/Oxcart_Flight.html; and 'CIA Pilot Frank Murray', *Roadrunners Internationale*, at <http://roadrunnersinternationale.com/murray.html>.

²⁹⁷ Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, (Osprey Publishing, Oxford, 2008), p. 88.

²⁹⁸ 'A-12, YF-12A, and SR-71 Timeline of Events, June 2010'.

Okinawans, the name of a venomous snake with a sleek ‘hooded’ appearance like the *Blackbirds*.

The first three SR-71 *Blackbirds* (Nos. 974, 976 and 978), arrived at Kadena on 8, 10 and 13 March 1968, and OL-8 was declared operationally ready for sorties on 15 March. The first operational flight was conducted over Vietnam by No. 976 on 21 March. It was flown by Major Jerome O’Malley, later commander of the 9th SRW at Beale (1972-73), Vice Chief of Staff of the USAF (1982-83) and commander of the USAF’s Tactical Air Command (1984-85). The second flight, by No. 976, also over North Vietnam, was on 10 April. The first three *Blackbirds* were replaced by another three, Nos. 962, 970 and 980, in September 1968. The detachment was increased to four aircraft ‘in the Spring of 1970 due to increased intelligence requirements’. No. 978, the first to have arrived at Kadena, was destroyed in a crash landing at the base on 20 July 1972. The Kadena unit was redesignated OL-RK 30 October 1970, OL-KA on 26 October 1971, and Detachment 1 on 1 August 1974, which it remained until the last SR-71 departed Kadena on 21 January 1990.²⁹⁹

From the first mission in March 1968 until 29 March 1971, the raw intelligence data collected by the SR-71s was despatched to Yokota for processing by the 67th Reconnaissance Technical Squadron (RTG); from March 1971, processing was undertaken by the 548th RTG at Hickam Air Force Base in Hawaii.³⁰⁰ A Mobile Processing Center (MPC), housed in eight vans, was installed at Kadena in March 1968; it contained a CDC-3200 computer used ‘for SR-71 mission planning, sensor programming and providing an initial scan of the SR-71’s ELINT collection’. In April 1972, another 15 vans were added to the MPC to enhance the in-theatre post-mission processing capabilities, including preparation of ‘a detailed analysis of the ELINT collection’ from each mission. The upgraded MPC produced ‘an initial ELINT scan for high-threat signals within three hours of the SR-71’s return to Kadena’, and a complete Mission Intercept Report Electrical (MIRE) within 20-24 hours.³⁰¹

From 1968 until 1973, the Kadena-based SR-71s were mainly used for overflights of North Vietnam. In July 1972, No. 975 provided ‘ECM cover’ for B-52s on Operation *Linebacker* bombing missions over Hanoi and Haiphong in North Vietnam.³⁰² In December

²⁹⁹ Col. Richard H. Graham, *SR-71 Revealed: The Inside Story*, (Motorbooks International, Osceola, Wisconsin, 1996), p. 117; and ‘A-12, YF-12A, and SR-71 Timeline of Events, June 2010’.

³⁰⁰ Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, p. 39.

³⁰¹ *Ibid.*, pp. 50-51.

³⁰² ‘A-12, YF-12A, and SR-71 Timeline of Events, June 2010’.

1972, another flight by No. 975 ‘produced a wealth of intelligence data, which included the discovery of two unique target emitters that had been instrumental in the downing of ... B-52s’. Following the Paris Agreement signed between the US and North Vietnam in January 1973 and a substantial reduction in ‘target tasking’, two of the four SR-71s at Kadena returned to Beale.³⁰³

Although overflights of North Vietnam ceased with the signing of the Paris Agreement, SR-71s continued to be used to monitor North Vietnamese activities in Cambodia and Laos. In February 1973, the Strategic Air Command (SAC) ordered the Kadena unit to schedule two SR-71 missions a week over Laos ‘for the remainder of the year’ to collect ELINT for the Pacific Command (PACOM) ELINT Center at Fuchu.³⁰⁴

The Kadena-based SR-71s were also used for peripheral flights around the Soviet Far East and overflights of China and North Korea. On 27 September 1971, No. 980 surveilled a Soviet Naval exercise in the Sea of Japan near Vladivostok. The flight recorded ‘multiple radar returns’ from 290 different radar sites, including the first signals emitted by the new SA-5 SAM system, code-named *Gammon*.³⁰⁵

From 1968 until 1972, when President Nixon ordered their cessation, SR-71s from Kadena ‘made many hundreds of flights over China’.³⁰⁶ North Korea protested about SR-71 intrusions into its airspace on numerous occasions through the 1970s.³⁰⁷ Ten ELINT missions were flown in 1977-81, each involving two or three passes over that country. In April 1981, SR-71s began collecting ELINT data on a suspected SA-2 SAM site on a small island near the western end of the DMZ.³⁰⁸

Many of the flights were deliberately provocative, intended to excite electronic activity in the air defence networks of the targeted country. According to Colonel Richard Graham, who flew numerous SR-71 missions from Kadena in the 1970s (and later served as commander of the 9th SRW at Beale):

The SR-71 was excellent for “stimulating” the enemy’s electronic environment. Every time Habus flew in a sensitive area, all kinds of radars and other electronic wizardry were turned on to see if they could find out what was flying so quickly

³⁰³ Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, p. 58.

³⁰⁴ *Ibid.*, pp. 58-60.

³⁰⁵ *Ibid.*, pp. 48-50; and ‘USAF SR-71 Kadena Operations’, *SR-71 Blackbirds*, at <http://www.wvi.com/~sr71webmaster/kadena2.html>.

³⁰⁶ Dick van der Aart, *Aerial Espionage*, pp. 42, 66.

³⁰⁷ *Ibid.*, pp. 68-69.

³⁰⁸ Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, pp. 76-77.

through their airspace. In fact, our missions were generally not ELINT productive unless “they” were looking for us with electronic signals.³⁰⁹

And according to another account, referring specifically to peripheral flights along the Soviet coast:

An important part of the mission planning process for these flights was to develop ingenious flight profiles and tracks designed to keep Soviet defence controllers guessing as to the Habu’s intentions in order to stimulate the SIGINT environment.³¹⁰

One technique involved scheduling two SR-71s to fly in opposite directions along the coast, with each monitoring the reactions of the Soviet air defence sites to the flight of the other. On 24 June 1980, for example, Nos. 972 and 976 passed each other (at a closing speed of over Mach 6) on a reciprocal course just south of Petropavlovsk on the Kamchatka Peninsula, triggering ‘a series of atypical reactions from the region’s numerous radar sites’. As a result, ‘the ELINT collecting systems of both SR-71s and an RC-135 also sent to the area yielded a rich SIGINT harvest’. On 27 March 1984, Nos. 964 and 973 passed each other near Vladivostok, generating ‘another bumper SIGINT take’.³¹¹

Kadena Air Base was the site of large political protests in 1970-72 during the process of reversion of Okinawa to Japanese government, which included the retention of the extraordinary US military presence on the island. An ASA member who was stationed at Torii Station at the time has recalled that, in December 1970, the protesters ‘actually stormed’ into the base and ‘torched some buildings’.³¹²

In July 1975, following the cessation of combat support missions in Vietnam and the concurrent reduction of responsibilities, the 6990th Security Group was again designated a squadron. When the USAFSS became the Electronic Security Command in August 1979, the 6990th Security Squadron became the 6990th Electronic Security Squadron. The reorganisation expanded the operational mission of the ESC and the 6990th ESS to include ‘the use of electronic warfare capabilities for both offensive and defensive combat operations in support of Air Force Command, Control and Countermeasures’. According to the US Air Force, the 6990th ESS ‘became the workhorse for the command’s airborne

³⁰⁹ Col. Richard H. Graham, *SR-71 Revealed: The Inside Story*, pp. 83-84.

³¹⁰ *Ibid* p. 63.

³¹¹ *Ibid.*, pp. 63-65.

³¹² Ray Kopczynski, ‘Rays Torii Story ... and More: Torii Station, July ’68-January ’71’.

operations, expanding its role in electronic warfare capabilities through direct participation in theater exercises such as 'TEAM SPIRIT', held annually in South Korea'. With this increased responsibility, the 6990th ESS was 'once again elevated' to Group status on 1 May 1980.³¹³

³¹³ 'U.S. Air Force Fact Sheet: 390th Intelligence Squadron', *Offutt Air Force Base*.

22. Hakata (USM-48), Kyushu

Hakata is the ancient name for the area now called Fukuoka, and historically, the name of its port area. It was the area chosen by the Mongols for their invasions of Japan in the 13th century, including two major efforts by Kublai Khan. US SIGINT activities began at Hakata in 1948, when the ASA's 126th Security Service Company at Fushimi Momoyama established a HF DF station near the town of Saitozaki at the tip of the Uminonakamichi Peninsula bounding the northern side of Hakata Bay.³¹⁴ It was selected as the site for a large ASA SIGINT station by a Site Survey team during the first half of 1955.³¹⁵

The 14th ASA Field Station was activated at Hakata on 15 October 1955 as Field Station 7202; it was designated 14th ASA Field Station in early 1957. Officially called 'Hakata Administrative Annex, Itazuke Air Base [Fukuoka]', it was located near Saitozaki and west of Brady Air Base, which was established in 1950-51. It was a tenant unit of the USAF's 6348th Support Squadron at Brady.³¹⁶ It was also referred to as USA-58 and USM-48 in NSA reports.³¹⁷

The 14th Field Station served as 'operational host' and provided support to USAFSS and NSG units at Hakata.³¹⁸ The USAFSS presence began when the 6918th RSM was activated as a first echelon site on 10 August 1958. The unit became operational on 3 November 1958. It was redesignated the 6918th Security Squadron on 1 July 1963. It was initially assigned to the 6902nd Special Communications Group (SCG) at Shiroy Air Base for second echelon processing, but was reassigned to the 6922nd RGM at Kadena on 22 October 1959.³¹⁹

³¹⁴ Correspondence from Wayne Gilbert, 9 December 1999.

³¹⁵ 'Duty with the Navy at Kamiseya Naval Station, 1955', *8612TH A. A. U. Camp Chitose II, 1954-1957*, at <http://www.angelfire.com/fl2/altha11/index35.html>.

³¹⁶ U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, p. 360; and Benjamin Phillips, 'My Remembrance of the 14th', at <http://members.aol.com/cyberdenis/army/stories/ben-1.htm>.

³¹⁷ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment', (United States Cryptology History, National Cryptological School Press), at http://www.governmentattic.org/10docs/NSA-JointSOBEprocCtr_1974.pdf; and 'The National Security Agency and the EC-121 Shootdown', pp. 13-24.

³¹⁸ U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, p. 164.

³¹⁹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 48; and James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 42.

The 6918th Security Squadron maintained a Contingency Team, which deployed ‘to hot spots in Asia to conduct site surveys and establish intercept sites’. Some deployments involved ‘civilian clothing assignments’, as in the case of deployments to Bangkok in 1960-61. Others were ‘strictly military’, as in the case of the assignment to establish a USAFSS intercept station at Da Nang, South Vietnam, in March 1962.³²⁰

The NSG established a detachment (of NSGA Kami Seya) at Hakata in May 1959. It became a ‘full-fledged’ NSG Activity on 1 July 1967, at which time it had about 85 officers and enlisted men.³²¹ It had a total strength of about 80 personnel in 1968-69, making it ‘the smallest Service presence’ at Hakata.³²² The unit concentrated on the interception of Chinese communications.³²³

The three SCAs were located in a single operations building, adjacent to ‘a golf course used by Japanese civilians as well as US military personnel’. The operations building was administered by the ASA, which had the largest presence there. The ASA’s Communications Center also served the USAFSS and NSG units. ‘Surrounding the operations building was the antenna field with its assortment of rhombic arrays’. In the 1960s, the station was supported by the Joint Sobe Processing Station (JSPC) at Sobe, while the NSG unit was frequently in contact with ‘our counterparts at NSGA Taipei’.³²⁴

In 1963, one of the ASA’s first AN/TLR-28 systems was installed at Hakata.³²⁵ The AN/TLR-28 incorporated new 14-track Mincon CMP-114 magnetic tape recorders which could record 14 tracks simultaneously, fed from several receivers. The AN/TRL-28 and the CMP-114 opened the way for Wideband collection, or Multiple Signal Collection, whereby narrow-band signals in contiguous parts of the radio frequency spectrum could all be recorded for later processing.³²⁶

³²⁰ P. G. Kivett, *Intelligence Failures and Decent Intervals*, (AuthorHouse, Bloomington, Indiana, 2006), pp. 15, 27-28; and Phil Kivett, “... and so, It's All Come Down to This”, *Viva AFSS*, 3 November 2008, at <http://vivausafss.org/Kivett.htm>.

³²¹ Vance H. Morrison, ‘U.S. Naval Security Group Activity Hakata, Japan’, *NCVA Cryptolog*, Spring 1995, p. 7.

³²² Jim Lampley, ‘14th USASA FS Hakata Guestbook’, at <http://titan.guestworld.tripod.lycos.com/wgb/wgbview.dbm?owner=hakata>.

³²³ Jim Lawrence, ‘Navy [Hakata] 1962-1963’, at <http://members.aol.com/cyberdenis/army/stories/navy.htm>.

³²⁴ Vance H. Morrison, ‘U.S. Naval Security Group Activity Hakata, Japan’, p. 7.

³²⁵ Kenneth L. Bird, in ‘14th USASA FS Hakata Guestbook’, at <http://titan.guestworld.tripod.lycos.com/wgb/wgbview.dbm?owner=hakata>.

³²⁶ Jules Gallo, ‘NSA Signal Collection Equipment and Systems: The Early Years – Magnetic Tape Recorders’, *Cryptologic Quarterly*, 3 September 1991, DOCID 3967121, pp. 57-59, at http://www.nsa.gov/public_info/_files/cryptologic_quarterly/nsa_signal.pdf.

The NSG installed an AN/GRD-6 HF DF antenna system at Hakata in 1967-69, similar to those constructed at Kami Seya and many other NSG sites around the world a decade before. By 1969, NSGA Hakata had become 'an important element' of the *Bullseye* HF DF network.³²⁷

NSGA Hakata maintained a Direct Support Unit which provided small detachments of personnel for service aboard EC-121 SIGINT aircraft and special SIGINT-equipped submarines. A submarine detachment typically included five men from Hakata, and involved 7-8 week missions.³²⁸ Two NSG personnel from Hakata were aboard the EC-121 electronic reconnaissance aircraft that was shot down by North Korean fighter aircraft on 15 April 1969. They had reported to Kami Seya on temporary duty just 'the day prior to the flight'.³²⁹ The flight was monitored by members of the 6918th Security Squadron, who occupied Room 5 in the Operations Building, and who monitored the North Korean reaction by intercepting its air defence search radar transmissions.³³⁰ However, an NSG operator who was working in Room 1 has stated that, at the time of the actual shoot-down, he happened to walk past Room 5 and found it empty; 'the Air Force collectors ... were scattered around the building doing various personal things' while 'emergency air tracking [was] coming across an open speaker'.³³¹

A large number of Japanese citizens were employed at the Field Station. On 1 July 1964, for example, 73 Japanese were at the station, with 96 authorized; on 30 June 1965, 77 were authorized and 76 assigned.³³²

As the Vietnam War wound down and other capabilities came on-line, Hakata's functions were transferred to other sites in Honshu, Okinawa and South Korea.³³³ The USAFSS's 6918th Security Squadron was deactivated on 30 June 1972.³³⁴ The NSG Activity was inactivated in April 1972. The 14th Field Station was closed on 30 June 1972. It received

³²⁷ Vance H. Morrison, 'U.S. Naval Security Group Activity Hakata, Japan', p. 7.

³²⁸ *Ibid.*, p. 21.

³²⁹ Ted Raboum, 'Room Five – Empty', *NCVA Cryptolog*, Fall 1998, at http://uss Pueblo.org/North_Korea/EC121_save.html; and T. Wayne Babb, *Honto!*, p. 434.

³³⁰ 'The National Security Agency and the EC-121 Shootdown', pp. 13-24; and Matthew Aid, '1969 EC-121 Shootdown', at http://www.imjinscout.com/EC-121_Shootdown.html.

³³¹ Ted Raboum, 'Room Five – Empty'.

³³² U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, p. 361.

³³³ Vance H. Morrison, 'U.S. Naval Security Group Activity Hakata, Japan', p. 11.

³³⁴ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p.42; and Richard Green, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www/ftva.org/janjun03.html>.

a Meritorious Unit Commendation (MUC) for the period from 1 January 1971 to 15 March 1972.³³⁵

The ASA personnel transferred to the new USASA Field Station at Misawa in northern Honshu and to Torii Station in Okinawa.³³⁶ The NSG personnel were transferred to sites in South Korea and Camp Hanza in Okinawa.³³⁷ Many members of the USAFSS's 6918th Security Squadron were transferred to the 6921st Security Group at Misawa.³³⁸

³³⁵ 'Units and Awards', *The Hallmark*, September 1972, p. 17.

³³⁶ Patrick Ciccarone, '708th Military Intelligence Detachment Says Farewell', *DVIDS*, 12 June 2014, at <http://www.dvidshub.net/news/133601/708th-military-intelligence-detachment-says-farewell#.U79gv0Bade5>; Richard Lewis, in '6918th SS Hakata Japan', at <http://www.e-guestbooks.com/view.billmink>; and Greg Sheppard, '14th USASA FS Hakata Guestbook', at <http://titan.guestworld.tripod.lycos.com/wgb/wgbview.dbm?owner=hakata>.

³³⁷ Vance H. Morrison, 'U.S. Naval Security Group Activity Hakata, Japan', *NCVA Cryptolog*, Spring 1995, p. 21.

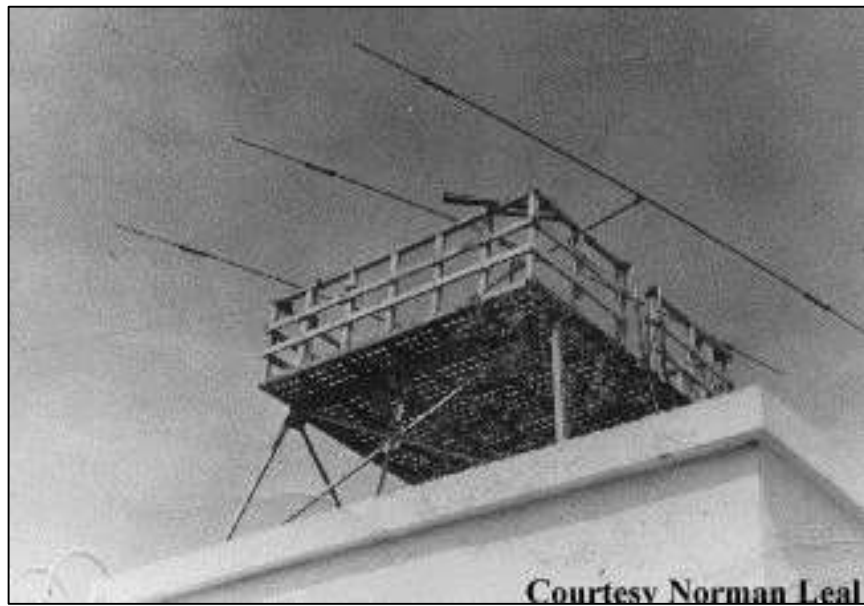
³³⁸ Richard Lewis, in '6918th SS Hakata Japan'.

Plate 22
Headquarters building,
14th ASA Field Station, Camp Hakata, Kyushu, 1957



Source: Photo by Ben Phillips, at <http://home.att.net/~hakata/base-01.htm>.

Plate 23
Antenna atop Headquarters building,
Camp Hakata, Kyushu, 1961



Source: Photo by Norman Leal, at <http://home.att.net/~hakata/base-10.htm>.

Plate 24
Operations building at Camp Hakata, Kyushu, 1960s



Source: Lynn K. Circle, at <http://home.att.net/~hakata/base-01.htm>.

Plate 25
Antenna field at Camp Hakata, Kyushu, 1960s



Source: Lynn K. Circle, at <http://home.att.net/~hakata/base-07.htm>.

Plate 26
Antenna field at Camp Hakata, Kyushu, 1963



Plate 27
Antenna field at Camp Hakata, Kyushu



23. US Army Signal Research Unit No. 3, Itazuke Air Base, Fukuoka

In the early 1960s, the USASA established US Army Signal Research Unit No. 3, at the Itazuke Air Base Annex, about five km from the base, and some 35 km south of the Hakata station. 'Operational tasking' of this unit was maintained by the USASA Processing Center at Vint Hill Farms Station at Warrenton in Virginia. The 14th Field Station at Hakata provided administrative support, the NSG Detachment provided logistical support and 'full operational support' was provided by the USAFSS's 6918th Security Squadron.³³⁹

The mission of the unit, as with the US Army Signal Research Unit No. 4 at Misawa, was to detect possible nuclear detonations around the world by electronic means. The unit used microbarograph equipment to measure and record low frequency acoustic pressure waves in the atmosphere and detect pressure disturbances that might be caused by nuclear explosions. Four 'remote outposts' were located at 'strategic points around the area'; these contained devices to monitor the pressure waves and 'convert them into electronic pulses, which were transmitted to the operations center over wire lines'. At the operations centre, the electronic pulses were converted to data and graphed for analysts to determine if any nuclear detonations had occurred. It had 'only about 20 men assigned to it' in 1961-62. The Army unit received an Air Force Outstanding Unit Award in 1961.³⁴⁰

³³⁹ U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, pp. 360, 365.

³⁴⁰ J. Chester Marsingill, *U.S. Army Twenty Years/Plus*, (Trafford Publishing, Victoria, British Columbia, 2003), pp. 76-77, 82-92.

24. Kuma Station, Chitose, Hokkaido, 1954-71

Following the Korean War, the Chitose station, unlike many other smaller stations in Japan, was modernized and expanded. It became the ASA's principal site for monitoring Soviet communications in the Far East. The 8612th Administrative Unit had more than 150 enlisted men in late 1953.³⁴¹ The unit's first Operations Building was destroyed by a fire on 29 December 1954. The fire started in the Communications Center when one of the men accidentally kicked a box of outdated thermite grenades which were stored there 'for the purpose of destroying equipment in the event of an emergency'.³⁴² According to the 'Morse Trick Chief' who was on duty in the building at the time:

As the fire swept over the Operations Building, fire trucks from the Japanese Fire Department and from the Air Force fire department stationed at Chitose I began to arrive. They were immediately informed that they could not enter the compound for obvious security reasons. The fire fighting would be left to those of us who had security clearances. Our fire engine would not start due to the extreme cold.... It soon became apparent that there was no way we were going to save the building.³⁴³

Another veteran has recalled that 'in the next day or so, a MiG showed up to take a few pictures, made two passes and was gone'. The local Japanese newspaper reported that 'a radar station had burned'.³⁴⁴

At the beginning of January 1955, personnel were posted to the NSG station at Kami Seya 'to carry on our mission at that facility'. They worked there 'for the next several months until a new Operations Building could be constructed'.³⁴⁵ In June-July 1956, construction projects began 'to improve the station's effectiveness and improve the welfare of its personnel'. The 8612th Unit was redesignated the 12th USASA Field Station on 15 November 1956.³⁴⁶ In July 1956, when the major Service SIGINT stations around the world were being rationalized and restructured to provide 'telecommunications support' for the NSA, the Chitose station was the only unit in Hokkaido, and one of only 11 in Japan and Okinawa, identified to be a COMINT Communications Relay Center (CCRC) in the global

³⁴¹ Robert S. Ruehrdanz, *Chitose Road*, (CreateSpace, 2011), p. 57.

³⁴² Ron Dakin, 'The Great Chitose Fire', *ASA Chitose Association*, at <http://www.asachitose.com/page10.htm>.

³⁴³ Ibid.

³⁴⁴ Jacques Crevier, 'Memories of Chitose July 1954 – June 1956', *ASA Chitose Association*, at <http://www.asachitose.com/page10.htm>.

³⁴⁵ '8612th A. A. U. Camp Chitose II, 1954, *8612th A. A. U. Camp Chitose II, 1954-1957*, at <http://www.angelfire.com/fl2/altha11/index34.html>; and '8612th A. A. U. Camp Chitose II, 1955, *8612th A. A. U. Camp Chitose II, 1954-1957*, at <http://www.angelfire.com/fl2/altha11/index35.html>.

³⁴⁶ Roy Van Order, 'History of Kuma Station, Chitose, Hokkaido, Japan'.

network.³⁴⁷ A new brick Operations Building was opened in 1957; it included the unit's first computer.³⁴⁸

By the mid-1960s, the Operations areas at Chitose station had been considerably expanded. An 'igloo', composed of four 'moving-van sized trailers', had been attached to the permanent building. It contained Operations and DF personnel.³⁴⁹ According to an ASA officer who worked at the station in 1967, 'ninety-nine percent of the time there was nothing going on and it was really tough to stay awake'.³⁵⁰

The USAFSS maintained units at Chitose from 1953 to 1956. In 1953-55, Flight A of the 6920th Security Group based at Johnson Air Base was at Chitose. Detachment 7 of the 6926th RSM based at Shiroi was at Chitose from 8 July 1955 to 1 July 1956; it was part of Project 'Grayback', undertaking the first echelon processing of ELINT collected by the balloon flights across the Soviet Union and China.³⁵¹

The NSG maintained a detachment at the station for more than two decades, from 1953 to September 1965.³⁵² It had 24 personnel in 1963, consisting of a Russian linguist branch, a collection and DF branch, and maintenance personnel.³⁵³

In 1963, the ASA station became host to an NSA facility, code-named BANKHEAD II, for intercepting the communications traffic and electronic emissions of Soviet manned spacecraft and unmanned satellites, prompted by the Soviet space initiatives since the launch of Sputnik 1 in October 1957, including the first lunar probes in 1959 and the first manned space flight in April 1961. Planning for the satellite SIGINT program was codified in a report entitled 'Development and Funding Plan for Space Surveillance Signal Intelligence', produced in May 1961. Eight 'space surveillance SIGINT' facilities were built around the world in 1962-65. The facility at Chitose became operational in August 1963. An SDS-910 'tracking data processor', which 'provided more efficient and accurate transmission

³⁴⁷ 'Notes by the Secretaries to the Joint Communications-Electronics Committee'.

³⁴⁸ Roy Van Order, 'History of Kuma Station, Chitose, Hokkaido, Japan'.

³⁴⁹ John Chrastec, 'Russian Paratroopers (1967)', *ASA Chitose Association*, at <http://www.asachitose.com/page10.htm>.

³⁵⁰ Ibid.

³⁵¹ Larry Tart, *Freedom Through Vigilance, Volume III*, pp.1356, 1601; Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 53; and Air Intelligence Agency, 'History Retrospective, 1950s', at http://usafss_boltinghouse.tripod.com/usafss_history/1950s.html.

³⁵² 'NAVSECGRU Stations Past and Present'; and Robert S. Ruehrdanz, *Chitose Road*, p. 57.

³⁵³ Kelly Bowling, 'US Naval Security Group Detachment, Chitose, Japan, Fall 1963', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/chitose_nsgdet_1963.jpg.

of tracking data over teletype circuits, was installed at Chitose in mid-1964.³⁵⁴ ASA personnel were still employed at the BANKHEAD II facility in the period around 1968-70.³⁵⁵

The ASA Field Station at Chitose also supervised a detachment at Makubetsu, in the northwest corner of Hokkaido, from 1952 to 1964 (described later).³⁵⁶ In the early 1960s, the US ASA's Signal Operations Company No. 24 was a co-located subordinate unit of the 12th USASA Field Station. It was discontinued on 15 June 1965 and its personnel were reassigned to the Field Station's 11th Operations Company.³⁵⁷

The Chitose Field Station provided administrative and logistic support to the Signal Research Unit No. 4 at Misawa in the 1960s.³⁵⁸ Like the Signal Research Unit No. 3 at Itazuke, its mission was to monitor possible nuclear detonations around the world by electronic means.

In 1968-69, the Chitose station hosted the ASA's Special Activities Detachment III. Called Project *Leftout*, SAD III was equipped with a complex multi-frequency antenna array. It was later deployed to South Korea for several years.³⁵⁹

The Field Station ceased operations on 31 March 1971 and the station was closed in May. Some of the equipment was moved to Misawa Air Force Base, including 'critical elements of Alpha operations'. One hundred and ten ASA personnel also moved to Misawa. Some personnel were also transferred to the ASA Field Station at Hakata (which closed a year later). The last commander was Colonel Richard McMahon, who then became Chief of ASAPAC at Helemano in Hawaii until it was disbanded on 30 June 1972.³⁶⁰

³⁵⁴ H. D. Wagoner, 'Space Surveillance SIGINT Program', (United States Cryptologic History, Special Series No. 3, National Security Agency/Central Security Service, 1980), pp. 9, 30; and Matthew Aid, 'Listening to the Soviets in Space', 10 March 2013, at <http://www.matthewaid.com/post/45025546361/listening-to-the-soviets-in-space>.

³⁵⁵ Timothy P. Fitzgerald, 'Days of Our Lives', *Days of Our Lives: Elder R. C. Green's ASA in Turkey Newsletter*, No. 111, 11 April 2003, at <http://dool-1.tripod.com/days111/days111.htm>.; Lawton Baker, 'Looking for Info About....', *ASA Chitose Association*, at <http://www.asachitose.com/Page13.htm>; and Dan Hegland, 'The Mail Bag, 1999', at <http://www.eccoh.com/sinop/archives/arc1999.htm>.

³⁵⁶ Bill Reich, 'Reflections of the 254th USASA Detachment Makubetsu, Hokkaido, Japan', *ASA Chitose Association*, <http://asachitose.com/Page20.html>.

³⁵⁷ U.S. Army Security Agency, *Annual Historical Summary*, FY 1964, p. 262; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 352.

³⁵⁸ U.S. Army Security Agency, *Annual Historical Summary*, FY 1964, (US Army Security Agency, Arlington Hall, Virginia), p. 262; U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 359; U.S. Army Security Agency, *Annual Historical Summary*, FY 1966, p. 161; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1967, (US Army Security Agency, Arlington Hall, Virginia), pp. 324-325.

³⁵⁹ Tom Smith, in 'ASA Lives! New Blog for Army Security Agency Veterans', *ASA Lives!*, at <http://armysecurityagency.blogspot.com.au/2008/10/new-blog-for-army-security-agency.html>.

³⁶⁰ Walt Moran, '1971 – ASA Closes Out', *ASA Chitose Association*, at <http://asachitose.com/page18.htm>.

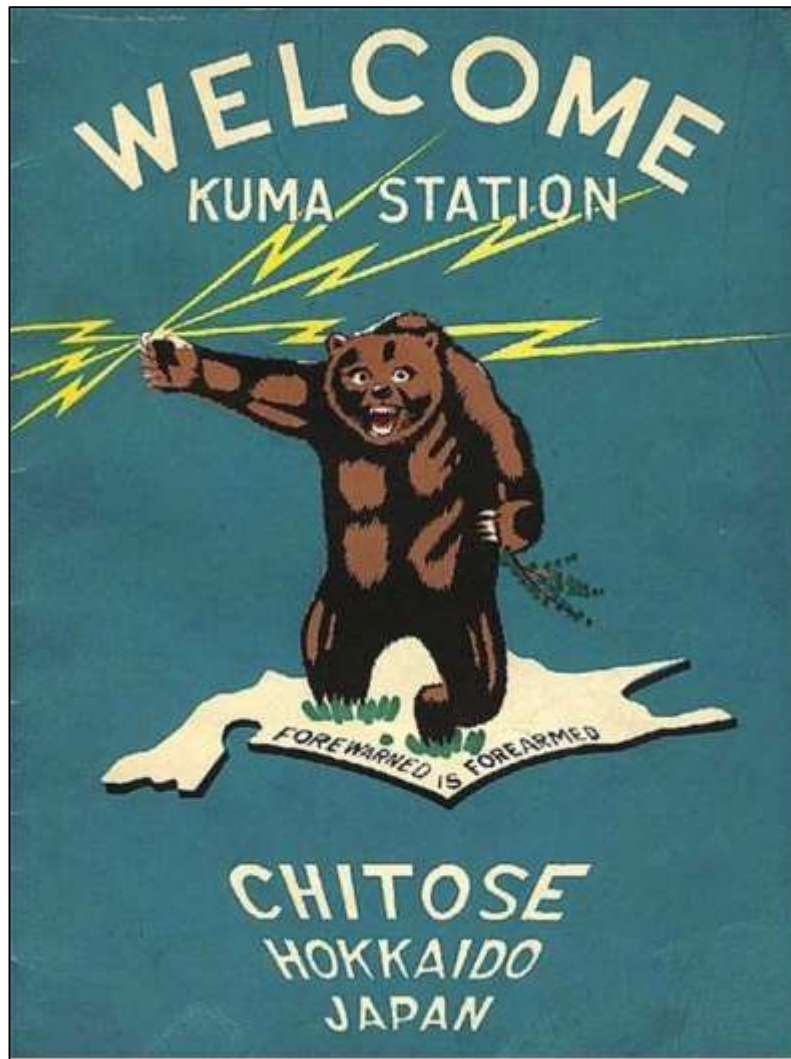
According to an ASA officer who served at the station in 1970-71, 'selected operations' were transferred to the JSDF. A training program was 'designed and implemented for the Japanese personnel selected to man those operations'; when it was 'successfully completed,... they commenced operations'.³⁶¹

When Chitose AFB was returned to Japan arrangements were reportedly made for a small ASA unit to remain as a tenant unit for interception of Soviet radio traffic not receivable at other US sites in Japan. The CIA also maintained its Foreign Broadcast Information Service (FBIS) station for intercepting foreign radio broadcasts at Chitose for another year or two.³⁶²

³⁶¹ Ibid.

³⁶² '12th USASA Field Station, Chitose', at <http://members.aol.com/usasafs12/page1.html>.

Plate 28
Kuma Station, Chitose, Hokkaido



Source: 'Welcome to Kuma Station', *The Kirkpatricks*, at <http://www.thekirkpatricks.net/WelcomeToKuma.htm>.

Plate 29
'Big 200', Headquarters 12th USASA Field Station, Chitose, 1950s



Source: Milt Kessler, 'Milt's Photos 19', ASA Chitose Association. At <http://asachitose.com/MiltsPhotos19.html>.

Plate 30
Main gate at Chitose, 1957-58



Source: Milt Kessler, 'Milt's Photos 5', ASA Chitose Association, at <http://asachitose.com/MiltsPhotos5.html>.

Plate 31
Main gate at Chitose, 1959



Source: <http://members.aol.com/chitoseasa/Fifties2.html>.

Plate 32
Chitose III HQ building, 1967



Source: <http://members.aol.com/twelfthasa/late60s.html>.

Plate 33
NSG Detachment, Chitose, 1963



Source: Kelly Bowling, '1963: NSGDet Chitose, Japan', 'Chitose NSG Detachment',
The Worldwide CT Community and Our Naval Security Group, at
http://www.navycthistory.com/images/chitose_nsgdet_1963.jpg.

25. Makubetsu, Hokkaido, 1952-64

The 12th USASA Field Station at Chitose established a unit called the 254th USASA Detachment at Makubetsu, about mid-way between Wakkanai and Cape Soya, in 1952. It was located on 16 acres of land overlooking the village of Makubetsu, on a site that had been used by the Imperial Japanese Navy as a Signal Station prior to the Second World War. Personnel from Makubetsu often travelled on 'special assignments' to SIGINT activities at Nemuro and Soya Misaki. The unit 'received its mission orders and direction' from the ASA at Chitose and the 500th Military Intelligence Group at Camp Zama. Both of the Chitose and Camp Zama units 'frequently sent advisors, Inspectors and subject matter experts [to Makubetsu] to assist the Detachment'. The ASA station closed on 30 June 1959. It had usually had about 50 personnel; 36 are shown in a photograph taken when it closed.³⁶³ The following poem was published in the Chitose Army newspaper in August 1959:

Sayonara to Makubetsu.
With deep pride and humility we wish to say
Our assignment here was effective in every way.
Our Detachment consisted of soldiers so true and rare
Earnest, loyal, quality beyond compare.
We far from home in a foreign land did serve and live
Our duties required our best we willingly give
Our hearts to maintain the American's Creed
To preserve our Nation's way by word and deed.
Makubetsu your beauty, customs, culture – do preserve
We wish you a happy future – you rightfully deserve.
The 254th expresses fond regards unanimous
To North Hokkaido – Sayonara and arigato gozaimasu.³⁶⁴

The USAFSS had a unit at Makubetsu in 1959-64, named Detachment 1 of the 6986th RSM at Wakkanai. It was closed on 1 July 1964.³⁶⁵

³⁶³ Bill Reich, 'Reflections of the 254th USASA Detachment Makubetsu, Hokkaido, Japan'.

³⁶⁴ Ibid.

³⁶⁵ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 49; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

Plate 34
Detachment 254, 12th USASA Field Station (Chitose), Makubetsu,
Tokachi Sub-prefecture, Hokkaido, 1952-1959



Source: Bill Reich, 'Reflections of the 254th USASA Detachment Makubetsu, Hokkaido, Japan', *ASA Chitose Association*, at <http://asachitose.com/Page20.html>.

26. Futenma (USN-25), Okinawa, 1955-60

The NSG moved from Tengan to Futenma in July 1955. According to Captain George McGinnis, who was the commanding officer at Futenma from August 1957 to June 1959, 'the US Army wanted the site at Tengan so some ignorant Navy type in Tokyo swapped the good site [at Tengan] for the very poor one at Futenma'. In return, the Army built an administration building and 'two or three small additional buildings' to leave for the Navy. Futenma was 'a full-fledged D/F and intercept site', although it consisted of only 'a few intercept positions' and 'an Army mobile DF' system. According to McGinnis, 'we were pretty small potatoes'.³⁶⁶

In 1957-59, McGinnis, together with Jack Jennings, the senior linguist in the Operations Department, instituted an airborne COMINT collection operation using P-2V aircraft from Patrol Squadron 4 (VP-4) at Naha. The aircraft were fitted with 'an assortment of antennas'. The program involved 'about two or three operational flights per month', starting with day-long stop-overs in Taiwan or Hong Kong. They then orbited off the Chinese coast for a 'few hours' before returning to Naha.³⁶⁷

Jack Jennings, who succeeded McGinnis as commander in August 1959, has said that 'at this point, our airborne effort, which had achieved only marginal success, was not very active'. The NSG Activity at Futenma was 'downsizing', although operations continued 'at a much reduced level'.³⁶⁸

McGinnis believed that the Futenma site 'was completely unsuitable for our purposes'. It was located 'in the midst of many Okinawan homes, right in the middle of a village with the houses adjacent to our operations building'. Before he departed in 1959, he had persuaded the NSG that a new site was necessary to accommodate the new large AN/FRD-10 CDAA being planned, and was instrumental in the selection of Sobe as the site for the new station. The NSG Activity at Futenma ceased when the new site at Sobe, NSGA Hanza, opened in August 1960.³⁶⁹

³⁶⁶ George McGinnis, 'Airborne Collection from Okinawa, Part One', *NCVA Cryptolog*, Summer 1998, p. 6; and correspondence from George McGinnis, 20 July 1999 and 16 August 1999.

³⁶⁷ Jack Jennings, 'Airborne Collection from Okinawa, Part Two', *NCVA Cryptolog*, Summer 1998, pp. 6, 11, 15-16.

³⁶⁸ *Ibid.*, p. 16.

³⁶⁹ Correspondence from George McGinnis, 20 July 1999 and 16 August 1999.

However, the NSG maintained a transmitter facility at Futenma for use by Camp Hanza. In early 1964, the NSG asked Congress to provide funding in the FY 1965 defence budget (\$90,000) for ‘a small [400 square feet] transmitter building’ and associated antennas at Futenma to serve Hanza’s participation in the world-wide *Classic Bullseye* HF DF network. In 1966, it sought \$240,000 for a much larger Operations Building at Futenma.³⁷⁰

³⁷⁰ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1965*, (U.S. Government Printing Office, Washington, D.C., 1964), p. 463.

Plate 35
NSGA station, Futenma, Okinawa, 1960



Source: Photo by Dick Ulrich, USN (Ret), 'NSGA Futenma, Okinawa .. 1960-1961',
The Worldwide CT Community and Our Naval Security Group,
at http://www.anzwers.org/free/nsgaokinawa/oki_ulrich_1_big.jpg.

Plate 36
Antenna field and Ops Building 305
at NSGA station, Futenma, Okinawa. 1958-59



Source: Photo by Erich Kern, 'NSGA Hanza, Okinawa', *The Worldwide CT Community and Our Naval Security Group*,
http://www.navycthistory.com/erich_page4.html.

Plate 37
NSGA station, Futenma, Okinawa, 1958-59



Source: Bruce Dettloff and Bob Haggerty, 'NSGA Futenma, Okinawa',
The Worldwide CT Community and Our Naval Security Group, at http://www.navycthistory.com/oki_dettloff_1.html.

27. The USAFSS at Onna Point, Okinawa, 1956-71

A major SIGINT station was established at Onna Point by the USAFSS's 6927th RSM in 1956. As noted above, construction of the site at Onna Point began in late 1954 and was almost complete in August 1956, when a typhoon severely damaged the preceding facility at Yomitan and it was decided to establish the 6927th RSM at Onna Point 'in its own right'. It was redesignated the 6927th Security Squadron in 1963. Onna Point is located near a cliff, above coral outcroppings, near the middle of the island, facing the East China Sea, where the coast road is now dotted with expensive beach resort hotels.³⁷¹ The unit was principally concerned with monitoring Chinese Air Force communications. By February 1965, it had 15 officers and 850 enlisted men.³⁷²

The 6927th RSM maintained two detachments. Detachment 1 was located at Kadena Air Base from 1 July 1961 to 30 June 1971, and Detachment 2 was at Sobe. Detachment 2 was redesignated OL-1 of the 6927th Security Group and moved to Torii Station on 1 July 1967.³⁷³

In addition, personnel from the 6927th RSM served in a special 'top secret' unit in Bangkok in the early 1960s. They wore civilian clothes, carried civilian travel documents and used civilian contractor cover. They worked for the CIA, and their mission was to train elements of the Thai military in SIGINT operations.³⁷⁴

The 6927th RSM was deactivated and the Onna Point station closed on 15 March 1971. 'The troops were moved to Kadena as a detachment of the 6990th Security Group and bussed to work at JSPC' at Torii Station. The 6927th RSM's Web-site states that more than 1,000 men were assigned to the squadron through 'its organizational lifetime'.³⁷⁵ However, the actual figure is surely much higher than this. Indeed, another veterans' site had compiled a list of 'over 1,400 names'.³⁷⁶

³⁷¹ 6927th Radio Squadron Mobile, Onna Point, Okinawa.

³⁷² Ibid.

³⁷³ Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, p. 41; and Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, pp. 30, 54.

³⁷⁴ Steven Minnick, in '6927th RSM – Onna Point, Okinawa, Aug 1959 to Feb 1963', *USAFSS Dad*, at <http://usafssdad.com/2009/01/09/6927th-rsm-onna-point-okinawa/>; Steven Minnick, '6927th: Discussion', *USAFSS Dad*, at <http://usafssdad.com/2009/01/09/dad-holding-me-in-okinawa/>; and Daniel O'Connell, in '6927th RSM – Onna Point, Okinawa, Aug 1959 to Feb 1963', *USAFSS Dad*, at <http://usafssdad.com/2009/01/09/6927th-rsm-onna-point-okinawa/>.

³⁷⁵ '6927th Radio Squadron Mobile, Onna Point, Okinawa'.

³⁷⁶ Steve Feit, '6927th: Discussion', at <http://usafssdad.com/2009/01/09/dad-holding-me-in-okinawa/>.

The Marine Corps took over site later in 1971, and ‘the antenna field became an exercise course’. The Marines left in 1982, and the site was abandoned. A former member of the 6927th who visited the site in 1988 found that ‘the compound where all the electronic activity occurred, the very purpose for the base ... reeked of decay and the smell of mildew’, and that: ‘This windowless blockhouse which once had the tightest security – armed MPs, Top Secret clearance and photo ID required for entry – was now secured by a rotting 2x4 nailed across the doorless entrance’.³⁷⁷

³⁷⁷ ‘6927th Radio Squadron Mobile, Onna Point, Okinawa’.

Plate 38
6927th RSM, US Air Force Security Service (USAFSS) at Onna Point, Okinawa, 1956-71



Source: '6927th Radio Squadron Mobile, Onna Point, Okinawa', at <http://6927.53merc.com>.

Plate 39
US Air Force SIGINT station at Onna Point, Okinawa, 1960s



Source: S. Feit, at '6927th Radio Squadron Mobile, Onna Point, Okinawa', at <http://6927.53merc.com>.

Plate 40
US Air Force SIGINT station at Onna Point, Okinawa, 1960s



Source: Wayne Westbrooks, '6927th Radio Squadron Mobile, Onna Point, Okinawa',
at <http://6927.53merc.com>.

28. Naval Air Station Iwakuni

Iwakuni is located in Yamaguchi Prefecture in the southwest part of Honshu, about 50 km south of Hiroshima. The Naval Air Station is situated in the Nishiki River delta, about 2.5 km southeast of the city. The US Navy's first squadron of SIGINT/Electronic Warfare aircraft was formed at Iwakuni on 1 June 1955. It began operations in October 1955. It was officially called Electronic Countermeasures Squadron One (ECMRON ONE, or VQ-1), and was initially equipped with six Martin P4M-1Q *Mercator* long-range electronic reconnaissance aircraft and several old Lockheed P2V *Neptune* aircraft configured for ELINT collection. By June 1956, it had a complement of 28 officers and 220 enlisted men.³⁷⁸

The P2V *Neptune*, which the airman called 'the truculent turtle', and which was also known as the 'sub chaser', had a 'long tail extension' which housed a Magnetic Anomaly Detector (MAD) system for detecting submarines.³⁷⁹ The P4M-1Q *Mercators* 'bristled with antennae of all different types and [housed] various odd-shaped bulges on the fuselage where radar collectors were mounted'.³⁸⁰ The *Mercators* carried six intercept operators and an electronics technician in addition to the flight crew.³⁸¹

On 7 November 1956, the squadron received two Douglas A3D-1Q *Skynwarrior* aircraft, colloquially called the 'Whale'. It carried a flight crew of three in the cockpit and an Electronic Warfare Officer and three ELINT operators/evaluators in the converted weapons bay. One of the operators manned the 'fire control station', which 'monitored the airways for the very high frequencies of the fire control radars used by fighter planes' to ascertain whether the aircraft was in danger.³⁸² As of 27 November 1957, the squadron had two A3D-1Qs and five P4M-1Qs.³⁸³

VQ-1 conducted ELINT flights along the coasts of the Soviet Union, North Korea and China. On 22 August 1956, a P4M-1Q *Mercator* (No. 124362) from Iwakuni was shot down while on a SIGINT mission off the coast of China. All 16 crew members were killed.

³⁷⁸ Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, (Department of the Navy, Washington, D.C., 1996), pp. 106-107; 'Martin Mercators', *Skunk Works Digest*, (Vol. 4, No. 47), 25 October 1993, at <http://skunk-works-digest.netwrx1.org/v04-n047.txt>; and Captain Don C. East, 'A History of U.S. Navy Fleet Air Reconnaissance: Part 1, The Pacific and VQ-1', *The Cold War Museum*, at <http://www.coldwar.org/histories/HistoryofUSNavyFleetAirReconnaissance.asp>.

³⁷⁹ Ronald Weaver, 'Hawaii Chapter 11', *Pej N Ron's Bogus Journey*, at <http://www.pejnron.com/P-01/P-01-01/2011/2011-06/2011-06-11/2011-06-11.html>.

³⁸⁰ Thomas C. Van Hare, 'Intercepted!', *Historic Wings*, at <http://fly.historicwings.com/2013/06/intercepted/>.

³⁸¹ 'Martin Mercators'.

³⁸² Ronald Weaver, 'Hawaii Chapter 11'.

³⁸³ Captain Don C. East, 'A History of U.S. Navy Fleet Air Reconnaissance: Part 1, The Pacific and VQ-1'.

The incident occurred when the *Mercator* was about 50 km off Wenzhou on the Chinese coast, over the East China Sea, about 250 km north of Taiwan.³⁸⁴ On 16 June 1959, another P4M-1Q (No. 122209) from Iwakuni, was attacked by two North Korean MiG-17 fighters while on a routine reconnaissance mission over the Sea of Japan, about 165 km east of Wonsan on the North Korean east coast. Its starboard engines and rudder were shot away, but the crew managed to manoeuvre the aircraft back to an emergency landing in Japan.³⁸⁵ Tragedy also afflicted the A3D-1Q *Skywarrior* aircraft, when No. 130362 ditched into the Sea of Japan due to an in-flight fire on 28 May 1959, killing the four crew members.³⁸⁶

VQ-1's complement of ELINT aircraft was substantially revamped in 1959-60. The squadron received two P2V-5F *Neptunes* in August-September 1959 and a third in January 1960, although these were transferred in March.³⁸⁷ On 21 February 1960, VQ-1 received its first Lockheed WV-2Q (EC-121) *Super Constellation* SIGINT aircraft. An NSG member who was assigned to VQ-1 at Iwakuni in 1958-60 has described the WV-2Q as 'one heavily electronics-filled work of art'. It had a 'sail on the top [which] was filled with many DF (Direction Finding) antennae which searched the radio and radar spectrum to locate where signals originated'. According to the NSG member,

the primary job was to fly close enough to the coast of China and Russia to cause them to bring up their early warning and fire control radar sites so that we could plot their locations, and from these plots analysts were able to detect holes in their defenses, so that if the United States should ever go to war with either country, they would know at which points they could enter the country with the least chance of being detected.³⁸⁸

The first Douglas A3D-2Q *Skywarrior* arrived on 5 March 1960. It carried a larger assortment of electronic detection and recording equipment than the A3D-1Qs.³⁸⁹

VQ-1 was transferred to Atsugi Naval Air Station in June-July 1960, at which time the last P4M-1Q *Mercator* was retired, leaving the squadron with its WV-2Q (EC-121) and A3D-2Q 'work horses'.³⁹⁰

³⁸⁴ Larry Tart and Robert Keefe, *The Price of Vigilance: Attacks on American Surveillance Flights*, pp. lxxii-lxxiii; and Frederick J. Ferrer, 'Answering the Call', *The Story of U.S. Aerial Reconnaissance during the Early Cold War (1947-1962): Service and Sacrifice of the Cold Warriors*, at <http://www.rb-29.net/html/77ColdWarStory/03.04anscall.htm>.

³⁸⁵ Captain Don C. East, 'A History of U.S. Navy Fleet Air Reconnaissance: Part 1, The Pacific and VQ-1'.

³⁸⁶ Nathan Decker, 'Douglas A3D (A-3) Skywarrior', *Forgotten Jets*, at <http://www.millionmonkeytheater.com/A3D.html>.

³⁸⁷ Captain Don C. East, 'A History of U.S. Navy Fleet Air Reconnaissance: Part 1, The Pacific and VQ-1'.

³⁸⁸ Ronald Weaver, 'Hawaii Chapter 11'.

³⁸⁹ 'Fleet Air Reconnaissance Squadron One'.

³⁹⁰ Ibid.

In addition to VQ-1, Patrol Squadron One (PATRON ONE), or VP-1, was intermittently based at Iwakuni. It was first deployed to Iwakuni in August 1959, when it was equipped with P2V-7S aircraft. It returned to Iwakuni on 1 October 1964, and by 1965-66 was 'into the thick of the Vietnam conflict'.³⁹¹ In February 1966, VP-1 was placed under 'operational control' of Commander Task Group 72.4, also designated CFAW-6. The squadron was equipped with twelve SP-2H *Neptunes*.³⁹² By early 1966, a detachment with seven of the SP-2Hs had been set up at Tan Son Nhut Air Base near Saigon in South Vietnam. It flew 'a total of 351 combat missions' amounting to 'a total of 2,400 flight hours', mainly along the South Vietnamese coastline, in support of Operation *Market Time*.³⁹³ The squadron was equipped with new P-3B *Orion* aircraft in February 1970, at which time its home-base was moved to Barbers Point in Hawaii.³⁹⁴

The NSG reportedly maintained a small 'intercept site' at Iwakuni in the mid-1960s. Information about Soviet naval movements and especially submarine activities was sent to Iwakuni from other US SIGINT stations around Japan, such as Wakkanai. In December 1963, for example, the Wakkanai station informed Iwakuni about the location and electronic activities of a Soviet Naval Tu-95 *Bear* which was trying to track a USAF RB-57 ELINT aircraft over the Sea of Okhotsk.³⁹⁵

³⁹¹ 'U.S. Navy Patrol Squadrons: VP-1 History', *VP Navy*, at http://www.vpnavy.com/vp1_1960.html.

³⁹² Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, p. 101.

³⁹³ 'U.S. Navy Patrol Squadrons: VP-1 History'.

³⁹⁴ 'VP-1 History', *PATRON ONE*, at <http://www.vp1.navy.mil/history.html>.

³⁹⁵ Bill Person, *Critic Makers: The Ironworks Incident*, (Bill Person, 2003), pp. 179, 260.

29. The 1956 reorganisation

Following the effective end of the Korean War in July 1953, the US military suffered another round of demobilisation, with sharp budget cuts and personnel reductions which affected the Service SIGINT agencies no less than other parts. Post-war official reviews led to substantial reorganisations and the closure of numerous operating facilities. In addition, with the end of the Allied occupation and the regaining of Japanese independence in April 1952 (with the exceptions of Okinawa, which remained under US control until 1972, and Iwo Jima, which remained under US control until 1968), there was growing pressure to consolidate facilities into fewer locations.

In addition, the fledgling NSA, still only 18 months old at the end of the Korean War, required not only secure communications with the Service Commands and their major intercept and processing stations but also considerable support from the Services with respect to COMINT collection and processing. On 19 July 1956, the NSA and the Service SIGINT agencies agreed on a plan to consolidate and rationalize their world-wide SIGINT activities, with particular respect to the Services' support for the NSA. A central feature of the plan was the establishment of COMINT Communications Relay Centers (CCRCs) for the relay of COMINT teletype traffic around the globe.³⁹⁶

An Interim Plan had been agreed on 5 November 1953, while development of a longer-term plan proceeded. Several reviews of the evolving proposal were undertaken in August-October 1955. These included the preparation of estimates of prospective COMINT traffic loads, the determination of equipment and other capability requirements, and the development of a concept of operations for COMINT support to the NSA by the Services. In a letter to the Service Commands dated 25 January 1956, the NSA noted that the Services had 'concurred in principle with the concepts for establishment' of CCRCs in Okinawa and Taiwan.³⁹⁷

The 1956 reorganisation involved the establishment of 10 CCRCs around the world, including six in the Pacific – Anchorage in Alaska, Wahiawa in Hawaii, an undetermined ASA location in Japan, Clark Air Force Base in the Philippines, Onna Point in Okinawa, and

³⁹⁶ 'Notes by the Secretaries to the Joint Communications-Electronics Committee'; and Jeffrey T. Richelson and Desmond Ball, *The Ties That Bind: Intelligence Cooperation between the UKUSA Countries – the United Kingdom, the United States of America, Canada, Australia and New Zealand*, (Allen & Unwin, Sydney, Second edition, 1990), pp. 144-147.

³⁹⁷ 'Notes by the Secretaries to the Joint Communications-Electronics Committee'.

Nan Szu Pu in Taiwan. The two CCRCs at the undetermined site in Japan and Onna Point in Okinawa connected 19 places in Japan, including 11 COMINT collection stations and eight HQs and liaison offices concerned with the command and control of COMINT operations in Japan. They also maintained connections with Seoul, Elmendorf Air Force Base in Alaska, Wahiawa, Fort George G. Meade, Kelly Air Force Base in Texas, Nan Szu Pu and Clark Air Force Base.

The eleven COMINT Units/Stations in Japan proposed in the 1956 plan were as follows:

6921st RSM, USAFSS	Misawa
6922nd RSM, USAFSS	Ashiya, Kyushu
6924th RSM, USAFSS	Shiroi, Tokyo
326th CRC, USASA	Momoyama, Kyoto
8603rd DU, USASA	Torii Station, Sobe, Okinawa
8610th DU, USASA	Fukakusa, Kyoto
8612th DU, USASA	Chitose, Hokkaido
USM- 48, USASA	Hakata, Kyushu
USN-39, NSG	Kami Seya
USN-25, NSG	Futenma, Okinawa
6927th RSM/CCRC, USAFSS	Onna Point, Okinawa

The eight HQs and Liaison Offices were:

NSA Far East	Tokyo
ASA Far East	Camp Oji, Tokyo
AFSSO FEAFF	Fuchu, Tokyo
AFSSO 5 th Air Force	Moriyama Air Station, Nagoya
AFSSO 6007 th RG	Yokota Air Base, Tokyo
AFSSO 313 rd AD	Kadena, Okinawa
RJAO AIRCOMNET	Kadena, Okinawa
RJAP AIRCOMNET	Fuchu, Tokyo

Although most of the important elements of the 1956 plan were implemented, some modifications were necessitated before the network became operational. Budget cuts in 1958 forced further contractions and rationalisations. Several of the particular collection sites and relevant HQs that featured in the 1956 plan were entirely closed or relocated from Japan. The HQ ASAPAC at Camp Oji was already 'being phased down' in 1956-57, and moved to Hawaii in 1958.³⁹⁸ The ASA's 326th CRC moved from Momoyama to Miho in May 1957.³⁹⁹ The 8610th AAU at Fukakusa (Kyoto) was closed in May 1958.⁴⁰⁰ The HQ of the 5th Air Force and its Special Security Office (SSO) moved from Nagoya to Fuchu in Tokyo in July 1957.⁴⁰¹ The 6007th Reconnaissance Group at Yokota was inactivated on 9 August 1957.⁴⁰²

According to an official history of the USAFSS, 'by 1958, Japan's growing autonomy called for the USAFSS to withdraw all facilities from the Japanese mainland except an augmented effort in the Misawa-Wakkanai complex'.⁴⁰³ The 6924th RSM left Shiroy in 1956. The 6920th Security Wing relocated from Shiroy to Wheeler Air Force Base in Hawaii on 1 November 1958. The 6922nd RSM moved from Ashiya to Kadena in 1959.

³⁹⁸ Hank Jarvey, 'Bio of Hank Jarvey', *Torii Typhoon* [Official Newsletter of ASA Okinawa], (Vol. 5, No. 4), July 2006, p. 5, at <http://www.mlrsinc.com/asaokinawa/newsletters/ToriiTyphoon0706.pdf>.

³⁹⁹ Robert Hoskins, 'The 14th, End of the Trail'.

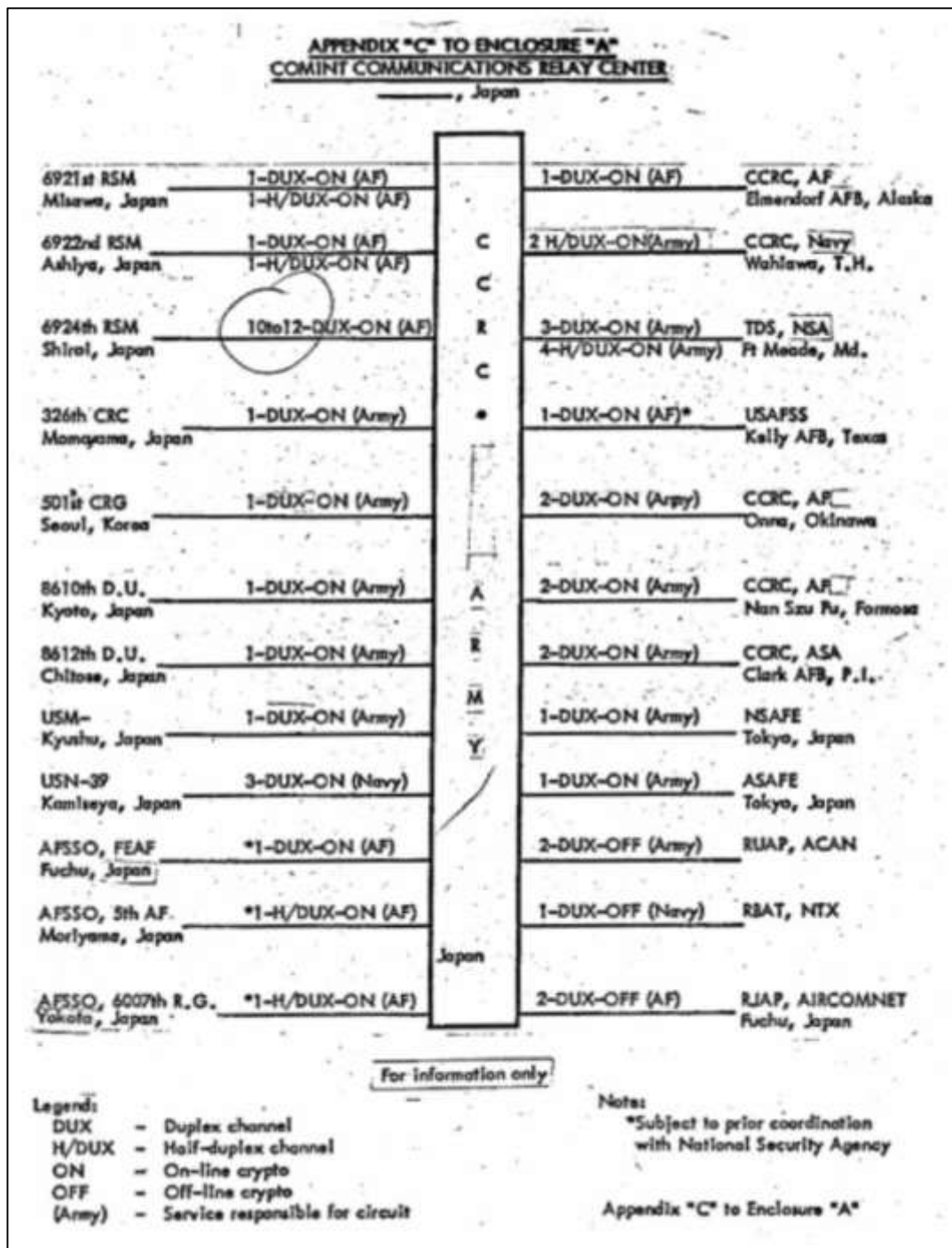
⁴⁰⁰ Correspondence from Wayne Gilbert, 9 December 1999; 'Veterans Memorial Museum: Army Security Agency Reunions'; and 'Shu Linkou Air Station, 1955: Establishment of Linkou',

⁴⁰¹ 'Komaki Airfield (Nagoya Airfield)', *Pacific Wrecks*, at <http://www.pacificwrecks.com/airfields/japan/komaki/index.html>.

⁴⁰² '6007th Reconnaissance Group', *Wikipedia*, [accessed 22 November 2015], at http://en.wikipedia.org/wiki/6007th_Reconnaissance_Group.

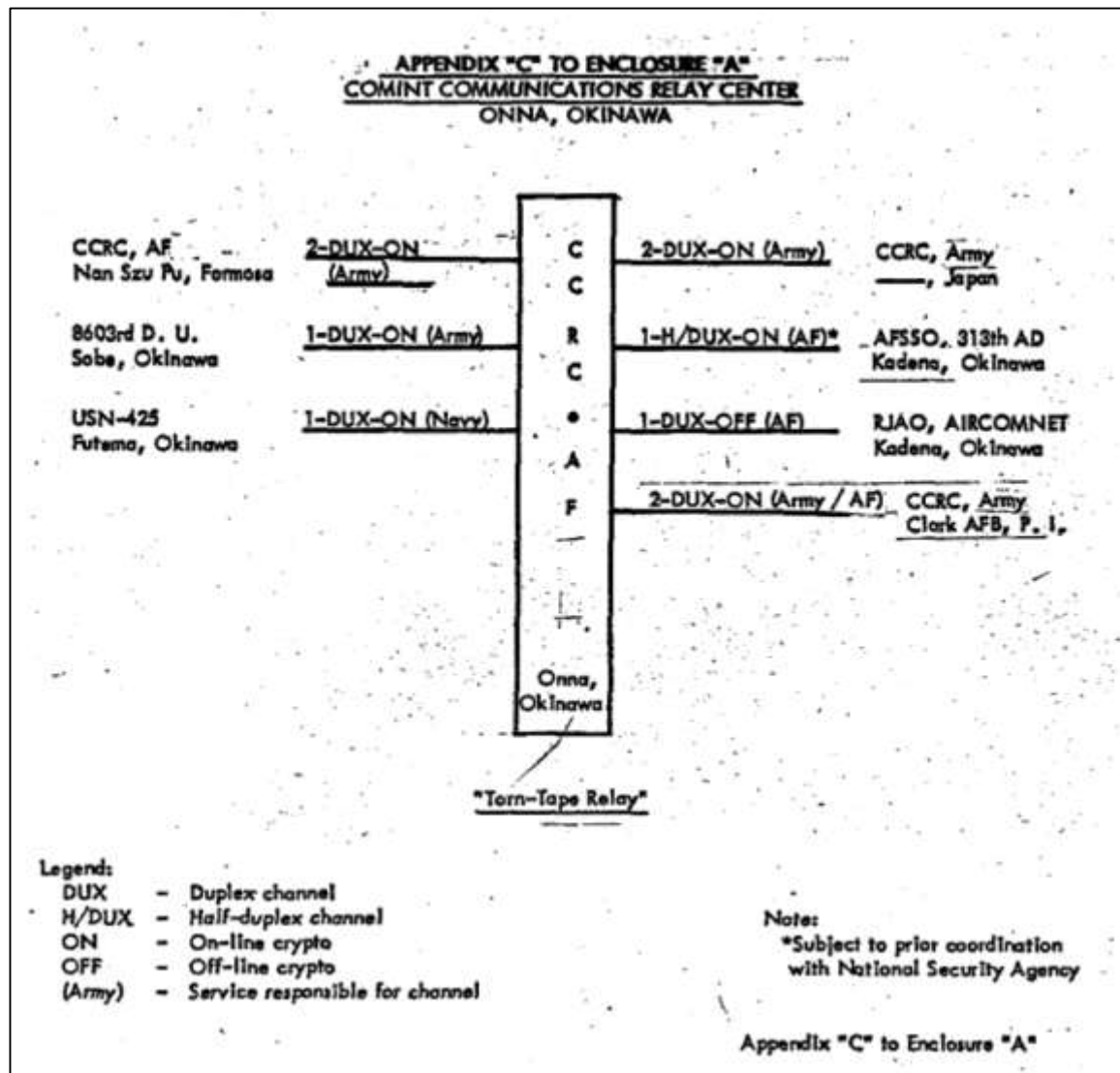
⁴⁰³ Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, pp. 35-36.

Plate 41
NSA COMINT Communications Relay Center (CCRC), Japan, 1956



Source: 'Notes by the Secretaries to the Joint Communications-Electronics Committee', *Revision of Interim Outline Plan for Telecommunications Support of National Security Agency*, (JCRC 1371/1, 19 July 1956), Appendix C to Enclosure A.

Plate 42
NSA COMINT Communications Relay Center (CCRC),
Onna Point, Okinawa, 1956



Source: 'Notes by the Secretaries to the Joint Communications-Electronics Committee', *Revision of Interim Outline Plan for Telecommunications Support of National Security Agency*, (JCRC 1371/1, 19 July 1956), Appendix C to Enclosure A.

30. Sakata and Mount Chokai, 1956-62

The NSG maintained a SIGINT facility at Sakata, in Yamagata Prefecture, about 360 km north of Tokyo, facing the Sea of Japan, in 1956-62. It was established in November 1956 as a detachment of the NSG Activity at Kami Seya, but was designated an NSG Activity in its own right on 26 June 1957.

According to the officer-in-charge in 1961-62, Lieutenant Robert Horan, it was 'a small ELINT station' which occupied about 30 acres, 'on the edge of the farming and fishing city of Sakata', overlooking the Sea of Japan. It operated a 60-foot dish antenna. There were usually 3-4 officers and approximately 55-65 enlisted men stationed at the facility.⁴⁰⁴ In James Bamford's words, the post 'directed its ear 550 miles across the Sea of Japan toward the intriguing geographic confluence of China, Korea and the Soviet Union'.⁴⁰⁵ Lieutenant Horan's specialty was 'Russian linguist'.⁴⁰⁶ A veteran who served at Sakata in 1961-62 has described it as an 'excellent multi-purpose facility'.⁴⁰⁷ About 35 Japanese 'locals' worked at the base. They provided security and fire protection, and undertook 'all public works operations'.⁴⁰⁸

The station was informed in July 1962 that it was soon to be closed. Most of the personnel left in late August 1962, when dismantling of the equipment began. The NSG Activity was decommissioned on 7 September, and the site was officially closed on 1 October, when the US flag was lowered and the last personnel boarded trucks bound for Kami Seya. According to Lieutenant Horan, 'ultimately, increased VQ ELINT flight operations and other sophisticated technologies doomed the mission of NSGA Sakata'.⁴⁰⁹

The Sakata station maintained a small temporary base at the summit of nearby Mount Chokai, which was manned by a rotating contingent from the NSG Activity at Sakata. The sailors lived in large 20-man tents and used 'Quick Vans' for operations. A small Marine SIGINT unit was also stationed on Mount Chokai in 1961-62. They were 'on

⁴⁰⁴ Bob Horan, 'NSG Det Sakata, Japan', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/bob_horan_sakata_page_3.html.

⁴⁰⁵ James Bamford, *The Puzzle Palace*, p. 208.

⁴⁰⁶ Bob Horan, 'NSG Det Sakata, Japan'.

⁴⁰⁷ Wayne B. Baldwin, in 'Kamiseya Roster Part Four', at groups.msn.com/KamiSeyaReunion/kamirosterpart4.msnw.

⁴⁰⁸ 'Sakata, Yamagata Prefecture, Honshu, Japan', *Naval Security Group Station History, The Worldwide CT Community and Our Naval Security Group*, at <http://www.navycthistory.com/NSGStationsHistory.txt>.

⁴⁰⁹ Bob Horan, 'NSG Det Sakata, Japan'; and 'Sakata, Yamagata Prefecture, Honshu, Japan'.

temporary duty testing antennae' and were attached to the NSG Activity at Sakata for support.⁴¹⁰

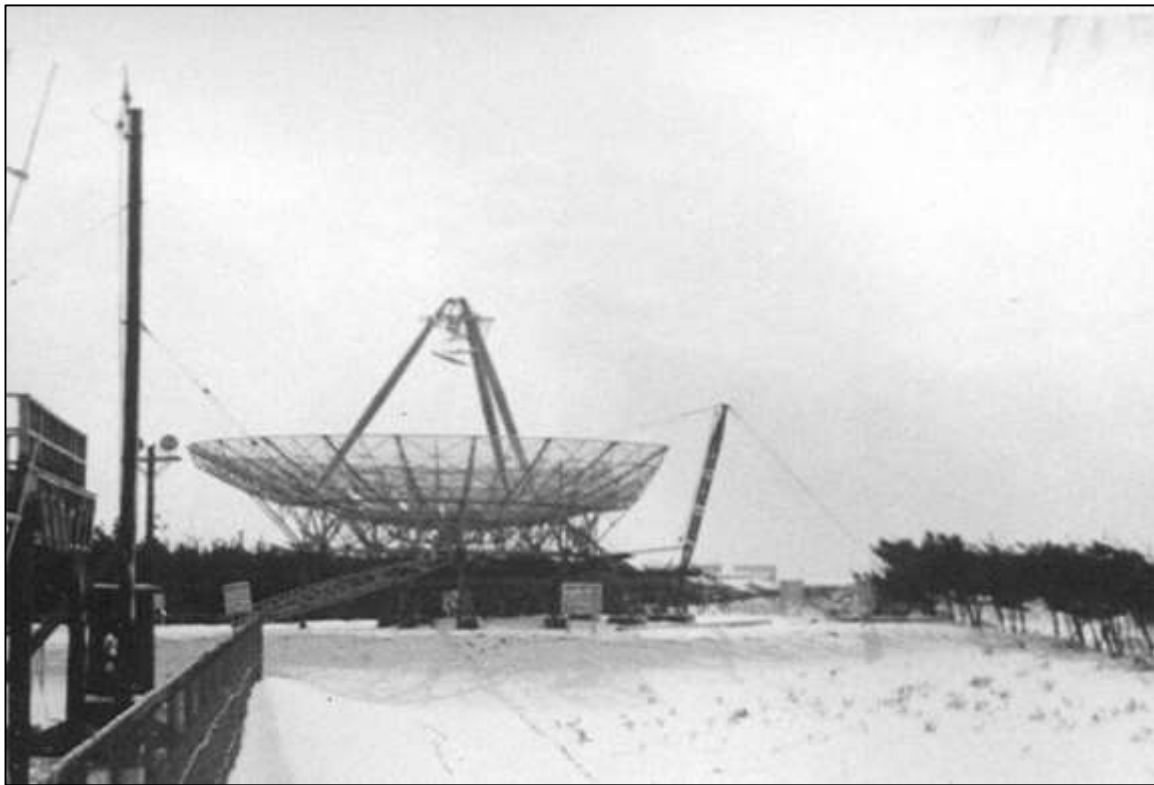
⁴¹⁰ Cecil Draper, 'NSGA Sakata, Japan', at http://www.answers.org/free/navyscpo/sakata_page_5.html; Bob Horan, 'NSG Det Sakata, Japan'; and 'Sakata, Yamagata Prefecture, Honshu, Japan', *Naval Security Group Station History, The Worldwide CT Community and Our Naval Security Group*, at <http://www.navycthistory.com/NSGStationsHistory.txt>.

Plate 43
NSGA Sakata Logo, 1957-62



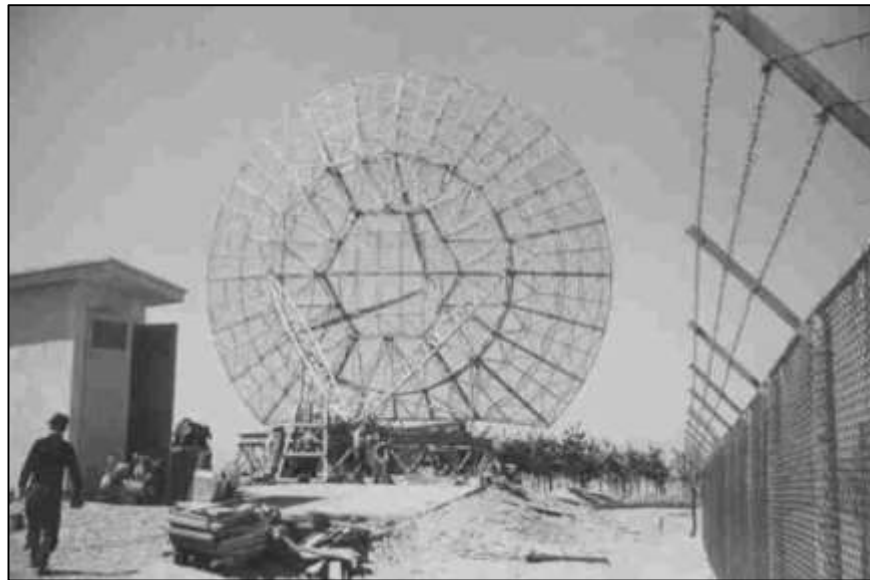
Source: 'NSG Det/NSGA Sakata, Japan', *The Worldwide CT Community and Our Naval Security Group*,
at http://www.navycthistory.com/sakata_japan_intro.html.

Plate 44
60-foot ELINT dish at Sakata, 1961



Source: Lois Davidson, at http://www.anzers.org/free/navyspc/sakata_lois_davidson.html.

Plate 45
60-foot ELINT dish at Sakata, 1962



Source: 'Images from John Norosky, NSGA Sakata, Japan 1962', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/sakata_john_n_photo_4_big.jpg.

Plate 46
Dismantlement of ELINT dish at Sakata, 1962



Source: 'Images from John Norosky, NSGA Sakata, Japan 1962', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/sakata_john_n_photo_6_big.jpg.

Plate 47
Dismantlement of ELINT dish at Sakata, 1962



Source: 'Images from John Norosky, NSGA Sakata, Japan 1962', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/sakata_john_n_photo_5_big.jpg.

Plate 48
US ELINT site at Mount Chokai, c. 1961



Source: 'NSG Det Sakata, Japan - early 1960's. Images from Joe Pirkle', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/sakata0012_joe_pirkle_big.jpg.

31. Misawa in the 1950s

The USAFSS began SIGINT activities at Misawa through the second half of 1950. It grew through the 1950s and 1960s to become the USAFSS's largest and most important SIGINT collection site in Japan. Initially, the operating unit was a detachment of the 1st RSM at Johnson Air Base, but in January 1953 the HQ of the 1st RSM itself moved to Misawa. The 1st RSM was redesignated the 6921st RSM on 8 May 1955, and the 6921st RGM on 11 May 1956.

At the beginning of 1953, the 1st RSM had a new Operations Building (S-1555), the HF antennas strung from 75-foot masts, and the DF system in an HO-17 shelter about 100 metres to the west.⁴¹¹ By January 1954, there was 'a farm of big Rhombic and [Inverted] V antennas' on the western side of Security Hill. The V antennas intercepted HF signals in the 40- to 10-metre band (7.025 to 30 MHz). Radio operators in the Operations Building used R-390 radio receivers, Hammarlund SP-600s, which covered the frequency range from 540 kHz to 54 MHz. and Collins 51-Js, which covered from 540 kHz to 30.5 MHz.⁴¹²

Misawa's principal mission in the mid-1950s was to monitor Soviet Air Force communications in the Far East. A routine task was to monitor Soviet air bases and alert USAF radar stations on Hokkaido when Soviet aircraft were preparing for take-offs. As a USAFSS veteran has recalled:

The 6921st RSM informed the radar sites when Russian tower controllers told their pilots to start their engines and move to the taxi-strip. We were able by traffic analysis to identify instantly which fighter units were involved, what kind of planes they were flying, what orders the pilots were given, and we even knew which pilots were flying that day because our operators were able to recognize them by their voices. As a result, we knew which pilots were their best, which were mediocre and which were novices, We kept detailed logs of each pilot's performance and capabilities as well as his shortcomings. We did not share the methodology with the U.S. radar site commanders, but we did alert them to the quality of the Soviet pilots assigned to today's mission. This fact drove the radar commanders a little nuts.⁴¹³

⁴¹¹ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1182-1183; and T. Wayne Babb, *Honto 3! The Pictorial History of the USAF Security Service at Misawa, Japan*, (Booklocker.com, 2013), pp. 213, 250.

⁴¹² 'The Good Old First Radio Squadron', at <http://www.bobnfumi.com/1radio.html>; and T. Wayne Babb, *Honto 3!*, p. 5.

⁴¹³ Patrick J. McGarvey, 'Communist Military Strength in Asia: 1956', at <http://www.bat69ers.org/203mcg10.htm>.

A Russian linguist (MOS 203-1) who was stationed at Misawa in 1954-55 has stated that his ‘task was to tape Soviet air force voice traffic’. One of his particular jobs was to monitor the Soviet responses to US reconnaissance flights around and across its borders. He said that ‘the purpose of our regular flights was to provoke the Soviet air force into activity to determine how well it might perform’.⁴¹⁴ Morse intercept operators (MOS 292s, or ‘ditty boppers’) monitored Soviet Manual Morse traffic. The DF station operated with stations at Wakkanai and Osan-Ni in South Korea for triangulation purposes.

One of the young USAFSS Traffic Analysts (MOS 202s) who arrived at Misawa in January 1955 was Milton Corley Wonus.⁴¹⁵ After his Misawa tour, Wonus transferred to the NSA. In 1963, he was recruited into the new Foreign Missile and Space Analysis Center (FMSAC) in the CIA’s Directorate of Science and Technology. He later headed the Directorate’s Office of SIGINT Operations, where he was directly involved with the management of the CIA’s *Rhyolite* geosynchronous SIGINT satellite program, which at that time focused on the collection of telemetry and other transmissions emanating from the eastern part of the Soviet Union, the same geographical area covered by the Misawa ground station two decades before.⁴¹⁶

The 6921st RSM maintained several detachments around northern Japan and in South Korea during the 1950s. The detachment at Wakkanai, originally formed as Detachment 12 of the 1st RSM at Johnson Air Base in August 1951, became a detachment of the 1st RSM at Misawa in January 1953. It was redesignated Detachment 2 of the 1st RSM in November 1954, then Detachment 2 of the 6921st RSM in May 1955. The Wakkanai detachment was elevated to Squadron status in July 1958, but remained subordinate to the 6921st RGM as the second echelon command.⁴¹⁷

The 1st RSM’s station at Niigata, set up in 1951, was simply redesignated Flight A of the 6921st Squadron. The unit at Nemuro, designated Detachment 1, operated from August 1954 to August 1957, when its mission was assumed by Detachment 2 at Wakkanai.⁴¹⁸

⁴¹⁴ Michael Haydock, ‘The Cold War in Asia’.

⁴¹⁵ Jim Sweeney, ‘USAFSS Misawa Family Guestbook’, at <http://www.usafssmisawa.com/guestbook/index.php?page=30>; and Ray Stevens, ‘Updates [on the 1st Radio Squadron and Misawa]’, at <http://www.bobnfumi.com/1radioupdate.html>.

⁴¹⁶ Jeffrey T. Richelson, *The Wizards of Langley*, p. 81.

⁴¹⁷ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 49.

⁴¹⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1351; and ‘Mini-Biographies: Otis E. McCain’, at <http://b66.info/bios/bios2.htm>.

Detachment 3 was located on Okushiri island, in the Sea of Japan about 60 km off the southwest part of Hokkaido. Operations began in a Jamesway hut set up on 16 November 1953, in which a small team of Russian linguists did a 'VHF hearability study'.⁴¹⁹ By around 1955-56, it had 24 personnel from Misawa, which increased to 75 by late 1956. It was closed in February 1957 and the 'classified material [moved] back to Misawa'.⁴²⁰

Detachment 4 was located on Henashi Saki, about five km south of Fukaura, in Aomori Prefecture on the northwest coast of Honshu. A 'small ELINT intercept test unit' worked at the site for nine months during 1955. The USAFSS 'wanted to determine if electronic signals from the Vladivostok area could be intercepted there via "atmospheric ducting"'.⁴²¹ It was commanded from August to October by Second Lieutenant Paul Duplessis, when it had 15 personnel and was equipped with an 'ELINT intercept van'. According to Duplessis, its 'mission was to conduct tests to determine the feasibility of using atmospheric ducting to intercept and analyze radar signals'. He has described the site as 'quite primitive'. He states that the detachment was officially closed and all equipment returned to Misawa in October 1955.⁴²² It was evidently re-formed at Fukaura from 11 May to 1 September 1956.⁴²³ Detachment 4 was then stationed at Shiroy Air Base in 1956-57.⁴²⁴ A unit was also located at Ominato in northern Honshu in 1955-56.⁴²⁵

From 1952 to 1962, the USAFSS operated a small number of old Douglas C-47 *Skytrain* transport aircraft for VHF voice intercept, ELINT collection and ECM operations around the Soviet Far East and North Korea. One or two were at different times assigned to the 1st RSM/6921st RSM at Misawa. For example, the commander of the USAF's radar station at Wakkanai (Site 18) in the early 1950s has recalled that 'an aging C-47 which was loaded with ECM (electronic countermeasures) equipment' was based at Misawa; it tested measures to overcome 'the jamming strategies of the Russians' used against US radar

⁴¹⁹ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1352; and T. Wayne Babb, *Honto!*, pp. 184-186.

⁴²⁰ Wilson Leonard, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www/ftva.org/janjun03.html>; Wilson L. Leonard, 'USAFSS Misawa Family Guestbook', at <http://usafssmisawa.com/guestbook/index.php?page=17>; Robert Gibertson, in 'USAFSS Misawa Family Guestbook', at <http://v8v.us/kniga/index.php?page=247>; and T. Wayne Babb, *Honto!*, pp. 185-186.

⁴²¹ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1353; and T. Wayne Babb, *Honto!*, p. 185.

⁴²² Paul Duplessis, 'My First Assignment with USAF Security Service (USAFSS), Japan', at <http://b66.info/Japan-Files/Henashi/>.

⁴²³ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 52; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

⁴²⁴ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1602.

⁴²⁵ Wallace Tabor, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www/ftva.org/janjun04.html>.

systems.⁴²⁶ Later in the 1950s and until 1962, when the USAFSS replaced the C-47s with RC-130s based at Yokota, a C-47 assigned to the 6921st RGM was usually based at Chitose. It ‘orbited over central Hokkaido Island and picked up the line-of-sight VHF radio signals used by [Soviet] MiGs from its 8,500 foot orbit altitude’.⁴²⁷

The 6989th RSM and the 6989th Support Squadron were established at Misawa on 1 July 1958. The 6989th RSM, with an authorised strength of 13 officers and 658 airmen, assumed the radio interception and first echelon processing tasks from the 6921st RGM, leaving the 6921st to provide second echelon processing functions.⁴²⁸ The 6989th RSM also took responsibility for operating the DF site and the control of Misawa’s DF Net.⁴²⁹ The 6989th Support Squadron ‘maintained equipment’ for the 6921st RGM.⁴³⁰

Misawa suffers fairly frequent minor earthquakes, and by 1957 cracks in the roof supports of the Operations Building built in 1952 had rendered it unsafe. In addition, the 6921st Squadron was anticipating additional missions, yet the ‘operational workspace’ was already inadequate. The building was temporarily vacated in 1958-59 for repairs, and at the same time a large wing was constructed on each side. In the interim, operations were conducted in ‘three or four Quonset huts down by the lake’. An Operations Annex was also established in Building S-645, a ‘former chow hall’ on the main base.⁴³¹

In September 1958, the ‘Civ/Nav Air’ unit was transferred to Misawa from Shiroy Air Base. It monitored Soviet civilian and Navy aircraft communications. It was initially housed in S-645, but moved into the renovated S-1555 building in 1959. By the end of 1959, nearly all of the 6921st RGM’s functions had relocated back to S-1555. However, the Group retained the S-645 Annex ‘through at least 1963 to accommodate special missions’.⁴³²

In the late 1950s, the Misawa station began to accord special attention to the Soviet ICBM test program, particularly communications from the Tyuratam ICBM test launch site.

⁴²⁶ Richard F. Loose, ‘Finding the Security Fence 12 Feet Down’, in Jerry Hanks (ed), *Cold War in a Cold Place*, (Infinity Publishing, West Conshohocken, Pennsylvania, 2005), p. 90.

⁴²⁷ Patrick J. McGarvey, ‘Communist Military Strength in Asia: 1956’.

⁴²⁸ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 42; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1190.

⁴²⁹ Ed Leonard, ‘6921st Security Wing, Misawa AB, Japan’, at <http://www.operator-98.com/usafsslite/6921SW.htm>.

⁴³⁰ James R. Burney, ‘The Edgington’s Misawa Reunion’, at <http://touring.edgingtons.com/MISAWA/mreunionboard/mreunion.html>.

⁴³¹ Jim Kraus, ‘Updates [on the 1st Radio Squadron and Misawa]’, at <http://www.bobnfumi.com/1radioupdate.html>; Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1190-1191; and T. Wayne Babb, *Honto!*, pp. 182, 217.

⁴³² Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1190-1191.

In one eight-hour period, for example, Misawa sent out 38 ‘emergency precedence messages’ concerning the count-down for a test launch from Tyuratam.⁴³³ Small sections called OPR-PB and OPR-MC were set up within the 6921st RGM’s second echelon processing area in S-645. They processed multi-channel tapes recorded by Non-Morse operators at the subordinate intercept sites (such as Wakkanai), and especially the 64-channel telemetry down-links used by Soviet unmanned ‘earth satellite vehicles’ (ESVs) and ICBM test flights.⁴³⁴

By the late 1950s, an NSA Representative was stationed in S-1555. From 1959 to 1967, this was Tom Prigg. He had a small team of analysts.⁴³⁵

The US Army Security Agency also maintained a Signal Research Unit at Misawa in the late 1950s. According to a member of the unit who was stationed at Misawa from 1957 to 1959, its code-name for operations was ‘*Magic Lantern*’.⁴³⁶

The Soviet Air Force maintained a regular watch on the activities on Security Hill. A USAFSS veteran who was stationed at Misawa in 1958 has recalled that Soviet MiGs from an airfield in the Kurile Islands ‘buzzed our station often’. He noted that ‘no actual encounters occurred, though, because US fighters [at the main base] scrambled quickly’.⁴³⁷

⁴³³ T. Wayne Babb, *Honto!*, p. 372.

⁴³⁴ Ed Leonard, ‘6921st Security Wing, Misawa AB, Japan’; Ed Leonard, ‘Guestbook: Silent Warriors’, *Honoring America’s Silent Warriors*, at <http://sw.propwashgang.org/guestbook2.htm>; and ‘Edward Leonard’, *GI Search*, at <http://www.gisearch.com/id6857>.

⁴³⁵ James M. Kimbrell, ‘USAFSS Misawa Family Guestbook’, at <http://usafssmisawa.com/guestbook/index.php?page=15>.

⁴³⁶ David A. Troyer, ‘Freedom of Information Act Logs’, at http://documents.theblackvault.com/documents/foia/FOIALog_FY04.pdf
http://www.dod.mil/pubs/foi/administration_and_Management/FOIA_Logs/FOIALog_FY04.pdf.

⁴³⁷ Michael Haydock, ‘The Cold War in Asia’.

Plate 49
Detachment 4, 6921st RSM, Henashi Saki, February 1955



Source: Paul Duplessis, at
<http://www.b66.info/bios/PaulDuplessis.htm>.

Plate 50
ELINT intercept van and power shack, Henashi Saki, February 1955



Source: Paul Duplessis, at <http://www.b66.info/bios/PaulDuplessis.htm>.

32. Wakkanai in the 1950s

Wakkanai was on the front line during the Cold War in East Asia. It was only 40 km across the La Perouse (or Soya) Strait from the southern-most point of Sakhalin Island, which was visible on clear days. The possibility of attack by Soviet military forces was a very real consideration. The weather was terrible. The winter lasts from October until April, with an average of eight of snow and drifts of 20 feet being quite common. From the beginning of December through to late March the daily temperature rarely even reaches freezing point. Winds coming from over the ice-covered Sea Okhotsk are bitterly cold. Wakkanai, especially in the 1950s, was very isolated. It is about 270 km by train to Sapporo, the capital of Hokkaido, and more than 500 km by air from Misawa. The facilities were minimized, ironically because of the terrible conditions. The USAFSS planners evidently thought that, in general, if any functions could be performed in more hospitable conditions, such as at Misawa, those places should also have better working and living facilities. Nevertheless, despite the very difficult conditions, the Wakkanai station 'quickly became a major USAFSS intercept facility', with numerous antennas, several of them state-of-the art, collecting HF and VHF voice traffic, Morse Code and ELINT, as well as providing supplementary services such as DF and first echelon processing. By the end of the 1950s, it was larger than its sister intercept unit at Misawa (the 6989th RSM).⁴³⁸

The Wakkanai station was established in August 1951 to improve the coverage of Soviet Air Force signals in the Far East, and especially the communications traffic (including some ground-to-air aeronautical communications) and radar signals on and around Sakhalin. In April-May 1950, a small party from the 1st RSM at Johnson AB spent about three weeks at Wakkanai on 'a special operational mission', at least part of which involved field tests to provide operational data for a 'proposed detachment at Wakkanai'.⁴³⁹ However, planning for the new station was overtaken by the outbreak of the Korean War in June.

The Wakkanai unit went through numerous name changes, following its designations as Detachment 12 of the 1st RSM (Johnson AB), Operations B of Detachment 11 (Misawa) of the 1st RSM, and Flight A of the 1st RSM during the Korean War. It became Detachment

⁴³⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1284; and Bill Person, *Critic Makers: The Ironworks Incident*, p. 49.

⁴³⁹ *Unit History: 1st Radio Squadron, Mobile, U.S. Air Force Security Service, 1-31 August 1949, 1 March-30 April 1950*, p. 7.

2 of the 1st RSM on 15 November 1954, then Detachment 2 of the 6921st RSM on 8 May 1955, then Detachment 2 of the 6921st RGM on 1 July 1956, then the 6986th RSM, becoming a Squadron in its own right, on 1 July 1958.⁴⁴⁰

The USAF's 848th Air Control and Warning (AC&W) Squadron had established a radar station at Wakkanai, called Detachment 18, before the Korean War; it had accommodated the 1st RSM's site survey team in April-May 1950.⁴⁴¹ Detachment 18, which had about 50 personnel when the USAFSS unit arrived in August 1951, had established its main base, with barracks, offices and an operations room, on flat land just south of the point of Cape Noshyappu. It maintained a DF facility on Hill 1, above the main base, from 1950 until 1952, when it was moved to Hill 3 (or Nob Hill), a few kilometers further south.⁴⁴²

The base had previously been an 'old Japanese Army barracks'. A small operations center was set up in a Quonset hut 'in the spider-web of dorms, chow hall, detachment commander's office, day room and inter-connecting passageways'. An antenna field was built on 'ten acres or so' in a rice paddy on the northern side of the main base, together with a HO-17-type shack which housed the transmitters, while a HF DF system was installed on Hill 1 overlooking the main base.⁴⁴³ AN/GRC-26 radio teletype equipment and BC-610 transmitters were installed in the antenna field.⁴⁴⁴

A new two-storey operations building was built for the USAFSS detachment in late fall 1951 (i.e., around October). It was located in what was then the southeast part of the main compound.⁴⁴⁵ It was equipped with Hammarlund Super Pro radio receivers, which covered the frequency bands from 100 to 400 kHz and from 2.5 to 20 MHz.⁴⁴⁶ During the winters, paths had to be cut in the snow to get to the operations building from other places

⁴⁴⁰ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 45.

⁴⁴¹ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1167-1168.

⁴⁴² Richard E. Waldron, *Site 18: Short Stories from an Isolated Air Force Radar Detachment in Japan during the Korean War and the Cold War*, pp. 116-117.

⁴⁴³ Bob Lepper, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and David Armstrong, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'.

⁴⁴⁴ Roy E. Reed, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'.

⁴⁴⁵ Al Hammett, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and Don Gillig, '1st RSM in 1954', *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/936099/214956.htm.

⁴⁴⁶ Roy E. Reed, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and Hammarlund Manufacturing Company, 'Instruction Book for "Super-Pro" Radio Receiver', at <http://www.introni.it/pdf/Hammarlund.pdf>.

in the compound. According to a Russian linguist who served at Wakkanai through the winter of 1956-57, the walls of snow along the paths 'were at least twice as high as a man'.⁴⁴⁷

Wakkanai's roles expanded significantly in 1952. Initially, the station was primarily concerned with intercepting Morse Code signals. On 24 May 1952, however, after it was discerned that the Soviet military was increasingly using HF radiotelephony for long-distance communications, the 1st RSM transferred five Russian linguists from Johnson Air Base to Wakkanai; the interception of Soviet Air Force voice communications soon became at least as important as the Morse mission.⁴⁴⁸ In late 1952, the 6920th Security Group at Johnson Air Base directed the installation of a VHF intercept capability, following the move by Soviet aircraft to VHF frequencies from August 1952.⁴⁴⁹ VHF intercept antennas were installed on Hill 1. Also co-located on Hill 1 was a new ELINT unit, which shared the VHF systems. It was called Unit 5, and was housed in 'a fabric Quonset' which it had been given by Detachment 18 for its 'research'.⁴⁵⁰ By 1953, the DF unit on Hill 1, called Unit 3, formed a DF triangulation network with stations at Misawa and Osan-Ni in South Korea.

By June 1954, there were about 70 USAFSS officers and men at Wakkanai, a five-fold increase since the first contingent of 13 officers and men had arrived in July 1951.⁴⁵¹ They were divided into four Flights (Able, Baker, Charlie and Dog), which maintained three daily shifts, with one Flight alternating on rest. By the mid 1950s, the Operations Building housed HF and VHF intercept positions, VHF search positions, a Morse intercept (MOS 292, or 'ditty chasers') Section, Russian linguists (MOS 203-1) and tactical air (TACAIR) voice analysts, an ELINT Section (MOS 303), a radio traffic analysis (T/A, MOS 202) Section, an Electronic Counter-Measures (ECM) Section, an Electronic Interaction Analysis Section (MOS 294), a Cryptologic Section, a DF area (MOS 293, or 'ditty boppers'), and a Communications Center. Several of the ELINT staff, as well as some of the Russian linguists, worked on Hill 1.⁴⁵²

⁴⁴⁷ Jim Burris, at <http://members.aol.com/asavets/documents/chat50s.htm>.

⁴⁴⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1284-1285.

⁴⁴⁹ Larry Tart and Robert Keefe, *The Price of Vigilance: Attacks on American Surveillance Flights*, pp. 145, 202.

⁴⁵⁰ David Armstrong, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and Ed Danner, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

⁴⁵¹ Bob Lepper, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; Marty Epp, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and Don Gillig, '1st RSM in 1954'.

⁴⁵² Ed Mosley, 'Guest Book', at

http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; Bob Hammer,

Photographs of Hill 1 taken around 1957 show the DF shack; two M 109 vans with clover-leaf antennas on top, presumably for ELINT collection; a circular array consisting of 36 masts, about six metres high, taking it well into the VHF range, with a diameter of about nine metres; three very tall steel masts in a line, colloquially referred to as ‘boat anchors’, each with three horizontal VHF antennas at the top; and five other towers holding various types of VHF antennas.⁴⁵³ A large radome was installed on the western side of Hill 1 between 1958 and 1960. It was still the only radome on Hill 1 in 1964.

The Wakkanai station acquired a new mission in late 1957. In 1956-57, ‘a preliminary feasibility evaluation and assessment’ was conducted at Wakkanai ‘for a site to construct a communications “listening post” aimed at Sakhalin Island’. The evaluation report in September 1957 recommended establishment of the new capability.⁴⁵⁴ In 1959, there were about 500 personnel stationed at Wakkanai.⁴⁵⁵

The Wakkanai Station was controlled by the USAFSS, but small Army and Navy SIGINT contingents, as well as other USAF intelligence units, were intermittently stationed at the base. For example, the USAF’s Air Technical Intelligence Center (ATIC) maintained a facility at Wakkanai around 1955.⁴⁵⁶ Its purpose was to monitor the flight test programs on new Soviet military aircraft by intercepting the pilot-ground control communications and other electronic emissions from the aircraft. In the case of the Army, four ASA personnel from the Chitose station were stationed at Wakkanai from November 1956 to March 1957.⁴⁵⁷

In the case of the Navy, the first NSG contingent was assigned to Wakkanai from early 1952 to late that year.⁴⁵⁸ The Navy personnel usually only worked at the station in the spring and summer-times, when they monitored the movement of large elements of the

‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; and Lou Vanderhook, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁴⁵³ James E. Cook, ‘6986th RSM, Wakkanai AS, Japan’, Photo 6, at <http://6986thrsn.homestead.com/Photo6.html>; and James E. Cook, in ‘6986th RSM, Wakkanai AS, Japan’, *Wakkanai Air Station*, p.2, at <http://6986thrsn.homestead.com/Photo2page4~ns4.html>.

⁴⁵⁴ Sukeo (‘Skeets’) Oji, ‘First tour of duty - occupation of Japan - January 1946 to 1948’, *National Japanese American Veterans Council*, at <http://www.veteranscouncil.com/projects/occupationessays/sukeooji.html>.

⁴⁵⁵ Dave Johnson, ‘Wakkanai Was My Home: New Guest Book for Comments after April 12, 2005’, *Wakkanai Air Station*, at <http://www.wakkanaiwasmyhome.citymax.com/page/page/1904114.htm>.

⁴⁵⁶ Paul Duplessis, ‘My Second Assignment with USAF Security Service (USAFSS), Japan: Scenes On and Around Wakkanai Air Station, October 1955 to August 1956’, at <http://b66.info/Japan-Files/Wakkanai/Det2-Photos.htm>.

⁴⁵⁷ Jim Burris, at <http://members.aol.com/asavets/documents/chat50s.htm>.

⁴⁵⁸ ‘NAVSECGRU Stations Past and Present’.

Soviet Pacific Fleet from Vladivostok as they transited through the breaking ice of the La Perouse Strait heading to the Pacific. For example, for three consecutive summers around 1957-59, 'crack teams of radio intercept and direction finding equipment operators' were assigned to Wakkanai to monitor large flotillas as they moved through the Strait.⁴⁵⁹ A USAFSS member who was at Wakkanai in 1957-62 has recounted that 'every time the Russkies moved their Pacific Fleet through the La Perouse Strait from the Sea of Japan into the Sea of Okhotsk, the NAVSEC guys would come up and work out of our operations compound'.⁴⁶⁰ The arrangements for posting of ASA and NSG personnel to Wakkanai were codified in the tri-Service Integrated Command Agreement of 1 July 1959.⁴⁶¹

In the late 1950s, the Wakkanai station established a detachment at Makubetsu, about 15 km east of Wakkanai. It was originally called OL 1 of the 6986th RSM, but was redesignated Detachment 1 of the 6986th RGM on 1 July 1961. It was deactivated on 1 July 1964.⁴⁶²

There was no operational cooperation between the AC&W's Detachment 18 and the USAFSS personnel, at least through the 1950s. According to a former member of Detachment 18, the two 'outfits' maintained an 'arms-length relationship'. He states that 'there was very little contact or socializing' between them, and that 'rarely did one speak to the other'.⁴⁶³

The Soviets would have become aware of the SIGINT activity at Wakkanai soon after it was established. The Soviet Air Force was already closely watching the AC&W unit when the USAFSS detachment arrived. The purposes of the new antennas that appeared in 1951-52 would have been quickly discerned. Soviet MiGs from airfields on Sakhalin and the Kuriles often 'buzzed' the station throughout the 1950s. A member of the AC&W unit has recalled an occasion in 1952-53 when 'we heard a Russian pilot swear at us in English on the monitored voice frequency, then heard him laugh before roaring very low over the site and

⁴⁵⁹ Thomas F. Kistner, *The Blankenship Solution*, (Kindle edition, X-Libris Corporation, 13 June 2000).

⁴⁶⁰ Jim Barton, 'Dittychasers, Dittyboppers and Lightning Fast Chicken Pluckers', *eHam.net*, 20 November 2005, at <http://www.eham.net/articles/12486>.

⁴⁶¹ Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, p. 42.

⁴⁶² Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 42; James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 49; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

⁴⁶³ Richard E. Waldron, *Site 18: Short Stories from an Isolated Air Force Radar Detachment in Japan during the Korean War and the Cold War*, p. 127.

heading back north to his base' on Sakhalin.⁴⁶⁴ By 1956, US fighter jets based at Chitose were being scrambled an average of four times a day in response to Soviet flights towards 'an imaginary line called "The Fence"', which bisected the La Perouse Strait. The SIGINT station, in turn, carefully monitored the Soviet communications associated with the MiG flights.⁴⁶⁵

It was reckoned in the mid-1950s that the Wakkanai station would be attacked by Soviet air forces in the event of a conflict. In 1956, according to an account by a USAFSS veteran, Wakkanai was considered to be 'the most vital radar and radio intercept site in Japan', and 'Wakkanai was known, from our intercepts of their military exercises,... to be the top priority air target for the Soviets should they decide to attack Japan'.⁴⁶⁶

A poem penned at Wakkanai in the 1950s, titled 'A Hitch in Hell', reflects not only the terrible living and working conditions, but also the feelings of loneliness and perhaps even despair which afflicted the airmen. Six of its stanzas are as follows:

It was just across the ocean,
Wakkanai was the spot.
We were doomed to spend our time,
In a land which God forgot.

In the land of snow and mud,
Down where man gets blue,
Right in the middle of nowhere,
Ten thousand miles from you.

We're soldiers of Security,
Earning our measly pay,
Guarding millions of people,
For a few damn bucks a day.

We swear, sweat, slave and freeze.
It's more than man can stand.
Supposedly we are not convicts,
Just defenders of our fair land.

Nobody knows we are living,
Nobody gives a damn,
I guess we are all forgotten,
For we belong to Uncle Sam.

⁴⁶⁴ Ibid., p. 116.

⁴⁶⁵ Patrick J. McGarvey, 'Communist Military Strength in Asia: 1956', at <http://www.netrox.net/-condev203mcg10.htm>.

⁴⁶⁶ Ibid.

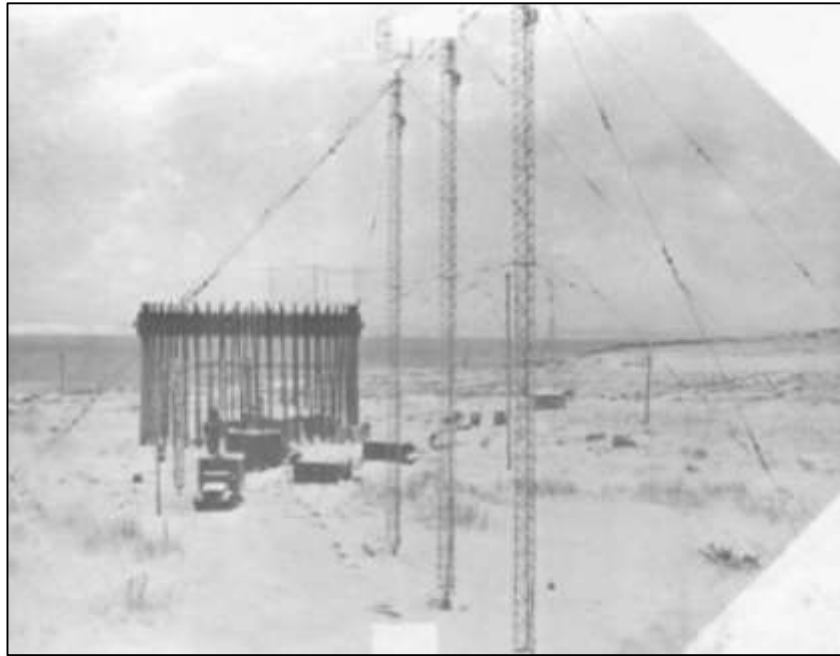
But when we pass through those pearly gates,
You will hear St. Peter yell,
“Fall out men of Security,
You’ve spent your time in hell”.⁴⁶⁷

Nevertheless, personnel retention rates at Wakkanai were remarkably high. In 1958, the 6920th Security Wing at Shiroy conducted a ‘morale survey’ to determine ‘why, since Wakkanai was a “remote tour”, no-one wanted to leave there’. For many young men, it was an exciting and exotic experience, with high group camaraderie.⁴⁶⁸

⁴⁶⁷ ‘6986th RSM, Wakkanai, Japan, Photo 6 Page 2’, at <http://6986thrm.homestead.com/Photo6Pg2B.html>.

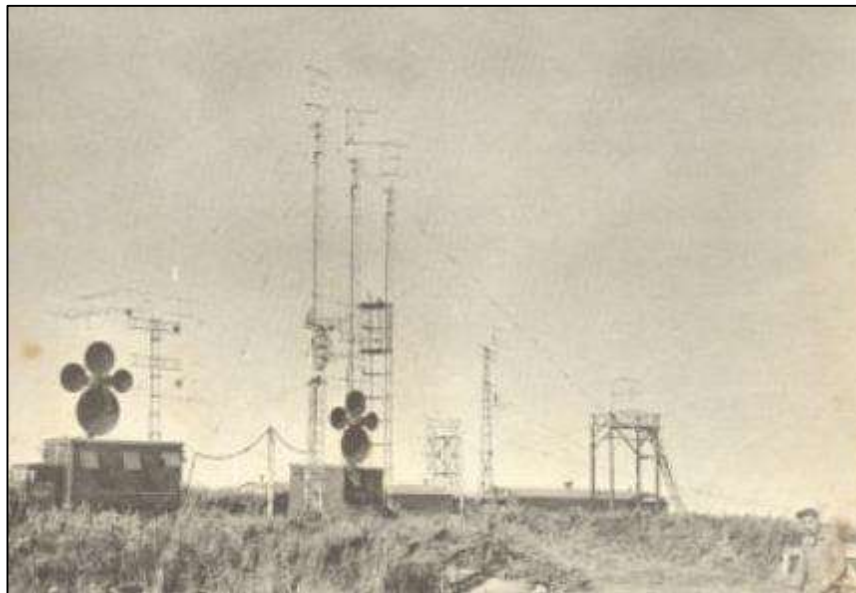
⁴⁶⁸ Robert D. Powell, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

Plate 51
Wakkanai, Unit 5, Hill 1, 1957/58



Source: '6986th RSM, Wakkanai AS, Japan',
<http://6986thrsrm.homestead.com/Photo6~ns4.html>.

Plate 52
Wakkanai, Hill 1's M109 vans and assorted antennas, 1957/58



Source: '6986th RSM, Wakkanai AS, Japan',
<http://6986thrsrm.homestead.com/Photo2page4~ns4.html>.

Plate 53
Wakkanai Air Station in 1960
(note radome installed on Hill 1 circa 1959)



33. Yamato Air Station, 1961-64

The USAFSS maintained a facility at Yamato Air Station, an annexe to Tachikawa Air Base, not far from Atsugi, on the southwest side of Tokyo, in 1961-64. It was organised as OL-2 of the 6920th Security Wing, then based at Wheeler Air Force Base in Hawaii, on 1 July 1961. It was redesignated Detachment 1 of the HQ, Pacific Security Region (previously the 6920th Security Wing), on 1 September 1962. Its mission was ‘the installation and maintenance of USAFSS mission equipment’. The unit was inactivated on 1 July 1964.⁴⁶⁹

⁴⁶⁹ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, pp. 40-41; and Josh Chapman, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1948-1966*, p. 47.

34. Fuchu Air Base, 1953-74

Fuchu Air Base, about 20 km west of central Tokyo, was home to the USAFSS's 6988th Security Flight from 1953 to 1959, the 6988th RSM from 1959 to 1963, and Detachment 1 of the 6988th Security Squadron from 1963 to 1969, after the squadron moved to Yokota. The base also hosted Detachment 2 of the 6920th Security Wing at Shiroy in 1957-58.⁴⁷⁰ In 1956, RJAP, the USAF communications station at Fuchu, was chosen as a COMINT Communications Relay Center (CCRC). A USAFSS Special Security Office was also located at Fuchu.⁴⁷¹ A detachment from RJAP at Fuchu was located at Yamato Air Station, a few km south, in 1956-57.⁴⁷²

The 6988th Security Flight/RSM maintained detachments or Operating Locations (OLs) at Kami Seya (Detachment 2) in 1961-62, Tachikawa (OL-2) in 1961-63, and Yokota (Detachment 1) in 1958-63. The Tachikawa site, on the northwest outskirts of Tokyo, was later designated Detachment 3 of the 6988th Squadron at Yokota. It was 'a USAFSS Liaison Office'. It was closed on 1 July 1965.⁴⁷³

The RJAP communications station was renamed RUUAZ in about 1965. In addition to its connections with the major SIGINT stations in Japan, it also had 'tape relay circuits' with the Phu Lam signal facility near Saigon in South Vietnam, Clark Air Force Base and San Miguel in the Philippines and Finegayan, Guam in the mid-1960s, as well as the USAFSS HQ in Texas.⁴⁷⁴

The 6988th RSM also had a TRANSEC unit at Fuchu.⁴⁷⁵ This unit had been formed as the 6971st Communications Flight in downtown Tokyo in December 1950, where it was redesignated the 32nd Communications Security Squadron on 8 December 1953. The 32nd CSS moved to Fuchu in June 1956, and was redesignated the 6932nd Communications

⁴⁷⁰ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1601-1603.

⁴⁷¹ 'Notes by the Secretaries to the Joint Communications-Electronics Committee'.

⁴⁷² Billy L. Conduff, in 'Ruins of the US Air Force Base in Fuchu, Japan', *Michael John Grist*, 3 November 2008, at <http://www.michaeljohngrist.com/2008/11/abandoned-us-air-force-base-fuchu/#sthash.uhMIPnow.dpbs>.

⁴⁷³ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 43; James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 50; and Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1601-1603.

⁴⁷⁴ 'Ralph Lanham '63- '64', Conversations, *Phu Lam Signal Facility Base, Vietnam*, at <https://groups.yahoo.com/neo/groups/PhuLam/conversations/topics/41>.

⁴⁷⁵ John Romanoski, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www.ftva.org/juldec02.html>; Thomas H. Carter, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www.ftva.org/janjan04.html>; and Jim Stephens, in 'Freedom Through Vigilance Association [FTVA]: Sign In Roster', at <http://www.ftva.org/juldec04.html>.

Security Flight on 1 July 1956. It became the 6988th CSF on 1 October 1958. The 6988th CSF performed 'TRANSEC, ARCP, and relay functions'.⁴⁷⁶ The unit was inactivated on 31 January 1969.⁴⁷⁷

As the 32nd CSS and 6932nd CSF, the unit maintained several detachments around Japan and elsewhere in the region. For example, detachments were located at Nagoya and at Clark Air Force Base in the Philippines in 1955-56. Detachment 3 was maintained at Naha, Okinawa, from 8 December 1953 to 1 July 1956.⁴⁷⁸

The most important SIGINT activity at Fuchu, however, was the PACOM ELINT Center, which was set up in 1957-58, and was located at the rear of the base.⁴⁷⁹ It was a tri-Service activity, with Army, Air and Navy components. The Air component initially consisted of the personnel from the PACAF ELINT Center (PEC), who relocated to Fuchu from Yokota.⁴⁸⁰ Many NSG personnel served at the Center from the beginning of the 1960s to the early 1970s.⁴⁸¹

The Center processed and analysed ELINT collected by USAF and USN (and sometimes CIA) airborne SIGINT missions as well as Navy ships and submarines. It received recordings of all ELINT collected throughout the entire Far East, from the Kamchatka Peninsula down to Southeast Asia, collected by flights from Adak in Alaska south to Sangley Point in the Philippines, and several bases in Japan in between.⁴⁸² It compiled PACOM Electronic Order of Battle (EOB) intelligence, which catalogued the technical characteristics of all types of radars (their signal strengths, frequencies, pulse widths, pulse repetition rates, etc) and other electronic emitters, and mapped the locations of fixed sites. It also used this data to develop electronic counter-measure (ECM) techniques for application against adversary radar systems.

⁴⁷⁶ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, pp. 20, 42-43.

⁴⁷⁷ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 50.

⁴⁷⁸ Bob W. Rush, *Historical Resume*, pp. 54, 61.

⁴⁷⁹ 'The NASIC Wall of Honor Recognition: Richard A. Franklin', *National Air and Space Intelligence Center Alumni Association*, at <http://www.nasicaa.org/Dick%20Franklin%20WOH%20Citation.pdf>; and Carl Lindberg, 'Fuchu US Airbase Heyday', *Michael John Grist*, at <http://www.michaeljohngrist.com/2012/01/fuchu-us-airbase-heyday/#sthash.xwBLrGte.dpbs>.

⁴⁸⁰ Colonel Roy M. Stanley, *Asia From Above: The 67th Reconnaissance Technical Squadron, Yokota AB, Japan, July 1957 to March 1971*, pp. 34, 45, 169, 293.

⁴⁸¹ 'The "All NAVSECGRU Japan" Veterans E-mail Roster', *The Worldwide CT Community and Our Naval Security Group*, numerous entries, at http://www.navycthistory.com/rosters/kami_email_roster_a_thru_f.html.

⁴⁸² Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, pp. 101-103.

In the case of ocean surveillance patrols undertaken by the Navy's VQ-1 and VP-1 Squadrons, which in the 1960s primarily covered the Sea of Japan, the Yellow Sea and the Sea of Okhotsk, 'special emphasis' was placed on ship-borne radars, which 'resulted in numerous signals being obtained from destroyers, frigates, submarines, and auxiliaries'.⁴⁸³

The Center also processed and analysed the ELINT data collected by the CIA's U-2 *Dragon Lady* and A-12 *Oxcart* high-altitude reconnaissance aircraft. For example, the Center produced the 'technical evaluation' of the ELINT collected by a CIA U-2 reconnaissance mission (C015C) 'flown over parts of east, central and west China' on 8 January 1965. The principal objective of the mission was to photograph the gaseous diffusion plant at Lanzhou, in west-central China, but the aircraft was also fitted with 'System 6 electronic intercept equipment' for collecting COMINT and ELINT pertaining to Chinese air defence systems along the route.⁴⁸⁴

The PACOM ELINT Center was also involved in 'tasking' the collection assets with respect to possible ELINT of special interest. For example, the Center provided secondary tasking orders for the US Navy's SIGINT ships, such as the USS *Banner*, which conducted 15 collection missions against Soviet, Chinese and North Korean targets in October-December 1967, and the ill-fated USS *Pueblo*, which was captured by North Korean Navy vessels on its first mission in January 1968. A directive issued by the Center in December 1967 instructed the *Pueblo* to 'collect electronic intelligence', but on the basis of non-interference with 'basic missions' directed by the NSA and the NSG.⁴⁸⁵ In December 1967, after the *Pueblo* had arrived at Yokosuka Naval Base to prepare for its mission, six NSG communications technicians (CTs) were taken to the Center at Fuchu for special training 'in ELINT intercepts and analysis'.⁴⁸⁶

During their brutal interrogation by the North Koreans, some of the crew members disclosed their ELINT mission. At a mock 'press conference' on 15 February, the officer in charge of the SIGINT unit, who was one of the six who had gone to Fuchu, said in a prepared statement that the principal task of his 'special research department' was:

⁴⁸³ Ibid., p. 101.

⁴⁸⁴ Directorate of Science and Technology, Central Intelligence Agency (CIA), 'Preliminary Report: U-2 Reconnaissance Mission C015C Flown 8 January 1965', (Directorate of Science and Technology, Central Intelligence Agency, 8 February 1965).

⁴⁸⁵ US Congress, House of Representatives, Committee on Armed Services, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, (U.S. Government Printing Office, Washington, D.C., 1969), pp. 768-769; and Lloyd M. Bucher, *Bucher: My Story*, pp. 405-409.

⁴⁸⁶ Ed Brandt, *The Last Voyage of USS Pueblo*, p. 38; and Trevor Armbrister, *A Matter of Accountability*, p. 164.

... to intercept, collect, and record all radio or radar signals of interest to us, [and] submit the recordings and copies transmissions for analysis to the National Security Agency near Washington, D.C. It is also to collect radar signals, make recordings of these, and submit them to Pacific Command Electronic Intelligence Center for analysis.⁴⁸⁷

It was probably during the preceding interrogation that the North Koreans and, indeed, the Soviet intelligence authorities, first learned of the existence of the Center.

The Center was deeply immersed in the provision of electronic warfare (EW) support for US forces during the Vietnam War. According to an official history of US Naval Intelligence, for example, it provided 'good technical backup support' for US Navy vessels operating in the Gulf of Tonkin throughout the war. ELINT and ECM concerning North Vietnamese radars provided by Fuchu as well as other parts of the US intelligence community was critical to 'survival' during the war.⁴⁸⁸

On 2 August 1964, the USS *Maddox* (DD-731), while on a routine Operation DESOTO patrol in international waters in the Gulf of Tonkin collecting ELINT with respect to North Vietnamese coastal radars and patrol craft, was attacked by three North Vietnamese torpedo boats. President Lyndon Johnson used the incident as the public justification for large-scale US intervention in the Vietnam War conflict. Before it embarked on the patrol in late July, the ECM operators aboard the *Maddox* received a 'pre-sail briefing' at the PACOM ELINT Center. All ELINT collected by the *Maddox*, including recordings of the radar emissions from the North Korean boats involved in the incident on 2 August, was 'forwarded directly' to the Center for processing and analysis.⁴⁸⁹

The USS *Towers* (DDG-9) conducted combat support missions off the coast of North Vietnam from July to October 1966. It sent 'video tape recordings of all signals' to Fuchu. This included 'one emission of an unknown nature', which was recorded and forwarded to the ELINT Center 'for further evaluation'. The Center awarded the *Towers* a 'Well Done' for the month of August and a 'Very Good' for October.⁴⁹⁰

⁴⁸⁷ Edward R. Murphy, Jr., *Second in Command: The Uncensored Account of the Capture of the Spy Ship Pueblo*, p. 206.

⁴⁸⁸ Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, pp. 201-202.

⁴⁸⁹ 'Gulf of Tonkin, USS Maddox Reports for 2 and 4 August 1964', *Naval History and Heritage Command*, US Navy, at <http://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/t/tonkin-gulf-crisis/tonkin-gulf-incidents-of-2-4-aug-1964/uss-maddox-reports-2-4-aug-1964.html>.

⁴⁹⁰ Memorandum from the Commanding Officer, USS *Towers* (DDG-9), to the Chief of Naval Operations, 'Command History, USS *Towers* (DDG-9) [1966]', 17 February 1967, *USS Towers DDG-9*, at <http://314815.sites.myregisteredsite.com/History%2066.html>.

Around 1967, a ‘tactical ELINT-COMINT’ airborne collection’ system code-named *White Dove II* (also called ‘*Grosbeak*’) was developed by the Naval Material Command for use aboard the new EP-3 *Aries* (Airborne Reconnaissance Integrated Electronics System) SIGINT aircraft. It ‘consisted of modular collection equipment’, together with ‘associated automatic ground readout equipment’. The ground system was installed at the PACOM ELINT Center in mid-1968. The first EP-3s entered service with VQ-1 at Atsugi in early 1969, and used the *White Dove II* system during the rest of the Vietnam War.⁴⁹¹

In January 1973, the ELINT Center requested that the Strategic Air Command (SAC) ‘provide increased electronic reconnaissance of various signal threats emanating from Laos’, and in February OL-8 at Kadena was ordered ‘to schedule two SR-71 ELINT missions per week against Laotian objectives for the remainder of the year’.⁴⁹²

⁴⁹¹ Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, p. 106.

⁴⁹² Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, p. 60.

Plate 54
PACOM ELINT Center (PEC), Fuchu Air Station, 1957-75



Plate 55
PACOM ELINT Center (PEC), Fuchu Air Station



Source: 『府中通信施設』 (Fuchu Communications Facility), *Wikipedia Japan*, at <https://goo.gl/MWKrSR>.

35. US Marine Corps airborne ELINT activities, 1959-65

From November 1959 to April 1965, the US Marine Corps maintained nine F3D-2Q ELINT-configured aircraft, which participated in the US Peacetime Aerial Reconnaissance Program (PARPRO), and which were based at different times at Misawa, Osan Air Base in South Korea and Tainan in southern Taiwan. Under Operation *Sharkfin*, they flew missions along the Soviet, Chinese and North Korean coasts. The ELINT collected 'included tape recordings of intercepted radar signals that were forwarded to the PACOM ELINT Center at Fuchu, along with hand-drawn plots of radar locations and signal characteristic data logged by the ECMOs [ECM Operators aboard the aircraft]'. According to the unit's Website, the *Sharkfin* 'missions not only made vital contributions to the intelligence community on our Pacific adversaries during the Cold War but provided invaluable training for the aircrews in a radar signal environment similar to what the squadron would face in Vietnam'.⁴⁹³

⁴⁹³ 'Marine Composite Reconnaissance Squadron One (VMCJ-1) History', *MCARA: Marine Corps Aviation Reconnaissance Association*, at <http://www.mcara.us/VMCJ-1.html>; and 'Marine Composite Reconnaissance Squadron-3 (VMCJ-3) History', *MCARA: Marine Corps Aviation Reconnaissance Association*, at <http://www.mcara.us/VMCJ-3.php>.

36. NSA Pacific HQ, Camp Fuchinobe, Tokyo

The HQ NSA Far East, which replaced AFSA Far East at Yokosuka in 1952, was transferred to Pearl Harbor and renamed HQ NSA Pacific (NSAPAC) in October 1954. It returned to Japan in July 1957, this time being located at Camp Fuchinobe, in Sagami-hara in Kanagawa Prefecture. It occupied a 'heavily protected', 592-acre site about 18 km west of Tokyo.⁴⁹⁴ The camp was a sub-post of Camp Zama, the HQ of US Army Forces Far East, about 10 km to its south. A 'giant rhombic array' was erected in 1959-60.⁴⁹⁵ HQ NSAPAC moved back to Pearl Harbor in July 1962, and the post at Camp Fuchinobe became HQ NSAPAC Representative, Japan.⁴⁹⁶

In early 1964, the NSA requested Congressional authorisation for funding to provide 'much needed equipment and operating space' for 'the NSA Representative, Japan, and his staff' at Camp Fuchinobe. It said that failure to provide the funding 'will reduce the effectiveness of the NSA experimental activities at this installation'.⁴⁹⁷ Soon after, however, the NSA advised the Congress that the funding was not needed as it had decided 'to redeploy Agency personnel and equipment from Camp Fuchinobe, Japan, to military installations elsewhere in Japan and on Okinawa'.⁴⁹⁸ Several NSG personnel were assigned to the NSAPAC post at Camp Fuchinobe from 1960 through to June 1965.⁴⁹⁹

On 1 June 1968, OL-10 of the 6970th Support Group based at NSA HQ at Fort Meade was established at Fuchinobe. It was redesignated OL-JJ on 30 October 1970.⁵⁰⁰ Camp Fuchinobe was returned to the Japanese in March 1974.

In December 1955, the 851st Communications Reconnaissance Detachment was deployed to Camp Fuchinobe for communications security (COMSEC) purposes. It was redesignated the 126th ASA Company in January 1956. The 126th ASA Company maintained detachments at Camp Drake and Camp Zama in Tokyo, Camp Hague in northern Honshu,

⁴⁹⁴ James Bamford, *The Puzzle Palace*, p. 216.

⁴⁹⁵ 'My Forty Years in the Wilderness', *Jesus' Disciple*, at <http://thexpositor.wordpress.com/my-testimony-40-years-in-the-wilderness/>.

⁴⁹⁶ Rona Lerner, 'NSA Representatives and Offices in Various Locations', March 2001, at <http://www.fas.org/sgp/othergov/nsa/nsareps.pdf>.

⁴⁹⁷ US Congress, House of Representatives, Committee on Armed Services, *Military Construction Authorization Fiscal Year 1965*, (U.S. Government Printing Office, Washington, D.C., 1964), p. 8594.

⁴⁹⁸ US Congress, Senate, Committee on Armed Services, *Military Construction Appropriations for 1965*, (U.S. Government Printing Office, Washington, D.C., 1964), p. 681.

⁴⁹⁹ 'The "All NAVSECGRU Japan" Veterans E-mail Roster'.

⁵⁰⁰ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 32.

Sendai in Miyagi Prefecture in northern Honshu, and on Okinawa (Detachment 4, at Machinato Airfield/Sukiran). The company was deactivated in 1958-59.⁵⁰¹

⁵⁰¹ Dave Whitney, 'Torii/Sobe/Okinawa COMSEC Operations', p. 3.

Plate 56
12th ASA Company HQ, Camp Fuchinobe, 1957



Source: William C. Ronnenberg, 'Scenes Around Camp Owada Receiver Site', at
<http://freepages.genealogy.rootsweb.ancestry.com/~bulger/owadabrc.htm>.

37. North Camp Drake

In 1958, the HQ ASAPAC moved from Camp Oji to the Helemano Military Reservation, Oahu, Hawaii. However, ‘for technical reasons, part of its mission had to remain in the Tokyo region’. Hence, a unit moved to North Camp Drake, about 25 km from central Tokyo, in Asaki-machi, Saitama-ken, where it was initially called JCRC-J (Joint Communications Relay Center – Japan). It was meant to be a joint Service unit, but Air Force and Naval personnel soon departed, and it was renamed the ASA Communications Unit – Japan (USASACU-J).⁵⁰² It served through the 1960s as one of two ASAPAC Primary Communications Relay Stations (PCRSs) within the Critical Intelligence Communications (CRITICOM) Network, previously referred to as COMINT Communications Relay Centers (CCRCs). An official history of the USASA states that it ‘occupied an important geographical and technical position in the CRITICOM Network’.⁵⁰³

In 1965-66, the unit ‘operated 30 transmit and 27 receive circuits connected to 20 separate stations’. It used Teletype Corporation Model 28 teletype equipment and TSEC/KW-26 encryption machines.⁵⁰⁴ It received and transmitted a total of 3,788,595 messages in FY 1967.⁵⁰⁵

A Camp Drake veteran who visited the site in 1998 found it a ‘depressing’ place. It was unoccupied and neglected, with the steel antenna masts still standing.⁵⁰⁶

⁵⁰² Earl Steinbicker, ‘North Camp Drake’, *Life’s Little Adventures*, 3 January 2007, at

http://lifesslitleadventures.typepad.com/lifes_little_adventures/2007/01/north_camp_drak.html.

⁵⁰³ U.S. Army Security Agency, *Annual Historical Summary, FY 1964*, p. 189; and U.S. Army Security Agency, *Annual Historical Summary, FY 1967*, p. 322.

⁵⁰⁴ U.S. Army Security Agency, *Annual Historical Summary, FY 1966*, p. 117.

⁵⁰⁵ U.S. Army Security Agency, *Annual Historical Summary, FY 1967*, p. 322.

⁵⁰⁶ ‘Camp Drake 1998’, at <http://www.geocities.com/Pentagon/Bunker/4411/drake.html?200510>.

38. NSG Sasebo, Kyushu, 1957- 68

An NSG Detachment was commissioned at Sasebo, Kyushu, in December 1957. It began as a HF DF operation only, with 11 personnel, including eight DF operators, and an AN/TRD-4 HF DF system.⁵⁰⁷ It operated as part of the NSG's Western Pacific (WESTPAC) HF DF network controlled from Kami Seya. It was initially supposed to be only 'a temporary site' until the NSG Activity at Hakata assumed its HF DF function.⁵⁰⁸

The AN/TRD-4 was a transportable DF station that covered the frequency range from 540 kHz to 30 MHz. The antenna system consisted of two separate 4-element Adcock arrays, one of which covered the range from 540 kHz to 10 MHz and the other from 10 to 30 MHz. Three operators were housed in a S44A/G shelter; they were responsible for DF operations, radio intercept, and field telephone communications with the main unit. The DF receiver system included an R-390/URR HF radio communications receiver.⁵⁰⁹

The HF DF operators were joined by about 20 Morse intercept operators around 1959. By 1962, there were about 30-40 NSG personnel stationed at the site. There was also a 'very small Army contingent'.⁵¹⁰

The NSG Detachment was deactivated and the station ceased operations in July 1968. From supposedly being a 'temporary site', the station had operated for 10 years and seven months. The commander of the NSG 'expressed appreciation for the many contributions by Sasebo to WESTPAC HF DF Net' and to the NSG's intercept mission.⁵¹¹

⁵⁰⁷ 'NSGDet Sasebo, Japan, 1957-1958', *The Worldwide CT Community and Our Naval Security Group*, at <http://www.navycthistory.com/sasebokivi01.html>.

⁵⁰⁸ Memo from the Commanding Officer of the NSGA Kami Seya to the Chief of Naval Operations, 'Command History for Calendar Year 1968', 25 February 1959, pp. 4-5.

⁵⁰⁹ 'AN/TRD-4 Direction Finder', *Radio Communications and Signals Intelligence in the Royal Canadian Navy*, at <http://www.jproc.ca/rrp/trd4.html>.

⁵¹⁰ 'NSGDet Sasebo, Japan, 1957-1958'; 'NSGDet Sasebo, Japan, 1958', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/sasebo_intro.html; 'NSGDet Sasebo, Japan, 1960-1962', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/sasebo_hill_1.html; and 'NAVSECGRU Stations Past and Present'.

⁵¹¹ Memo from the Commanding Officer of the NSGA Kami Seya to the Chief of Naval Operations, 'Command History for Calendar Year 1968', 25 February 1959, pp. 4-5.

Plate 57
Antenna field and operations building at NSG station, Sasebo, 1958



Source: Photo by James Butler, 'NSGDet Sasebo, Japan – 1958', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/sasebo_intro.html.

Plate 58
Operations building at NSG station, Sasebo, 1958



Source: Photo by James Butler, 'NSGDet Sasebo, Japan – 1958', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/sasebo_intro.html.

39. NSGA Hanza in the 1960s: the AN/FRD-10 CDAA

The NSGA in Okinawa moved from Futenma to a new site at Sobe, close to Yomitan airfield and on a bluff overlooking the East China Sea, in August 1960. The site was selected by Captain George McGinnis, who had been in charge of constructing the antenna farm at Kami Seya in 1952 and had commanded the unsatisfactory NSG station at Futenma in 1957-59. McGinnis was able to get the Navy interested in the new site just as the need emerged for a place to install the first of the Navy's enormous new AN/FRD-10 CDAA HF DF systems. McGinnis later said that, from his 'personal point of view', 'the site chosen was also not very good'. However, it had the major advantage of co-location with the Army at Torii Station, just south of the new site. Preparation of the new site was underway when McGinnis left Okinawa in August 1959.⁵¹²

In January 1970, Congress was informed that NSGA Hanza was 'assigned the mission for providing support [to the US Navy] which consists of HFDF, COMSEC and other Naval Security Group functions'. Congress was told that 'the activity receives assistance in services and facilities from nearby Torii Station'.⁵¹³ The site occupied some 535,000 square metres (132 acres or 53 hectares) by the 1970s.⁵¹⁴

The AN/FRD-10 CDAA was developed by the NRL, with the assistance of the Department of Electrical Engineering at the University of Illinois, under Project *Clarinet Bullseye*. The Navy awarded the contract to produce and install the world-wide network of stations to ITT Federal Services in 1959.⁵¹⁵ Eighteen operational systems were built; fourteen were maintained by the NSG, two by the NSA, and two by the Canadian Forces. They replaced AN/GRD-6 HF DF systems at most places (although not at NSGA Kami Seya). The AN/FRD-10 sites in the Pacific, in addition to Hanza, were Guam, Wahiawa in Hawaii, Imperial Beach and Skaggs Island in California, Marietta in Washington, and Adak in Alaska, as well as Masset in British Columbia, Canada.⁵¹⁶

⁵¹² George McGinnis, 'Early Kami Seya', pp. 2-3; and correspondence from George McGinnis, 20 July 1999 and 16 August 1999.

⁵¹³ US Congress, Senate, Committee on Foreign Relations, *United States Security Agreements and Commitments Abroad: Japan and Okinawa*, (U.S. Government Printing Office, Washington, D.C., 1970), p. 16.

⁵¹⁴ 'FAC 6026 楚辺通信所', 「III 基地返還等の推移」, 『沖縄の米軍基地及び自衛隊基地 (統計資料集)』、沖縄県、平成 23 年 3 月 [FAC 6026 Sobe Communications Station, III Trends in Base Return, US and SDF Bases in Okinawa (Statistics Book), Okinawa Prefecture, March 2011], p.68, at <http://www.pref.okinawa.jp/site/chijiko/kichitai/24264.html>.

⁵¹⁵ Ex-NSGA, 'Red November – Belongs to the Fiction Category'.

⁵¹⁶ Jerry Proc, 'CFS Masset', at <http://www.jproc.ca/rrp/masset.html>; and Al Grobmeier, 'USN CDAA's: End of an Era', *A Secret Landscape: America's Cold War Infrastructure*, at <http://coldwar-c4i.net/CDAA/history.html>.

The AN/FRD-10 at Hanza was the first to become operational. An ‘installation crew’ consisting of about eight communications technicians destined for Hanza was trained at the ITT factory at Nutley, New Jersey, which was completed on 13 April 1962. An RCA technical representative also participated in the training.⁵¹⁷ Operations began at Hanza in October 1962. The *Clarinet Bullseye* sub-systems were then installed, and became operational in early 1963.⁵¹⁸

The AN/FRD-10 system consisted of two concentric circles of vertically-polarised antenna elements, one covering the low part of the HF spectrum (with longer wavelengths) and the other the high part of the HF spectrum, together with two tall reflector screens to improve the signal amplitude (or ‘gain’), laid on a ground mat of copper wire mesh covered by about eight centimeters of gravel. It was called an ‘outward-looking’ array because the high band antenna ring for monitoring shorter wavelengths was located on the outside (as compared to the Air Force/Army AN/FLR-9, where the high-band ring was on the inside). Each antenna element was linked by RG-85 A/U 75 ohm very low loss coaxial cables, which also connected them with the Operations Building located at the centre of the array. Rotating goniometers (one for each band) in the Operations Building determined the direction of arrival of the target signal and displayed it on a cathode ray tube. The Operations Building also contained AN/FRA-54 recorder/analyser systems and banks of R-390 radio receivers.⁵¹⁹

The AN/FRD-10 CDAA at Hanza was slightly smaller than its successors. The low band sub-system (which covered from 2 to 8 MHz, or two octaves of frequencies) consisted of 36 folded dipole antennas, about 20 metres in height, spaced 10 degrees of azimuth apart (whereas subsequent AN/FRD-10 low band sub-systems had 40 dipoles). The high band array (8-30 MHz) consisted of 100 sleeve monopole antenna elements, about eight metres high, spaced at 3.6 degrees intervals of azimuth (whereas subsequent FRD-10s typically had 120 monopoles).

⁵¹⁷ Charles Griffin, “The Early” Hanza, Okinawa 1962’, *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/oki_griffin_1.html.

⁵¹⁸ Ex-NSGA, ‘Red November – Belongs to the Fiction Category’.

⁵¹⁹ Ian W. Cummings, ‘Wullenweber/CDAA Antenna Homepage’, *EI8IC's Ham Radio Resources Website*, at <http://www.mapability.com/ei8ic/rhombic/wullen.php>; and Nick England, ‘AN/FRD-10 Circularly Disposed Antenna Array (CDAA) Receiving System’, US Navy Radio Communications - 1950s & 1960s, at <http://www.navy-radio.com/frd10.htm>.

The original Operations Building was a single-storey building. A two-storey addition was built in 1972, when 'Hanza assumed several missions' from other NSG sites. Another 5,000 square feet was added in June 1979.⁵²⁰

The performance of the AN/FRD-10 system was unprecedented. It had a nominal operational range of around 5,000 km. With its high sensitivity, it was able to receive more than twice as many signals of interest (SOI) than its cheaper and less elaborate British cousin, the AN/AX-10 *Pusher* CDAA.⁵²¹ It provided 'a near instantaneous bearing of any signal that appeared on the radio spectrum for even a fraction of a second'. It determined bearings three or four times more accurately than could the AN/GRD-6, giving a DF accuracy 'of better than 0.5 degree'. This greatly reduced the size of ocean search areas and provided maritime forces with a 'much greater prospect of making contact with the target'.⁵²² There was a Radio Finger Printing (RFP) Section in which specialists identified the radio operators aboard Soviet ships and submarines according to the particular characteristics of their transmissions.⁵²³

Hanza's incorporation into the world-wide *Bullseye* HF DF system was dependent upon the installation of new equipment at the NSG's transmitting station at Futenma. The NSG informed Congress in early 1964 that new transmitter facilities were required at the Futenma site. It said that 'this activity currently uses channels in an Air Force installation which are incompatible with Navy BULLSEYE high frequency direction finder stations', and that 'compatible transmitters will be required prior to this activity's joining the BULLSEYE network in July 1965'.⁵²⁴

The *Clarinet Bullseye* Task Unit was deactivated on 15 April 1965. The unit was later commended by the Secretary of the Navy for its achievements. The citation stated:

For exceptionally meritorious service in support of the national defense effort from 1 December 1958 through 15 April 1965. By analysis of a momentous intelligence void, a special unit of the Naval Security Group recognized that a threat to the

⁵²⁰ 'Our Mission', *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 3, at http://www.navycthistory.com/images/Ok_page_3_big.jpg.

⁵²¹ Wilbur R. Vincent and Richard W. Adler, *Performance Comparison AN/FRD-10 vs. Pusher*, (Naval Postgraduate School, Monterey California, NPSEC-94-002, February 1994), pp. 4, 7.

⁵²² Jerry Proc, 'CFS Masset'; Nick England, 'AN/FRD-10 Circularly Disposed Antenna Array (CDAA) Receiving System'; and Historic American Buildings Survey, 'U.S. Naval Base Pearl Harbor, Naval Radio Station, AN/FRD-10 Circularly Disposed Antenna Array', (U.S. Department of the Interior, National Park Service, Oakland, California), at <http://www.virhistory.com/navy/rcvrs/frd10/frd10-hawaii.pdf>.

⁵²³ George F. Arsics, 'Hanza, Okinawa (1968-69)', *NCVA Cryptolog*, Spring 1993, pp. 14, 16.

⁵²⁴ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1965*, p. 463

national security existed. It was quickly established that essential elements of information, vital to the success of the Naval Operating Forces, were missing, and that the means of acquiring that information were no longer within the capabilities of the Naval Establishment. Although the problem solution was not readily apparent, the Naval Security Group quickly responded to the challenge and successfully undertook the tremendous research and development and production tasks required to restore the means of acquiring that essential information needed to counter the threat. The vital forces brought into being by the CLARINET BULLSEYE Task Unit of the National Security Group, through implementation of Project CLARINET BULLSEYE, are a monumental testimonial to the success achieved.⁵²⁵

The world-wide AN/FRD-10 network was named *Classic Bullseye* in 1965.⁵²⁶ It complemented the ship-based *Classic Outboard* [Organizational Unit Tactical Baseline Operational Area Radio Detection] tactical SIGINT/DF system and the Navy's *Classic Wizard* satellite-based ocean surveillance system.

In addition to the AN/FRD-10 CDAA, several other antenna systems were installed at Hanza through the 1960s and 1970s. A 5-metre diameter communications dish antenna, mounted on a tall concrete pedestal, was installed in 1964. It was part of the TRSSCOM [Technical Research Ship Special Communications] system, developed to provide communications with the US Navy's SIGINT collection ships, such as the *Oxford*, *Belmont*, *Liberty* and *Pueblo*. It bounced signals off the moon back to recipients around the Earth. The TRSSCOM program ceased in 1969 and the antenna at Hanza was disassembled, although the concrete pedestal was still there several years later.⁵²⁷ Three smaller satellite communications (SATCOM) dishes, about 2-3 metres in diameter, were later installed next to the Operations Building.⁵²⁸ Photographs taken in the early 1980s also show a DF loop antenna system on the roof of the Operations Building, and a VHF omni-directional system atop a tall steel mast next to that building.

At its peak in the late 1960s and the 1970s, Hanza was 'one of the larger sites in the Naval Security Group Command, with about 500 personnel'.⁵²⁹ An NSG veteran who served at Hanza in 1968-69 has written that operations during this period 'were mostly in direct

⁵²⁵ John Gillis and Ed Marciniak, 'Hanza/Torii Station, Okinawa, 1963-1965', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/ed_okinawa_2.html.

⁵²⁶ Ex-NSGA, 'Red November – Belongs to the Fiction Category'.

⁵²⁷ Jeff Johnston, 'NSGA Hanza, Okinawa, 1969-70', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/Ok_JJohnston_2.html; and James Bamford, *The Puzzle Palace: A Report on America's Most Secret Agency*, pp. 281-282.

⁵²⁸ 'Our Mission', *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service*, p. 3, at

⁵²⁹ Ibid.

support of the Vietnam War effort'. In particular, a careful watch was maintained on Chinese communications out of concern that China might expand the war by undertaking military activities on the Korean Peninsula.⁵³⁰

NSGA Hanza also had an important communications security (COMSEC) role. In July 1963, the US Navy decided to establish a COMSEC unit at Hanza 'in order to have a permanent COMSEC listening post more responsive to Seventh Fleet requirements'. Okinawa was 'close to the Communist Bloc countries near which Seventh Fleet ships operated'. COMSEC 704 began operations in June 1965 and was fully operational a month later.⁵³¹ According to a member of COMSEC 704 in 1965-68, 'we were able to provide more real time collection and reporting for COMSEC in support of U.S. Forces in Vietnam than any other COMSEC unit in WESTPAC, including the in-country COMSEC units at Da Nang [COMSEC 705] and Cam Ranh Bay [COMSEC 706]'.⁵³²

Hanza also hosted Army and USAF contingents. In the case of the USAFSS, for example, personnel from the 6927th Squadron based at Onna Point, about 15 km to the northeast, worked in the Operations Building in the early and mid-1960s. They were usually assigned to the Radio Direction-Finding (RDF) Section at Hanza.⁵³³

⁵³⁰ George F. Arsics, 'Hanza, Okinawa (1968-69)', pp. 14, 16.

⁵³¹ Hiram M. Wolfe, Raymond P. Schmidt and Thomas N. Thompson, *Working Against the Tide (COMSEC Monitoring and Analysis), Part One*, (Cryptologic History Series: Southeast Asia, June 1970), p. 54, at <http://www.cryptocomb.org/Working%20Against%20the%20Tide.pdf>.

⁵³² Thomas E. Perry, '1965-68', *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 6, at http://www.navycthistory.com/images/Oki_page_6_big.jpg.

⁵³³ Merritt ('Red') Barthel, '6927th Security Squadron on Okinawa', at <http://www.geocities.ws/redbarthel/Okinawa.html>; and Jim Abbit, '6927th: Discussion', *USAFSS Dad*, at <http://usafssdad.com/2009/01/09/dad-holding-me-in-okinawa/>.

Plate 59
Sign at the AN/FRD-10 CDAA site, Camp Hanza, Okinawa



Plate 60
AN/FRD-10 CDAA at Camp Hanza, Okinawa



Source: Photo by US Department of Navy,
at http://www.anzwers.org/free/nsgaokinawa/Oki_back_cover_big.jpg.

Plate 61
AN/FRD-10 CDAA at Camp Hanza, Okinawa, 1964



Source: Red Barthel, at
<http://www.geocities.com/redbarthel/Okinawa.html>.

Plate 62
AN/FRD-10 CDAA at Camp Hanza, Okinawa, 1968



Plate 63
AN/FRD-10 CDAA at Camp Hanza, Okinawa, February 2003



Source: Photo by Richard Tanter

Plate 64
AN/FRD-10 CDAA at Camp Hanza, Okinawa, 27 April 1981
(Note outer ring of High-band antenna elements and
inner ring of Low-band antenna elements)



Source: Owen Wilkes

Plate 65
AN/FRD-10 CDAA at Camp Hanza, Okinawa, February 2003
(Note outer ring of High-band antenna elements
and inner ring of Low-band antenna elements)



Source: Photo by Richard Tanter

Plate 66
AN/FRD-10 CDAA at Camp Hanza, Okinawa, February 2003
(Note outer ring of High-band antenna elements
and inner ring of Low-band antenna elements)



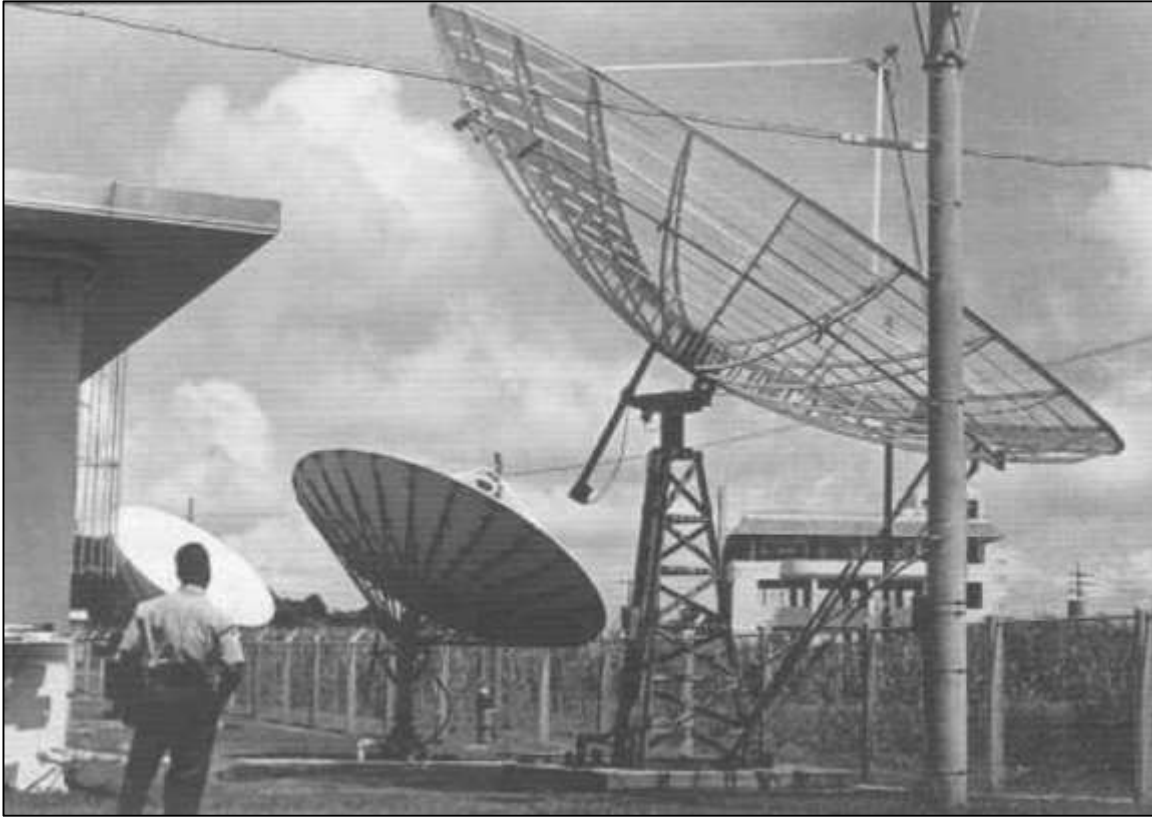
Source: Richard Tanter.

Plate 67
AN/FRD-10 CDAA and TRSSCOM satellite communications dish,
Camp Hanza, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 68
Satellite communications dishes at Camp Hanza, 1998



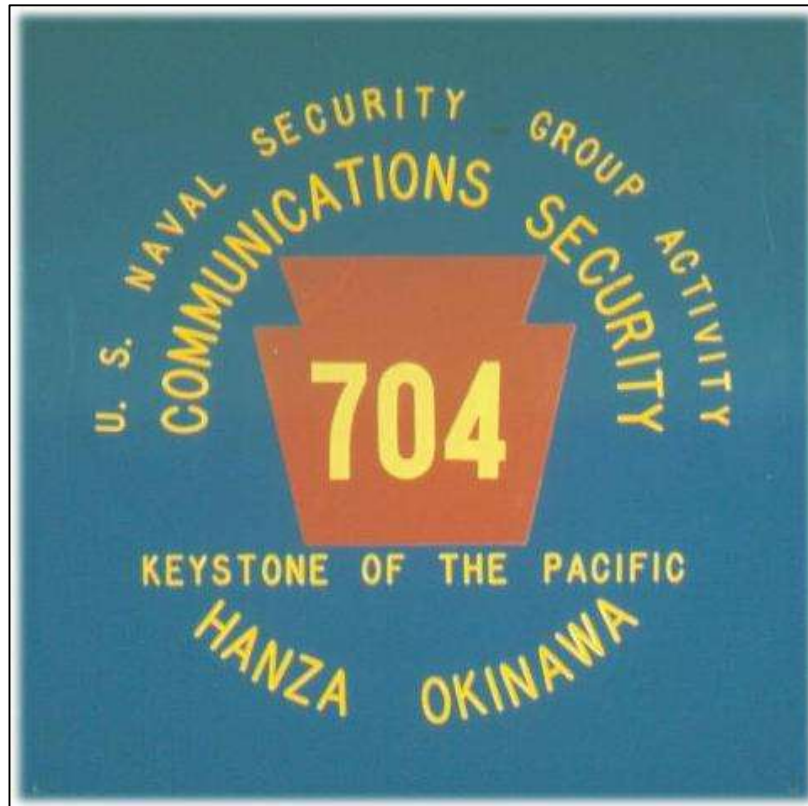
Source: 'Our Mission', *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service*,
The Worldwide CT Community and Our Naval Security Group, p. 3, at
http://www.navycthistory.com/images/Oki_page_3_big.jpg

Plate 69
AN/FRD-10 CDAA at Camp Hanza, Okinawa, 27 April 1981
(Note loop DF antenna in centre)



Source: Owen Wilkes

Plate 70
COMSEC 704 Unit, Camp Hanza, Okinawa



Source: *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/images/hanza_comsec_704_big.jpg.

40. The Joint Sobe Processing Center (JSPC), Torii Station, 1961-71

The Joint Sobe Processing Center (JSPC) was established to consolidate and centralize US SIGINT processing activities in East Asia under the direct control of the NSA. It was co-located with the USASA's USM-3, the operational element of the 51st USASA Special Operations Command (SOC), at Torii Station. Its establishment was recommended by the Robertson Committee in 1957-58, which considered the employment of NSA civilians in overseas COMINT posts, hitherto maintained by the Service Cryptologic Authorities (SCAs).⁵³⁴ The concept was endorsed by the NSA in November 1960. The Agency was persuaded that 'pool[ing] all available analytic talent in the Far East... will expand the [second echelon processing] capability far beyond that of the present time'.⁵³⁵ The 'final plan' for the JSPC was approved by the Office of the Secretary of Defense on 11 January 1961, and its charter was issued on 9 March 1961. The Center was activated 'for administrative purposes' on 1 October 1961, and was 'operationally activated' on 1 February 1962, although the USAFSS contingent did not arrive until June.⁵³⁶

The JSPC was novel in two important respects. First, was uniquely concerned with SIGINT processing – hence the name Processing Center – for which its Data Processing Division (JSPC-5) was equipped with some of the most powerful computers then available. It was initially, in January-February 1962, equipped with a pair of IBM 1401s strapped together. These were replaced in 1964 by two IBM 1460 systems, which enabled 'faster and more flexible computer operations'. These were in turn replaced by two IBM 360/30 computers, installed in June 1967 and May 1968, each of which had 65K memory capacity.⁵³⁷ The Centre had no independent interception capability. Rather, it relied on the SCAs for intercept activities, principally its host at Torii Station, the ASA's 51st SOC, the NSG Activity at Hanza, on a hill on the northern side of Torii Station, and the USAFSS's 6922nd RGM at Kadena. Kadena obtained its intercepts from its airborne SIGINT activities.

⁵³⁴ George F. Howe, 'A History of U.S. Civilians in Field Comint Operations, 1953-1960. Part II', *Cryptologic Spectrum*, Summer 1973, Vol. 3, No. 3, pp. 5-8, at http://www.nsa.gov/public_info/_files/cryptologic_spectrum/history_civies_ii.pdf.

⁵³⁵ *Project Corona Harvest: The Deployment and Development of a Tactical USAF Security Service Capability in Southeast Asia, 1962-64*, p. 68.

⁵³⁶ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵³⁷ Ralph R. Reinhold, 'Memories of an 058'; and 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

Second, the JSPC was the first, experimental SIGINT activity to involve NSA civilians working together with the SCAs in field COMINT operations overseas. The Service components formed the Ground Forces Division (JSPC-1), the Navy Division (JSPC-2), and the Air Division (JSPC-3). There was also a small number of Marines from Company D of the Marine Support Battalion, mainly located in JSPC-2 with the NSG personnel. The JSPC's Watch Office was manned by personnel from each of the Services. Civilians from the HQ NSAPAC at Camp Fuchinobe were assigned to head the Intercept and Reporting groups. The first chief of the JSPC was Army Colonel Kenneth E. Rice, a USASA officer.⁵³⁸

The JSPC built on 'a consolidated tri-service processing center' which was established at Sobe in 1959. When the USASA requested funding for the new centre in early 1959, it explained to the US House of Representatives's Committee on Appropriations in that:

In January 1957 the Secretary of Defense established a special ad hoc committee [the Robertson Committee] to study the problem of achieving greater efficiency and economy in our... communications, intelligence and communications security effort. A major task of this committee was to eliminate any duplication of effort which might be found to exist among the three military departments engaged in this mission. To this end, among the committee recommendations submitted in January 1958 was the establishment of a consolidated tri-service processing center to be located at Sobe, Okinawa. This facility, which provides space to meet the requirements of all services, will make possible the application of the host concept of interdepartmental logistic support, eliminate duplicate supply channels, make unique skills and costly and elaborate equipment available for use, and improve the effectiveness of operational support.⁵³⁹

The Army was designated as the 'executive agent' at the tri-service centre.⁵⁴⁰

The establishment of the JSPC was fraught with debilitating problems from the outset. The plan approved by the Office of the Secretary of Defense in January 1961 'was a compromise between what the DIRNSA and SECDEF wanted and what the Chiefs of the SCAs were willing to agree to'. The charter was deficient with respect to 'command relationships, manpower allocations and other related provisions'. It was never really clear,

⁵³⁸ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵³⁹ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1960*, (U.S. Government Printing Office, Washington, D.C., 1959), p. 315.

⁵⁴⁰ Ibid.

throughout the life of the Center, whether the Service Divisions were under the command of the Chief of the JSPC or the respective Division chiefs.⁵⁴¹

The USAFSS objected vigorously to the establishment of the JSPC. The 6922nd RGM located at Kadena Air Base (USA-752) had been the USAFSS's second echelon centre for processing SIGINT from Southeast Asia since it began operations in Okinawa in 1959. In particular, it 'had mission control of Viet Nam operations'. The USAFSS was especially concerned that whereas 'the 6922nd RGM had maintained a considerable amount of control over its... tasking operations as the second echelon center', the JSPC would now 'exercise almost complete control over the facilities and resources of the 6922nd in that area'. Both the 6922nd Group and the 6920th Security Wing at Wheeler Air Force Base in Hawaii 'fought the arrangement within their prerogatives, but to no appreciable avail'. The Wing finally conceded, saying it was 'fruitless to expound against specious logic and obvious fallacies in basic concept'. The Wing grudgingly provided the personnel and support for the JSPC's Air Division (JSPC-3).⁵⁴²

According to a USAFSS history:

The JSPC was to have been activated in mid-1961, but a continuing battle to arrive at an operational concept agreeable to all concerned prohibited this. Other shortcomings, such as acceptable communications, also had to be worked out, so the activation date was slipped to January 1962. Even then there were vagaries and differences as to the way the operation would go.

Complete activation of the JSPC didn't actually come about until April 1962, still amid considerable questioning of just how it would operate in connection with Service mission control and tactical consumer relations.⁵⁴³

In April 1962, some 460 personnel were stationed at the JSPC, including 175 ASA from the 51st SOC, with the USAFSS component still to arrive.⁵⁴⁴ In July, when the USAFSS moved its entire second echelon processing function for Southeast Asian operations from Kadena to the JSPC, all Service processing was at the same location – except for Vietnamese material, which was handled in the Philippines (by the Army and Air Force at Clark AFB and the Navy at San Miguel).⁵⁴⁵

⁵⁴¹ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵⁴² *Project Corona Harvest: The Deployment and Development of a Tactical USAF Security Service Capability in Southeast Asia, 1962-64*, pp. 67-69.

⁵⁴³ *Ibid.*, p. 69.

⁵⁴⁴ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵⁴⁵ *Project Corona Harvest: The Deployment and Development of a Tactical USAF Security Service Capability in Southeast Asia, 1962-64*, p. 25.

In 1963, the NSA formulated plans to more than double its component of the JSPC. The proposed expansion was described to a Subcommittee of the Appropriations Committee of the Senate Armed Services Committee by Dr Louis W. Tordella, the Deputy Director of the NSA, during testimony in early 1964 concerning NSA's construction program for FY 1965. He stated that:

Approximately 3 years ago, the Agency established an activity at Sobe, Okinawa, known as the Joint Sobe Processing Center (JSPC). The JSCP is an integrated organization, jointly manned by NSA, Army, Navy, and Air Force personnel, established to give support to theater commanders in the Pacific and to perform certain consolidated activities. The NSA portion of the JSPC operation presently occupies 29,500 square feet of operating space in a permanent-type building and all of this space is completely utilized. Additional construction comprising 36,800 square feet is urgently required to accommodate a programmed requirement for improved operations in the Far East. The support in this area presently falls short of existing urgent requirements and immediate improvement in posture is essential. Current plans call for an additional 109 people and an augmentation in the general and special purpose electronic data- processing equipment utilized in JSPC operations. The dollar value of planned equipment procurement and rentals varies from \$350,000 to \$400,000 per year.

Unless this project is appropriated at this time, there will be inadequate space for the additional people and electronic equipment programmed for this facility. Without additional space for the programmed equipment and people, the effectiveness of the JSPC in performing its mission will be reduced accordingly.⁵⁴⁶

Similarly, Dr Tordella informed the Committee on Armed Services of the House of Representatives in March 1964 that:

[This] item is an addition to the presently existing facility at Sobe, Okinawa. The cost of this project is \$1,100,000. Approximately 4 years ago, the Agency established an activity at Sobe, Okinawa, known as the Joint Sobe Processing Center. The existing structure is a permanent type building of approximately 50,000 gross square feet of space; 20,500 square feet of this space is occupied by the communications service operations (Army) and is the building's mechanical and electrical equipment room. Thus, JSPC nets approximately 29,500 square feet of operating space, all of which is completely occupied.

The mission of JSPC is classified. Current plans call for an additional 109 people. In addition, general and special purpose electronic data processing equipment has been scheduled for procurement during the time frame fiscal year 1965 to fiscal year 1968. Advance construction planning is necessary to insure availability of sufficient operational space for this equipment when it is delivered.

⁵⁴⁶ US Congress, Senate, Committee on Armed Services, *Military Construction Appropriations for 1965*, (U.S. Government Printing Office, Washington, D.C., 1964), pp. 681-682.

It is planned that this addition be of essentially the same construction as the existing building and that the addition be located north of and immediately adjacent to the existing building.

Unless this project is authorized and funded at this time, there will be inadequate space for the additional people and electronic equipment programmed for this facility. Without additional space, JSPC will be unable to effectively perform its current and projected missions.⁵⁴⁷

The establishment of the JSPC coincided with escalation of the Vietnam War. By 1965, support for the war effort had become its major preoccupation. The Airborne Communications Reconnaissance Program (ACRP), code-named '*Queen Bee Delta*', began in early 1965. It was concerned with interception of short-range VHF communications traffic which was mostly out of reach of ground-based collection sites. It involved C-130B-II *Sun Valley* aircraft based at Yokota Air Base and operated by the 6091st Reconnaissance Squadron, which 'flew approximately 60 missions of 10-hours duration each month in orbits from the Sea of Japan to the Gulf of Tonkin against KORCOM, CHICOM and SEA targets'. The program 'consistently showed that all but a small portion of the total intercept available in the... VHF spectrum was being collected by ACRP platforms and that this intercept was vital to the JSPC mission'. In May 1965, an ACRC intercept revealed that 'Russian pilots were involved in tactical air activity over North Vietnam'. An intercept on 26 July 1965, provided 'the first and vital evidence of Russian controlled surface-to-air missile launches against U.S. strike aircraft'.⁵⁴⁸

From September 1967, when the 6990th Security Squadron and its RC-135s at Kadena began the *Combat Apple* program, which soon provided continuous 24-hour a day airborne SIGINT coverage of North Vietnam, 'all intercept materials' from the missions was processed at the JSPC. The number of Vietnamese linguists was insufficient to transcribe all the intercepted material.⁵⁴⁹

Some of the intercepts of North Vietnamese communications processed by the JSPC concerned US POWs captured in Vietnam and Laos. For example, on 25 November 1968, the JSPC processed and forwarded to Fort Meade 'a coded message from anti-aircraft Regiment 218 to the headquarters of Division 367' reporting that it had shot down a USAF

⁵⁴⁷ US Congress, House of Representatives, Committee on Armed Services, *Military Construction Authorization Fiscal Year 1965*, p. 8595.

⁵⁴⁸ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵⁴⁹ Ibid.

F-4D fighter-bomber and captured the two pilots, who it named. The message had probably been intercepted by the *Combat Apple* EC-135 aircraft.⁵⁵⁰

From the outset, in mid-1962, JSPC ‘analysts and managers’ had been concerned about reports of Chinese support for North Vietnam, in terms of both strategic planning and materiel. In July 1965, a special task force was activated to coordinate SIGINT efforts with respect to communications concerning Chinese military forces in North Vietnam. By 1969-70, interest had turned to Chinese forces in Laos.⁵⁵¹

The JSPC was officially closed on 1 July 1971. A subsequent review of the Center by NSA’s Cryptographic History Program described it as ‘a successful experiment’, but it was abolished four years before the end of the Vietnam War. The review noted that ‘command and operational relationships remained problematical until the JSPC was closed’. It also noted that the Center never had adequate personnel or operating space. For example, ‘an insufficient number of personnel were assigned to JSPC when the DRV [Democratic Republic of Vietnam] air problem was transferred here’. At one time in 1967-68, the Air Division only had one Vietnamese linguist.⁵⁵² Relations between the USAFSS and the JSPC never improved. A USAFSS history notes that: ‘As time went on, more and more processing and analytical functions were placed at the USAFSS unit at Da Nang where the needs of the 7th Air Force were concerned’.⁵⁵³

The JSPC had 727 personnel in September 1968. By the late 1960s, it produced more than 11,000 SIGINT reports annually.⁵⁵⁴

The continued need for the JSPC was seriously questioned within the NSA as early as 1965, on technical grounds, only three years after it became operational. Under the Far East Modernization Plan, code-named *Pacemaker*, a semi-automatic recording device called the AG-22 allowed collected intercepts to be moved by high-speed data links to computers at either Sobe or Fort Meade for processing. The *Strawhat* system enabled even higher-speed data links, connecting the Center with Onna Point, Hakata, Shu Lin Kou in Taiwan, and San Miguel and Clark Air Base in the Philippines, as well as Fort Meade. However, as the 1974

⁵⁵⁰ Nigel Cawthorne, *The Bamboo Cage: The Full Story of American Servicemen Still Held Hostage in South-East Asia*, (S.P.I. Books, New York, 1994), p. 34.

⁵⁵¹ ‘The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment’, at <http://www.matthewaid.com/post/69627238357/newly-declassified-history-of-nas-joint-sobe>.

⁵⁵² Ibid.

⁵⁵³ *Project Corona Harvest: The Deployment and Development of a Tactical USAF Security Service Capability in Southeast Asia, 1962-64*, pp. 47-48, 70.

⁵⁵⁴ ‘The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment’.

review noted, the *Strawhat* system would provide the capability 'to move the entire AG-22 flagged data stream to the waiting computers at Ft Meade, the JSPC was cut out of the pattern and the end was in sight'.⁵⁵⁵

According to an official NSA account:

JSPC was a victim of improved communications programs, especially the move to automatic forwarding of intercept traffic under the AG-22/STRAWHAT program. At first, arrangements were made for the AG-22 traffic to be routed through Sobe, where data of interest were stripped off for computer processing. But ... JSPC could do nothing that could not be done at Fort Meade, and the center at Sobe was doomed.... The theater military commanders fought the closure of Sobe energetically, but to no avail.⁵⁵⁶

On 20 February 1970, the NSA issued a 'preliminary draft plan' for the drawdown and closure of the JSPC. The drawdown began in the second half of 1970, with the transfer of Service personnel from JSPC-1, JSPC-2 and JSPC-3. The IBM 360/30 computers were deactivated in December 1970 and June 1971.⁵⁵⁷

The last chief of the JSPC was Colonel Graydon K. ('Rocky') Eubank, a USAFSS officer. He had previously served as commander of the USAFSS SIGINT station at Peshawar in northeastern Pakistan (July 1967-June 1969). He remained at Torii Station in 1971-72, where he was assigned to OL-FR of the 6970th Support Group at Fort Meade.⁵⁵⁸

⁵⁵⁵ Ibid.

⁵⁵⁶ Thomas R. Johnson, *American Cryptology During the Cold War, 1945-1989. Book II*, p. 360.

⁵⁵⁷ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment'.

⁵⁵⁸ Ibid p. 25; 'Col. Graydon K. "Rocky" Eubank', *6937th Communications Group, Peshawar Air Station, Peshawar, Pakistan*, at <http://www.6937th.org/Col%20Eubank%20page.htm>; and Ryota "Roy" Motobayashi, 'KA6 AMRS: Auxiliary Military Radio Stations', *Ryota "Roy" Motobayashi, JJ1WTL*, at <http://www.motobayashi.net/callbook/ka6.html>.

41. The 6990th Security Squadron unit at Torii Station

In the late 1960s and early 1970s, the 6990th Security Squadron at Kadena Air Base maintained a 'super-secret' unit at Torii Station tasked with interception, decryption, processing and analysis of North Vietnamese communications, particularly those relating to air activities. In 1970, when the US organised a raid against a North Vietnamese prison camp at Son Tay, just 37 km west of Hanoi, to rescue US prisoners, the unit at Torii Station was 'alerted to the upcoming rescue mission' and 'kept close watch on the Son Tay area' for several months before the raid on 21 November. The raiders found the camp empty, for which the operation was judged an intelligence failure. However, the Torii unit had concluded from monitoring the flights of transport aircraft 'in and out of an airstrip near the camp' that the prisoners had been moved, and, according to a member of the unit, a report to this effect was sent to NSA HQ at Fort Meade 'at least one week prior to the scheduled raid'. He has said that 'the gist of the report ... was that there were no more American POWs left at Son Tay to be rescued'. The mission proceeded anyway 'to show the North Vietnamese how vulnerable they were'.⁵⁵⁹

There was considerable disquiet among some members of the 6990th unit at Torii Station about some aspects of the bombing campaign conducted by the Nixon Administration against North Vietnam in 1972. This evidently erupted during the Christmas bombings (Operation *Linebacker II*), when unprecedented numbers of B-52s were used for mass attacks against North Vietnam in order to force Hanoi to return to the peace talks in Paris. The 6990th Security Group was responsible for supporting the B-52s by monitoring the communications of the North Vietnamese air defence radar nets and SAM batteries. However, some members of the 6990th had 'concluded on the basis of their monitoring of the North' that Hanoi had already agreed to return. Seymour Hersh has reported that 'the unit was in a state of shock' caused by the ferocity of the unjustified attacks. Some personnel 'staged a work stoppage to protest the December bombings'; they 'simply refused to monitor SAM traffic and other communications over Christmas'. According to Hersh, 'most of the malcontents, were immediately pulled off AFSS duty and reassigned to menial tasks, pending

⁵⁵⁹ Jack Anderson, 'Report on Raid On POW Camp Ruffles Admiral', *Washington Post*, 12 February 1982, p. C-15.

reassignment and judicial proceedings'. One veteran reportedly said that 'we wouldn't have lost as many B-52s as we did' if full support had have been provided.⁵⁶⁰

⁵⁶⁰ Seymour M. Hersh, *The Price of Power: Kissinger in the Nixon White House*, (Summit Books, New York, 1983), pp. 628-629.

42. Sukiran, Okinawa, 1961-74

The 400th USASA Special Operations Detachment (Airborne) was formed in 1961 to support the 1st Special Forces Group (Airborne) based at Camp Buckner in Okinawa. The detachment was located within the US Army's Special Action Forces complex at Camp Mercy, in Sukiran, adjacent to Camp Buckner. It reported to HQ ASAPAC but was attached to the 1st Special Forces Group (Airborne) for operational and logistical support. It was redeployed to Fort Bragg in North Carolina in 1974 when the 1st Special Forces Group was deactivated.⁵⁶¹

The detachment was activated on 21 September 1961 as the 1st Operations Detachment of the 80th Special Operations Unit. It was redesignated the 10th Radio Research Unit (RRU) in 1962, and then redesignated the 400th USASA Special Operations Detachment (Airborne) in 1963. Its founding commander, First Lieutenant Louis ('Dean') Kirk, had previously (1960-61) served with the 14th ASA Field Station at Hakata; he later became Executive Officer for the Director of the NSA (1982-85). Kirk was transferred to Fort Bragg in September 1964 and was replaced by Captain William B. Fritts, who oversaw its full-scale deployment to Vietnam in the mid-1960s.⁵⁶²

Two hundred and thirteen men served in the detachment during its 13 years. Their specialties involved radio interception, radio direction-finding (RDF), radio finger-printing (RFP), high-speed Morse interception, cryptography, communications analysis, traffic analysis, communications security (COMSEC), clandestine communications, and radio maintenance and repair; some were Vietnamese linguists.

The first deployment to Vietnam, which involved an 8-man team led by Lieutenant Kirk, lasted from August 1962 to January 1963; its mission was 'to perform Site Surveys, communications intelligence collection, and radio research operations in the Vietnam combat zone'. From January 1963, teams from the detachment served in Vietnam almost continuously until January 1969, when Special Forces operations in Vietnam were largely curtailed. Units from the 400th Detachment earned a reputation for 'performing superb intelligence gathering and communications security functions that assisted the Special

⁵⁶¹ U.S. Army Security Agency, *Annual Historical Summary, FY 1964*, p. 260; U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, pp. 338-339; and 'The U.S. Army Security Agency Special Operations Detachments', *Army Security Agency Online*, at <http://www.asalives.org/ASAONLINE/sodhist.htm>.

⁵⁶² John E. Malone, *Top Secret Missions Performed by Elite Commo & Intel Specialists: 400th USASA Special Operations Detachment Airborne 1961-75*, (Trafford Publishing, Victoria, British Columbia, 2003), pp. 44-47.

Forces... in the combat area'. Several members of the detachment were Killed-in-Action in Vietnam.⁵⁶³

Veterans of the 400th USASA Special Operations Detachment (Airborne) have a clear and unequivocal view of their role. As a chronicle of its history from 1961 to 1974 states:

As the American Eagle searches for prey to survive, this special breed of soldier searches the world over for what enemies plan and say against Americans from their many perches. They search, listen, record and forward what the enemies' commo [communication networks] sends to the intelligence pros [professionals] to decide what data to use from our foes to allow our leaders and allies to propose actions to serve freedom around the planet.⁵⁶⁴

⁵⁶³ Ibid., pp. 146, 195, 277-281.

⁵⁶⁴ Ibid., p. 36.

43. Camp Zama in the 1950s, 1960s, 1970s and 1980s

The 500th Military Intelligence Group was activated in Tokyo on 1 September 1952. Its mission was to provide all-source intelligence and counter-intelligence support to the HQ US Army Japan (USARJ), which was established at Camp Zama in October 1953.⁵⁶⁵ A Special Security Office (SSO) provided SIGINT to both the HQ USARJ and the 500th MI Group. The Group exercised command authority with respect to some of the ASA SIGINT activities in Japan. For example, it provided the 'mission orders and direction', together with the 12th ASA Field Station at Chitose, to the 254th USASA Detachment at Makubetsu in 1952-59.⁵⁶⁶ The ASA's Field Station Misawa, which opened in September 1970, was under the command of the Group.⁵⁶⁷

The HQ ASAPAC moved from Helemano Military Reservation in Hawaii back to Tokyo in December 1960, this time being located at Camp Zama.⁵⁶⁸ It 'exercised command over all assigned or attached USASA units in Japan, Okinawa, Korea, Taiwan, Philippines Islands, Hawaii, South Vietnam, and Thailand'.⁵⁶⁹ A TAREX [Target Exploitation] unit was established at Camp Zama during 1964 to support the HQ ASAPAC. It was responsible for 'exploitation of known or suspected collateral sources of information relating to Agency [ASA] activities'. The organisation of the new unit 'was accomplished by relocating the mission, functions and certain key personnel formerly located at the Signal Research Detachment (Provisional), North Camp Drake'.⁵⁷⁰ A number of Vietnamese nationals were also employed at HQ ASAPAC at Camp Zama in 1964-65.⁵⁷¹

The HQ ASAPAC relocated back to Helemano on 20 July 1965.⁵⁷² According to an ASA veteran, 'this move from Japan to American soil was due to concern about American balance of payments'.⁵⁷³

⁵⁶⁵ John W. Smith, '500th MI Group: Pacific Vanguard', *INSCOM Journal*, April 1982, pp. 5-7.

⁵⁶⁶ Bill Reich, 'Reflections of the 254th USASA Detachment Makubetsu, Hokkaido, Japan', *ASA Chitose Association*, <http://asachitose.com/Page20.html>.

⁵⁶⁷ John W. Smith, '500th MI Group: Pacific Vanguard', p. 7; and 'FS Misawa: Best in the Business', *INSCOM Journal*, April 1982, p. 10.

⁵⁶⁸ Pat Malone, 'Shemya Web Site: Archived Guestbook Files', *Bear Creek*, at http://www.hlswilliwaw.com/aleutians/shemya/html/shemya_guestbook_archive_040717-050417.htm; and Earl Steinbicker, 'My Army Experiences, Part IX: Mt Fuji', *Life's Little Adventures*, at http://lifeslittleadventures.typepad.com/lifes_little_adventures/2006/07/mount_fuji.html?cid=27970743#comment-6a00d8341cc06853ef00d8350f83e669e2.

⁵⁶⁹ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 264.

⁵⁷⁰ U.S. Army Security Agency, *Annual Historical Summary*, FY 1964, p. 221.

⁵⁷¹ *Ibid.*, p. 254; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 265.

⁵⁷² U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 264.

The office of the NSAPACREP was moved from Camp Fuchinobe to Camp Zama in 1964-65. The post was redesignated the US Department of Defense Special Representative Japan (DSRJ) in the late 1960s. The Deputy DSRJ at Camp Zama in 1974-77 was Paul Duplessis, who had served at the USAFSS stations at Misawa, Wakkanai and Henashi Saki in the 1950s.⁵⁷⁴ NSG personnel were also located with the NSA/CSS post at Camp Zama in the early 1970s.⁵⁷⁵

The DSRJ office was moved to Yokota Air Base in the late 1970s. However, some elements remained at Camp Zama for another decade or so. For example, a US Navy Cryptologic Communications Technician ‘maintained daily operation of encrypted telecommunications networks at Department of Defense Special Representative (DODSPECREP), Camp Zama’, in 1986-89.⁵⁷⁶

The ASA’s Special Security Office (SSO) was commanded by Major Patrick M. Hughes from March 1974 to August 1977. (Lieutenant General Hughes was Director of the Defense Intelligence Agency in 1996-99). The SSO supported the HQ USARJ, the 500th MI Group and the DSRJ at Camp Zama and other US military elements in Tokyo.⁵⁷⁷

The 500th MI Group included an Asian Studies Detachment (ASD), also called the US Army Document Center (Pacific), which was part of the Production Division. The Division also included a library and cartographic and translation units. In 1982, in an unspecified ‘particular activity of the 500th there are retired Japanese military personnel that were hired for their expertise within a specific area’. This included 12 officers of ‘flag rank’.⁵⁷⁸

The Army’s Intelligence and Security Command (INSCOM) also maintained an OPSEC team at Camp Zama, called the 181st MI Detachment. It provided training services and other assistance with respect to OPSEC to units at Camp Zama, such as the 500th MI Group, and to its subordinate units, such as Field Station Misawa. For example, Special

⁵⁷³ Correspondence from Wayne Gilbert, 5 March 2001.

⁵⁷⁴ Stanley P. Miller, ‘A little fun to lighten up’, *RV Network*, 16 December 2013, at <http://www.rvnetwork.com/index.php?showtopic=108285>; and Paul Duplessis, ‘Misawa Veterans Profiles’, *USAFSS Misawa Family Guestbook*, at <http://www.usafssmisawa.com/prd/vets.php>.

⁵⁷⁵ ‘The “All NAVSECGRU Japan” Veterans E-mail Roster’.

⁵⁷⁶ ‘Jackson Resumes Page 29’, *FindJobz.com*, at <http://www.findjobz.com/resumes/key/jackson-p-29>.

⁵⁷⁷ ‘Patrick M Hughes’, *LinkedIn*.

⁵⁷⁸ John W. Smith, ‘500th MI Group: Pacific Vanguard’, pp. 5-7.

Agents from the team visited Misawa in January and September 1985; they said that OPSEC training at the Field Station was ‘one of the best they had seen’.⁵⁷⁹

The USAFSS also maintained units at Camp Zama from 1968 to 1978. It was an Operating Location of the USAFSS’s 6970th Security Group based at the NSA HQ at Fort Meade from 1968 to 1975. It was called OL-10 in 1968-70, OL-JJ in 1970-71, and OL-FJ in 1971-75. Camp Zama hosted Detachment 74 of the 6921st Security Wing based at Misawa in 1976-78, when it was redesignated Detachment 74 of the 6920th Security Wing, also based at Misawa, in 1978.⁵⁸⁰

⁵⁷⁹ *United States Army Field Station Misawa, Unit History FY 85*, p. 10.

⁵⁸⁰ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

44. Wakkanai from the 1960s to 1972

Through the 1960s, Wakkanai was the largest USAFSS SIGINT ground station in Japan. It was elevated to Group status as the 6986th RGM on 1 October 1962, and then redesignated the 6986th Security Group on 1 July 1963.⁵⁸¹ It was subordinate to the 6921st Security Wing, which was established at Misawa on 1 September 1962 and which performed the second echelon processing functions. The 6921st Security Wing also controlled the 6989th RGM at Misawa for interception and first echelon processing, but ‘more pages of intercepted radio traffic and recorded reels of both Russian voice and other non-Morse communications were sent to [the 6921st SW at] Misawa for detailed analysis from Wakkanai than from the smaller intercept unit there’.⁵⁸² However, its productivity notwithstanding, the US decided to vacate the site and to transfer it to the Japanese Government in 1971-72.

In the early 1960s, each of the four Flights had about 70 personnel, amounting to an operational strength of about 300 (not counting ancillary personnel such as chaplains, mess staff, perimeter security guards, building and grounds maintenance personnel, etc).⁵⁸³

1960 was a milestone year. Hill 1 was largely cleared of its previous occupants. Some sections of the Operations Building moved up from the main base to Hill 1, including the HF voice interception unit and its Russian linguists (MOS 203-1s). Most of the operational units remained in the Operations Building on the main base for another five years, until a new Operations Building was built on Hill 1. These included the Morse intercept (MOS 292) Section, with racks of R390A HF radio receivers, the TACAIR voice analysts, the traffic analysis (MOS 202) Section, the Electronic Counter-Measures (ECM) Section, the Cryptologic Section, and the Communications Center. A new Surveillance and Warning (S&W) Center, an Analysis and Reporting (A&R) Section, a Traffic Exploitation Section, and an R&D Section were also formed.⁵⁸⁴

⁵⁸¹ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 45.

⁵⁸² Bill Person, *Critic Makers: The Ironworks Incident*, p. 49.

⁵⁸³ *Ibid.*, p. 198.

⁵⁸⁴ CMSgt T. Wyman Beal, *Skinny Nine! A Memoir*, (Booklocker.com, 2004), p. xvii; John Minturn, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; William Shives, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; Bill Person, *Critic Makers: The Ironworks Incident*, p. 144; Thomas Pendergast, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; Thomas Pendergast, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’; and Larry Wild, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

The maintenance group, called MAT-M, which was ‘responsible for maintaining all the equipment at the site’, was also located in the main building below Hill 1. Attached to it was a Precision Measurement Equipment Laboratory (PMEL), which assembled, tested and calibrated ‘new-fangled electronics’ as it was delivered to the site. During the first part of the 1960s, its efforts were primarily concerned with the VLF/ELINT systems on Hill 2, but from 1965-66 it was mainly concerned with the installation and support of the new AN/FLR-12 system on Hill 1.⁵⁸⁵

The HF DF unit (Unit 3) moved from Hill 1 down to the antenna farm in the rice paddy in the northern side of the old base. Its new site was informally called ‘Fort Apache’.⁵⁸⁶ It continued to operate as part of a triangulation net with the DF sites at Misawa (6921st RSW) and Osan-Ni in South Korea (6929th RSS).⁵⁸⁷ A good photograph of the DF shack in the antenna field taken in 1962 is available on the Web-site of veterans of the 6986th RSM.⁵⁸⁸

Unit 5, the VHF/ELINT unit, moved into a new Operations Building on Hill 2, about a kilometer south of Hill 1, where a new suite of VHF antennas were installed, in 1960.⁵⁸⁹ Hill 2 is only visible from Hills 1 and 3, but has a clear VHF line-of-sight across the La Perouse Strait to Sakhalin Island and beyond. The Electronic Interaction Analysis Section, with its MOS 294 specialists, also moved to Hill 2.⁵⁹⁰ However, a new ELINT Department was formed in the main Operations Building. It was equipped with R5200 VHF radio receivers (which covered the frequency range from 50 to 200 MHz), Pan Adapters, and Magnacord tape machines.⁵⁹¹ A VHF R&D Section was also established on Hill 2.⁵⁹²

⁵⁸⁵ Larry Carter, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’; Gary F. Atkinson, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’; Ron Godin, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; and Michael Roberson, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁵⁸⁶ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1283; and Wayne Tippin, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁵⁸⁷ Bill Person, *Critic Makers: The Ironworks Incident*, p. 144.

⁵⁸⁸ ‘6986th RSM Wakkanai, Japan, Photo 4 Page 4’, at <http://6986thrms.homestead.com/Photo4page4.html>.

⁵⁸⁹ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1354; Jim Evans, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; and Jim Evans, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁵⁹⁰ John Wilcox, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁵⁹¹ Ronald Hyatt, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’; and Ronald Hyatt, ‘6986th RSM Wakkanai, Japan, Photo 26’, at <http://www.6986thrms.homestead.com/Photo026.html>.

⁵⁹² Howard (‘Clem’) Kletter, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

As of 1961-62, there were about 15 antenna systems on the ridge-line of Hill 2. Seven of them were housed in radomes, each about 3-4 metres in diameter. The others included a tall HF mast, several VHF LPAs, and two large mesh dishes on a single mast, facing north and south respectively, the former about double the diameter of the latter.⁵⁹³ A new system was installed on Hill 2 in 1965-66; it was tested in mid-1966 and became operational later in the year.⁵⁹⁴ It was evidently incorporated into an additional building near the operations area, and involved no new antennas, as photographs of Hill 2 antennas taken in 1967 show no changes from photographs in 1962.

In 1960, the only antennas left on Hill 1 were the three tall masts ('boat anchors'), each with their three horizontal VHF antennas atop, and the radome installed around 1959. However, it was soon to receive some of the most advanced systems being developed by the USAFSS. A large 'Ferris wheel' VHF antenna system was installed in the southern part of the compound in 1962. (It was not there in photographs taken in 1960-61, but it was operational in 1963). It comprised a 12-sided 'circle', held vertically by two steel masts, and facing northwest towards the Soviet Far East. According to a USAFSS veteran who served at Wakkanai in 1963-65, the array was centred on 66 MHz, while the circular configuration provided a VHF DF capability.⁵⁹⁵ A close-up photograph of the system taken around 1967 is available on the Wakkanai veterans' Web-site.⁵⁹⁶ However, a sequence of later photographs shows that it been removed by 1970.

The landscape on Hill 1 was dramatically transformed in 1965-66 with the installation of the AN/FLR-12 panoramic VHF/UHF/SHF data collection system. The AN/FLR-2 system was designed in the early 1960s as the AN/GLR-1, which was supposed to be the 'above HF' ELINT complement to the AN/FLR-9 HF interception and DF system being developed simultaneously. However, the AN/GLR-1 was 'hideously expensive', and only two prototype systems were built (at Hof in West Germany and Samsun in Turkey). The AN/FLR-12 was essentially a 'no frills' version of the AN/GLR-1 system.

⁵⁹³ 'Wakkanai Hill 2', *Bill McCusker's Website*, at <http://www.mccusker.org/airforce/Wakkanai-Hill-2.htm>.

⁵⁹⁴ Jim McDaniel, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

⁵⁹⁵ Bill Person, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; and correspondence from Bill Person, 23 October 2006.

⁵⁹⁶ Les Ettinger, 'The Hills of Wakkanai Air Station', *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/165133.htm.

Wakkanai became the first AN/FLR-12 site, while AN/FLR-12 systems were later ‘retrofitted’ at the two AN/GLR-1 sites.⁵⁹⁷

Construction of the AN/FLR-12 system at Wakkanai began in late 1965, with IT&T being the prime contractor. It became operational by the end of 1966, although it was still subject to final testing in 1967.⁵⁹⁸ Photographs taken in 1967 show that the system consisted of numerous sub-elements covering the VHF, UHF and SHF bands, laid out in a triangular-shaped area, with the apex pointing out over Cape Noshyappu towards Sakhalin Island, and with a new Operations Building near the middle of the antenna complex. The system was comprised of two large cylindrical towers, about 10-storeys high, with the top third enclosed in an electromagnetically-transparent plastic cover, eight new radomes, three of which were about 13.5 metres in diameter and the other five about five metres in diameter; and a two-tiered structure located near the northern-most point of the complex. One of the towers, on the eastern side of the Operations Building, had a small spherical radome on top, while the other, on the western side of the building, had a small cylindrical radome on top. The two-tiered structure was about 15 metres high, and held a semi-spherical dome 2-metres in diameter on top and a cylindrical or thimble-shaped dome about two metres high on the second tier. The AN/FLR-12 had a VHF DF capability, for which goniometers produced by Olektron Corporation were installed in the new Operations Building.⁵⁹⁹

The AN/FLR-12 was supposed to replace the ‘old boat anchors’ on Hill 1, but that ‘never happened’, at least while the US still maintained the station.⁶⁰⁰ On the other hand, the 1967 photographs show that, in addition to the eight AN/FLR-12 radomes, a small radome had also been installed next to the first one installed around 1959. Photographs taken in April 1972, when the station was being transferred to Japan, show that another small radome had been installed next to this last one, bringing the total number to eleven (not counting those atop the FLR-12 towers or those on the two-tiered structure).

⁵⁹⁷ Thomas R. Johnson, *American Cryptology During the Cold War, 1945-1989. Book II*, pp. 310-311.

⁵⁹⁸ Dennis (‘Benny’) Benardo, ‘Guest Book’, at

http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; Ron Godin, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView; and Kenneth C. Wertz, ‘Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005’.

⁵⁹⁹ Olektron Corporation, ‘Our Subsystems Use Our Components’, in Harry F. Eustace (ed.), *The International Countermeasures Handbook, 1976-77*, (EW Communications, Inc., Palo Alto, California, 2nd edition, June 1976), p. 349.

⁶⁰⁰ Les Ettinger, ‘Guest Book’, at

http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

The Wakkanai station continued to host ASA and NSG contingents through the 1960s and until its demise in 1972. A CIA Liaison Officer was also assigned to the station (Ray Johnson in 1968-69).⁶⁰¹ The ASA contingent was always very small. For example, only one ASA person was stationed at Wakkanai in 1965-66.⁶⁰² The NSG unit was usually a little larger. For example, it consisted of 14 men in 1968-69.⁶⁰³ An NSG member who served at Wakkanai for 18 months in 1967-68 as a Russian linguist has said that 'our team was small and our assignments were usually uneventful'. He operated a 'foot-pedal-operated reel-to-reel magnetic tape machine, recording potential intelligence and idle chatter'. He has said that 'most of what we heard was in code and sent back to NSA for deciphering', that 'unless we were in imminent danger based on what we thought we heard, the tape was sent off with a courier immediately', and that the tapes mostly contained only 'the idle chatter of a couple of [radio operators] hundreds of miles away talking about women and drinking'.⁶⁰⁴ In 1968, two of the NSG members built a ferro-cement boat and tried to sail to San Francisco, but had to be rescued by a Japanese freighter in the mid-Pacific.⁶⁰⁵ The Navy unit became a detachment of NSGA Misawa for a brief period in 1971-72.⁶⁰⁶

The Wakkanai station cooperated closely with the US Navy with respect Soviet naval operations in its area of coverage. Two programs were code-named *Cointreau* and *Drambui*. Because of the confluence of currents from the Sea of Japan and the Sea of Okhotsk, Soviet submarines usually surfaced when passing through the La Perouse Strait ('the Hokkaido Gate'), at which point the Wakkanai station sent a *Cointreau* message to the Navy informing it of their presence. *Drambui* messages were sent whenever the station learned that a Soviet Navy TU-95B long-range maritime reconnaissance aircraft had been dispatched to monitor the US Pacific Fleet.⁶⁰⁷

⁶⁰¹ Vance Wolfe, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'.

⁶⁰² Eileen Akemi Allison-Tacha, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'.

⁶⁰³ Jonathan Wysong, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and MSgt Buck, 'Sic Transit Gloria Mundi', *The Lexicans*, at <http://thelexicans.wordpress.com/2012/05/16/sic-transit-gloria-mundi/>.

⁶⁰⁴ 'King Crab and Horizontal Snow: A Japanese Love Story', *Bumwrinkle Gazette*, at <http://bunwinkle.com?tag=wakkanai>.

⁶⁰⁵ Jonathan Wysong, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'; and Rich LeDoux, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

⁶⁰⁶ Rear Admiral G. P. March, 'Comments', *NCVA Cryptolog*, Spring 1998, p. 17.

⁶⁰⁷ Bill Person, *Critic Makers: The Ironworks Incident*, pp. 64, 200, 204, 266; and Bill Person, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

By the early 1960s, and probably from the late 1950s, the Wakkanai station was intimately involved in aspects of US nuclear war planning. Of course, SIGINT is always used in war planning to confirm the location of targets associated with electronic emitters, such as air defence radar sites, communications centres, surface-to-air missile (SAM) sites, etc. In Wakkanai's case, however, it had an important role in providing real-time attack assessment and the identification of targets for follow-up attacks following the initial ICBM and SLBM strikes against the Soviet Union but before the arrival of the USAF's B-52 bombers. Code-named *Bargain* and *Bargain-2* (or *Bargain Second Round*), the war plans required 'a means of monitoring Russian radios at a known nuke target site to see if they were still transmitting after being hit'. Hill 2 was equipped with 'battery-powered radios to monitor certain Russian frequencies which should have been silenced'. The Base Commander was supposed 'to call to an airborne aircraft to report which radios were still operating, [and] an F-105 would then be sent to nuke it'. Three *Swift Strike* air bases, at Taegu, Kadena and Misawa, were to be used in the attacks.⁶⁰⁸

The Wakkanai station also served as part of the *Trackmaster* network which monitored Soviet space and missile activities through the 1960s. It maintained a position in the main operations building but used 'exotic antennas' located on Hill 2. As a USAFSS veteran who was at Wakkanai in 1963-65 has written, Wakkanai had 'a huge ELINT program' for monitoring the communications associated with Soviet manned space flights and the telemetry from unmanned 'earth satellite vehicles' (ESVs) or *Kosmos* satellites, as well as the telemetry transmitted by ICBM test launches to Kamchatka. By 1963, the Soviets had developed a 'store-dump' method of satellite communications, whereby all the telemetry, voice and video signals were recorded on 64-channel tapes on board the satellites and then, when they were over the Soviet Union, dumped at 'fast forward speed' down to their ground control stations. However, 'electronics analysts' on Hill 2 used a 'freeze frame method' to deconstruct the signals and unveil 'vital information' about Soviet space activities.⁶⁰⁹

The Wakkanai station was the first US SIGINT station to discern the scope of the damage caused by North Korea's capture of the USS *Pueblo* (AGER-2), one of the NSA's SIGINT ships, on 23 January 1968. To begin with, intercept operators at the station

⁶⁰⁸ Bill Person, *Critic Makers: The Ironworks Incident*, pp. 128-130.

⁶⁰⁹ Ibid., pp. 147-149; and Bill Person, 'Guest Book', at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

(including an NSG colleague of some of the communications technicians on the ship) were able to intercept and record the *Pueblo*'s communications while it was being boarded by North Korean forces.⁶¹⁰ The *Pueblo* was carrying innumerable classified documents, including 'detailed technical manuals for the maintenance and repair of NSA encoding and decoding machines'. According to Seymour Hersh, about 'a week after the seizure', operators at Wakkanai, while 'routinely monitoring' facsimile ('fax') traffic between Pyongyang and Moscow, 'were astonished to intercept facsimile re-creations of the top-secret NSA documents'. One of the operators recalled that: 'All of a sudden there was this special transmission, and all of these secret code-word documents were coming across. All the *Pueblo* stuff was coming across. Everything was captured [and then sent to Moscow]'.⁶¹¹

The 6986th RGM sometimes deployed small detachments to other sites in Hokkaido. For example, Detachment 1 was maintained at nearby Makubetsu in 1961-64.⁶¹² In 1961-62, a small team from Wakkanai conducted a 'special operation down the east coast of Hokkaido'.⁶¹³

There was limited cooperation between the USAFSS SIGINT station and the JASDF at Wakkanai in the 1960s. The radar facility operated by Detachment 18 of the USAF's 848th AC&W Squadron on Hill 3 was transferred to the JASDF's the 18th Air Control and Warning (AC&W) Squadron in 1959. The Operations Building at the SIGINT site had a telephone line tapped into the JASDF's operations centre, which forwarded 'radar plots' of all aircraft it was tracking, allowing this information to be correlated with ELINT and voice intercepts collected by the US SIGINT station.⁶¹⁴ In addition, the JASDF had established 'a small intercept site' at Wakkanai in the 1950s, which was expanded in the early 1960s. USAFSS technicians would sometimes go up to the JASDF intercept site to help repair its equipment. The US and Japanese SIGINT stations cooperated operationally with respect to monitoring and reporting the movement of Soviet submarines when they passed through the Soya Strait. They also worked closely together on one occasion in December

⁶¹⁰ Ron Roszkiewicz, 'Wakkanai Was My Home: New Guest Book for Comments after April 12, 2005', *Wakkanai Air Station*, at <http://www.wakkanaiwasmyhome.citymax.com/page/page/1904114.htm>.

⁶¹¹ Seymour Hersh, 'The Target is Destroyed': *What Really Happened to Flight 007 and What America Knew About It*, (New York: Random House, 1986), p. 59.

⁶¹² Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 42; James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 49; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

⁶¹³ Albert Arning, 'Wakkanai Was My Home: Old Guestbook Entries from March 2003 to April 2005'.

⁶¹⁴ Bill Person, *Critic Makers: The Ironworks Incident*, p. 255.

1963 when ‘the Russians desperately tried to shoot down one of our RB-47s on an ELINT ferret mission in the Sea of Okhotsk’.⁶¹⁵

The US began the process of closing down the Wakkanai station in late 1971.⁶¹⁶ According to an official history of the USAFSS, its closure was forced by US Department of Defense ‘budget decisions’. It was officially deactivated as a USAFSS/NSA station on 30 June 1972.⁶¹⁷ Some of the sensitive electronic equipment was packed up and sent to Misawa, such as the Precision Measurement Equipment Laboratory (PMEL), but most of the buildings and antenna systems were taken over by the Japanese, including the main Operations Building and the AN/FLR-12 system on Hill 1.⁶¹⁸ The Pentagon later informed the State Department that when the Wakkanai station was transferred to Japan in 1972, ‘the [FLR-12] equipment at Wakkanai was surplus to all U.S. requirements’, but that ‘because of its classified nature, it could not be sold as surplus property’, and that ‘since the Japanese Government indicated an interest in using the equipment, it was economically desirable to abandon it in place... for such use as the GOJ [Government of Japan] wished to make of it’.⁶¹⁹

However, arrangements were evidently made soon after for US units to operate their own facilities within the growing Japanese complex. A USAFSS officer who had earlier worked at Wakkanai returned to the station with a couple of colleagues for ‘two months in 1978 on temporary duty..., supporting a special project’. He noted that ‘the old facilities

⁶¹⁵ Bill Person, ‘Wakkanai’, at http://members.xoom.com/_XMCM/youngsr/6920th/warstories.htm; and correspondence from Bill Person, 24 October 2006.

⁶¹⁶ Bob Jones, ‘Guest Book’, at http://www.homestead.com/~site/scripts_newguest/newguest.dII?CMD=CMDGetView.

⁶¹⁷ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, pp. 11, 49.

⁶¹⁸ James Hamilton, ‘Arctic Tower at Former Wakkanai Air Station’, *Wakkanai Air Station*, July 1988, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/2863222/837532.htm; 「稚内軍事基地」、佐藤佑二（著）、平和会レポート、1988年8月30日, [Sato Yuji, ‘Wakkanai Military Base’, Report of Visiting Peace Group, 30 August 1988]; 「稚内情報基地調査報告」、佐藤佑二（著）、1988年11月28日 [Sato Yuji, ‘Survey Report on Wakkanai Intelligence Base’, 28-29 October 1988]; and 『北海道のC3I基地に見る新たな福強と変化』、松井愈（著者）、1993年日本平和会国際会議、C3I分科会・18th全道基地闘争活動者会議（93・10）[Matsui Masaru, ‘Looking at New Developments and Changes in Hokkaido C3I Bases, Japan Peace Committee International Conference, C3I Sub-committee; and 18th National Base Struggle Activists Conference (October 1993)’, Hokkaido Peace Committee Study Document No. 26, 8-1994], pp. 6-9.

⁶¹⁹ Cable from the Secretary of State, Washington, D.C., to the US Embassy, Tokyo, ‘Transfer of Equipment at Wakkanai Air Station’, 14 August 1973, *Wikileaks*, at https://wikileaks.org/plusd/cables/1973STATE160470_b.html; cable from US Embassy, Tokyo, to the Secretary of State, Washington, D.C., ‘Transfer of Equipment at Wakkanai Air Station’, 16 August 1973, *Wikileaks*, at https://wikileaks.org/plusd/cables/1973TOKYO10499_b.html.

were still there', including the AN/FLR-12 system. They 'lived in the old PMEL building'. He has recounted that: 'Our mission was to test some equipment for certain collected signals, and to test the ears [antennas]. I was there to monitor air traffic as best I could'.⁶²⁰ According to Seymour Hersh, the National Security Agency (NSA) organised a 30-person tri-service unit at Wakkanai, called Project CLEF, in 1982, which 'was stationed side-by-side with the Japanese, but operating entirely on its own'. Its primary mission was to monitor Soviet General Staff and Air Defence Force frequencies.⁶²¹

The existence of the CLEF unit was revealed as a result of its role in monitoring the Soviet Air Force's communications during the shoot-down of the Korean Air Lines KAL-007 Boeing 747 airliner over Sakhalin on the evening of 31 August, Greenwich Mean Time (or the morning of 1 September, Tokyo time), 1983. Five operators in the Project CLEF rooms had been assigned 'to monitor the equipment during the mid-watch shift'. One of them happened to be listening to Soviet Air Force channels and 'heard it all'; recording the pilot chatter, he thought they were probably engaged in some exercise, until he heard an Su-15 pilot shout that he had launched a missile. The group played the tape recording 'over and over' before writing a 'gist', or summary transcript. However, the CLEF unit had 'no way of immediately relaying its intercepted communications' to Misawa. One of the CLEF operators called the watch officer at Misawa on an open and unsecured telephone line to report the incident. The NSA and US Air Force SIGINT authorities at Misawa decided not to wait until the JASDF analysts arrived for their morning shift to process their material, but to send an aircraft to Wakkanai to collect the CLEF tape recordings and 'preliminary transcript for further analysis by the language experts at Misawa'.⁶²²

According to a US Army Security Agency (ASA) official history for 1986, the ASA's Field Station at Misawa had four 'racks' at Wakkanai, which were being consolidated into two, and which were operated by a single operator (and which were often unmanned).⁶²³ A US defence contractor who spent six weeks working at Wakkanai in August-September 1988 has said that 'all information we got was remoted back to Misawa'.⁶²⁴ Hokkaido peace

⁶²⁰ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1309-1310.

⁶²¹ Seymour Hersh, *The Target is Destroyed*, pp. 57-58.B

⁶²² Ibid., pp. 57-61.

⁶²³ United States Army Security Agency, *United States Army Field Station Misawa Historical Report Fiscal Year 1986*, p. 110.

⁶²⁴ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1310.

researchers who closely monitored the station in the late 1980s and early 1990s continued to refer to a US presence in materials (including sketches and diagrams) prepared in 1992-93.⁶²⁵

A poem written in the 1960s has a very different tone to the one composed in the 1950s cited previously. There is still merciless snow and cold, but they are now alleviated by the spread of nearby bars, with take-away bar-girls (‘josans’) and live-in companions (‘mooses’), another reason for the high extension rates at Wakkanai. It reads as follows:

Oh Wakkanai, oh Wakkanai, across the Strait from Sakhalin,
Oh Wakkanai, oh Wakkanai, it really snows in Wakkanai,
The nights are long, the days are not,
The beer is cold, the josans hot,
Oh Wakkanai, oh Wakkanai, I left my heart in Wakkanai,
Oh Wakkanai, oh Wakkanai, the northern tip of Hokkaido,
Oh Wakkanai, oh Wakkanai, I left my moose in Wakkanai,
The nights are cold, the futon’s hot,
The front door’s closed, the back door’s not,
Oh Wakkanai, oh Wakkanai, I may extend for Wakkanai.⁶²⁶

⁶²⁵ Note on Wakkanai, 30 June 1992, in files provided by Owen Wilkes; and 『北海道の C3I 基地に見る新たな福強と変化』、松井愈（著者）、1993 年日本平和会国際会議・C3I 分科会・18th 全道基地闘争活動者会議（93・10）[Matsui Masaru, ‘Looking at New Developments and Changes in Hokkaido C3I Bases, Japan Peace Committee International Conference, C3I Sub-committee; and 18th National Base Struggle Activists Conference (October 1993)’, Hokkaido Peace Committee Study Document No. 26, 8-1994], pp. 6-9.

⁶²⁶ Bill Person, ‘6986th RSM: Welcome’, at <http://6986thrms.homestead.com/Page2.html>.

Plate 71
Main entrance, Wakkanai Air Station, 1960



Source: Wayne Tippin, 'Wakkanai Air Station', at
http://wakkanaiwasmyhome.citymax.com/albums/album_image/414965/546361.htm.

Plate 72
Wakkanai, Hill 1, c. 1961



Source: Dean Wood, '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrsn.homestead.com/Photo035.html>.

Plate 73
Wakkanai, Hill 1, c. 1961



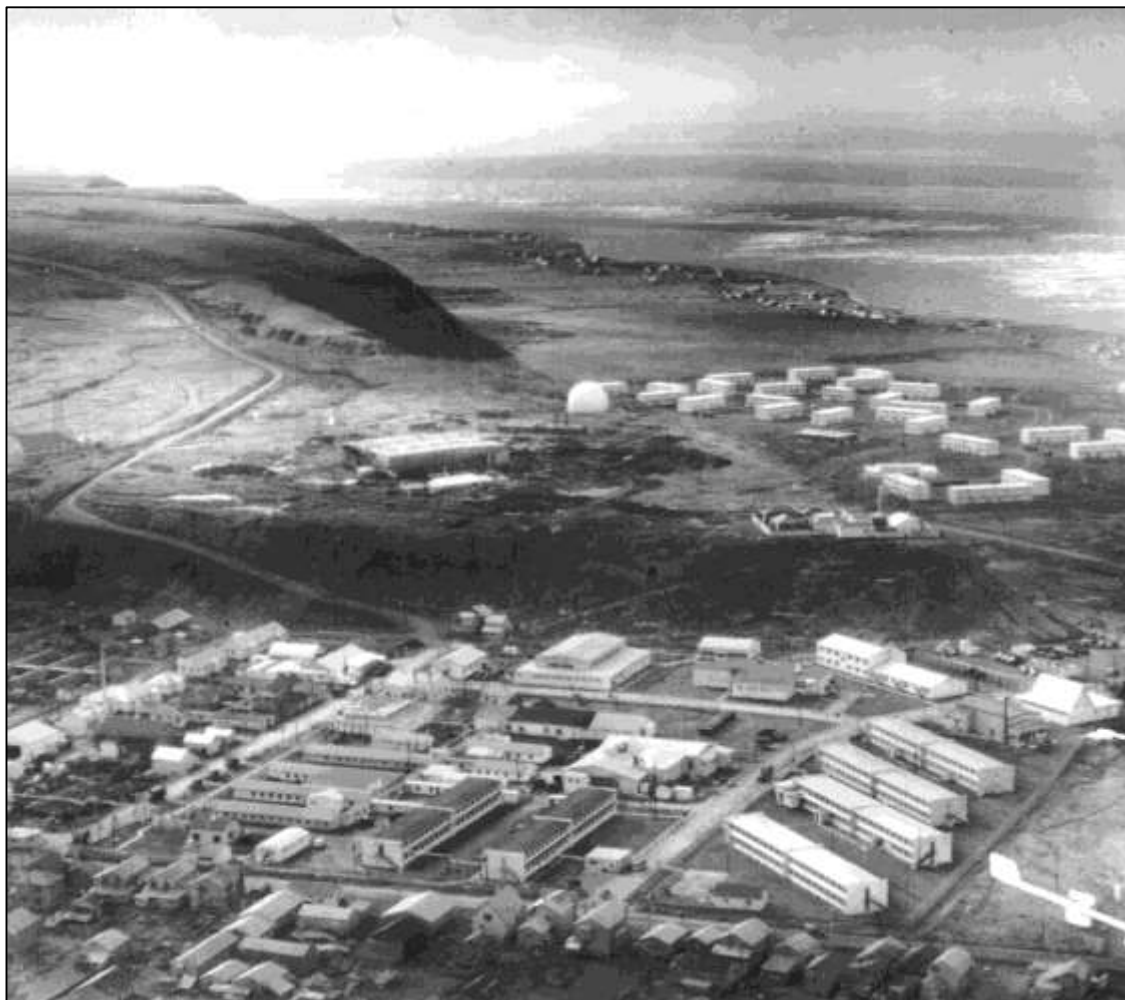
Source: Dean Wood, '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrms.homestead.com/Photo035.html>.

Plate 74
Wakkanai, DF shack, 1962



Source: Frank Beckmann, , '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrms.homestead.com/Photo4page4~ns4.html>.

Plate 75
Aerial view of Wakkanai Air Station, 1964



Source: Dick Gantzler, '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrsn.homestead.com/Photo5pg3~ns4.html>.

Plate 76
Wakkanai, Hill 2, 1962



Source: Dean Wood, '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrms.homestead.com/Photo035.html>.

Plate 77
Wakkanai, Hill 2, 1964/65



Source: Jim Kavanagh, '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrms.homestead.com/Photo016.html>.

Plate 78
Wakkanai, Hill 2

(Note 'Ferris wheel' VHF antenna at lower left of photo)



Source: 'Wakkanai Pictures', *Bill McCusker's Web Site*,
at <http://mccusker.org/airforce/Wakkanai-Hill-2.htm>.

Plate 79
Wakkanai, Hill 2 seen from Hill 1, 1967



Source: Les Ettinger, 'The Hills of Wakkanai AS', *Wakkanai Air Station*,
at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/165136.htm.

Plate 80
Wakkanai Air Station Main Gate, c. 1967



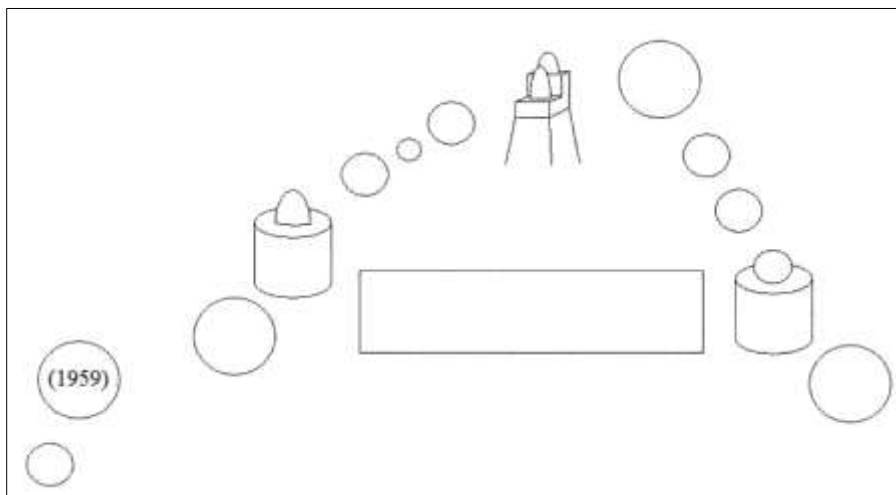
Source: '6986th RSM, Wakkanai AS, Japan',
at <http://6986thrsn.homestead.com/Photo1Page4~ns4.html>.

Plate 81
Wakkanai, Hill 1, 1967 (radome installed circa 1959, centre)



Source: 'The Hills of Wakkanai AS', *Wakkanai Air Station*, at
http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/545650.htm.

Plate 82
AN/FLR-12 system, installed at Wakkanai in 1965-66



Source: James Ball.

Plate 83
AN/FLR-12 system, Wakkanai, Hill 1, 1967



Source: "The Hills of Wakkanai AS", *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/545647.htm.

Plate 84
Hill 1 seen through antenna array on Hill 2,
Wakkanai, 1967



Source: Photo by Les Ettinger, "The Hills of Wakkanai AS", *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/165135.htm.

Plate 85

Hill 1 seen from Hill 2, Wakkanai, 1967

(Note 12-sided 'Ferris wheel' vertical VHF DF system, installed in 1962)



Source: Photo by Les Ettinger, 'The Hills of Wakkanai AS', *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/165133.htm.

Plate 86
Wakkanai main site on Hill 1, c. 1967



Source: Photo by Ron Godin, '6986th RSM, Wakkanai AS, Japan', at <http://6986thrms.homestead.com/Photo1Page4~ns4.html>.

Plate 87
AN/FLR-12 system, Wakkanai, c. 1967



Source: Photo by Dave Mimms, 'The Hills of Wakkanai AS', *Wakkanai Air Station*, at http://www.wakkanaiwasmyhome.citymax.com/albums/album_image/620693/968831.htm.

Plate 88
AN/FLR-12 system, Wakkanai, 1966
(Taken from northern point looking south)



Source: 'Wakkanai Air Station, 1966-1967', *J & D's Corner*,
at http://jandd.org/photo_gallery/wakkanai.htm.

45. Misawa in the 1960s and 1970s

The 6921st RGM was elevated to Wing status (6921st Security Wing) on 1 September 1962. It had direct responsibility for the direction and control of subordinate units covering the northern portion of the Far East area. An official USAFSS history states that HQ USAFSS elevated the 6921st RGM to a Wing ‘in order to delegate maximum responsibility and authority to provide [it] with the freedom of action required to remain abreast of the constantly changing situation’.⁶²⁷ The 6989th Security Squadron was deactivated in 1964 and its intercept mission was assumed by the 6921st Security Wing.⁶²⁸

The 6920th Security Group was activated as ‘the operational unit of the Wing’ on 1 July 1974. Its NSA SIGINT Activity Designator (SIGAD) was USA-38. It was elevated to the 6920th Security Wing on 1 February 1976, at which time the 6921st Security Wing was inactivated. The 6920th Security Wing was reduced to Squadron-level on 29 September 1978, but was elevated to the 6920th Electronic Security Group on 1 August 1979.⁶²⁹

In the early 1960s, the primary antenna system was still the Rhombic farm. A veteran who was stationed at Misawa during a serious earthquake around 1962-64 has recalled that ‘the rhombic antennae were singing a merry song, going slack and then tightening up’.⁶³⁰ The DF station was in the same place as in the 1950s in the early 1960s, southwest of the operations compound. Japanese farmers grew corn right up close to the hut. It used the call-sign 6XZ, and worked with other DF stations at Wakkanai, Atsugi and South Korea, with Misawa as Net Control.⁶³¹

The ‘permanent’ Operations Building (S-1555) that opened in December 1952 and was refurbished in 1958 was ‘in great disrepair’ by early 1964.⁶³² By the early 1960s, the Operations Building was equipped with an IBM 1401 computer, which ‘occupied a large room’. Data was entered into the computer by punching it into cards ‘on noisy, clunky IBM

⁶²⁷ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 41; and ‘Historical Research – Air Force: History of the Air Force on Misawa’s Security Hill’, *Misawa’s Security Hill Heritage Hall Project*, at <http://www.misawajapan.com/heritagehall/airforce.htm>.

⁶²⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1197.

⁶²⁹ ‘The 301st Intelligence Squadron Says “Sayonara” to Misawa’, *Misawa Air Base*, 27 June 2014, at <http://www.misawa.af.mil/news/story.asp?id=123415811>; and ‘History of the Air Force on Misawa’s Security Hill’, at <http://www.misawajapan.com/heritagehall/airforce.htm>.

⁶³⁰ T. Wayne Babb, *Honto!*, p. 584.

⁶³¹ *Ibid.*, pp. 422-424; and T. Wayne Babb, *Honto! II: The Pictorial History of the USAF Security Service at Misawa, Japan*, (Booklocker.com, 2012), p. 308.

⁶³² T. Wayne Babb, *Honto!*, p. 183.

026 keypunch machines.⁶³³ The small OPR-PB and OPR-MC sections which processed the multi-channel tapes recorded by Non-Morse operators at the subordinate intercept sites (such as Wakkanai), including the Soviet 64-channel satellite and missile telemetry, still operated in the S-645 Annex. These sections also had a small transcribing unit at S-645.⁶³⁴

In 1961, HQ USAFSS decided to assign another new mission to Misawa. To ameliorate a shortage of Russian, Chinese and Korean linguists, the USAFSS decided to rationalise their deployment in Japan. All Russian linguists were to be based at Misawa, and all Chinese and Korean linguists at Kadena. This included, most importantly, the linguists who participated in the Airborne Communications Reconnaissance Program (ACRP), based at Yokota. The ACRP aircraft and flight crews remained at Yokota. The Russian linguists, who arrived at Misawa in January 1962, were organised as Detachment 1 of the 6988th RSM, which was then based at Fuchu but which moved to Yokota in 1963. A special compartmented section called the Special Operations Flight Program (SOFP) was set up in the S-645 Annex, where the tapes collected on the airborne missions were transcribed and processed. The SOFP 'also had a presence in building S-1555 on Security Hill'. However, the separation of the linguists who served on the flights from the aircraft and flight crews at Yokota proved unworkable, and the detachment returned to Yokota in February 1963.⁶³⁵ The aircraft involved in this flawed move were the SIGINT-configured C-130B-IIs.⁶³⁶

A new, state-of-the-art AN/FLR-9 HF DF CDAA and associated Operations Building were built in 1963-65. The AN/FLR-9, which is described in an official NSA history as 'the largest single antenna system the U.S. ever designed for SIGINT', was built just south of Lake Ogawara and northeast of the old operations compound. Sylvania Electronic Systems Corporation was selected as the prime contractor, even though it 'lacked experience in several important areas'.⁶³⁷

Construction of the AN/FLR-9 began in July 1963. The first phase of the project was undertaken by Nishimatsu Trading Company, Tokyo, under the supervision of the US Army Corps of Engineers in the Far East. The cost of the initial construction was

⁶³³ Ed Leonard, '6921st Security Wing, Misawa AB, Japan'.

⁶³⁴ Ed Leonard, '6921st Security Wing, Misawa AB, Japan'; Ed Leonard, 'Guestbook: Silent Warriors'; and Edward Leonard, at <http://www.gisearch.com/id6857>; and Ed Leonard, 'Updates [on the 1st Radio Squadron and Misawa]', at <http://www.bobnfumi.com/1radioupdate.html>.

⁶³⁵ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1193-1195.

⁶³⁶ Artie Doyle, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=26>.

⁶³⁷ Thomas R. Johnson, *American Cryptology During the Cold War, 1945-1989. Book II*, pp. 310-311.

\$3,325,000. Several hundred Japanese citizens were employed on the project. The antenna was reported to cover 35 acres (14 hectares).⁶³⁸ Photographs taken during 1964 show the massive antenna system being erected.⁶³⁹ Construction was completed in March 1965.⁶⁴⁰

The AN/FLR-9 CDAA at Misawa consisted of three concentric circles of antenna elements, together with two circular reflector screens, laid out on a ground mat with a diameter of 440 metres. The outer antenna ring (Band A) covered the low band from 2 to 6 MHz, with reduced coverage down to 1.5 MHz. It consisted of 48 sleeve monopole elements, spaced 24 metres apart (7.5 degrees), in a circle with a diameter of about 366 metres. The monopoles were 32 metres high, made up of a 2.2-metre diameter sleeve, 15 metres high, in which was mounted a 17-metre, 25-cm diameter, steel pipe.⁶⁴¹

The middle antenna ring (Band B) covered the mid-HF range, from 6 to 18 MHz. It consisted of 96 monopole elements, spaced 11.5 metres apart (3.75 degrees), in a 340-metre diameter circle. The monopoles were about 11 metres high, comprised of a 5-metre high, 60-cm diameter silo, with a 6-metre high, 6-cm diameter pipe mounted on top. The Band A and Band B antenna elements were vertically polarised, and required a vertically-polarised reflecting screen to remove ambiguities in signal bearings. This screen was located 6.25 metres inside the Band B antenna ring. It had a diameter of 328 metres, and consisted of 96 steel towers, 37 metres high, from which was strung 1,344 vertical steel wires.⁶⁴²

The inner ring (Band C) covered the high band, from 18 to 30 MHz. It consisted of 48 horizontally polarized 'bow-tie' planar dipole antenna sub-elements mounted on top of wooden structures, about 20 metres high, in a circle around the central building with a diameter of about 102 metres. A reflecting screen was strung from protuberances on the inside of the wooden towers. It had a diameter of about 100 metres.⁶⁴³

⁶³⁸ 'Antenna Installation Underway', 22 November 1963, at <http://www.usafssmisawa.com/misawa-images/displayimage.php?album=6&pos=1>.

⁶³⁹ 'Misawa Images', *USAFSS Misawa Family*, at <http://usafssmisawa.com/misawa-images/thumbnails.php?album=6>.

⁶⁴⁰ 'Historical Research – Air Force: History of the Air Force on Misawa's Security Hill', *Misawa's Security Hill Heritage Hall Project*, at <http://www.misawajapan.com/heritagehall/airforce.htm>.

⁶⁴¹ 'Installation, Maintenance and Repair of Antenna Support Structures', (Air Force ISR Agency Instruction 32-1001, Air Force Intelligence, Surveillance and Reconnaissance Agency, Department of the Air Force, 11 January 2008), p. 27, at <http://static.e-publishing.af.mil/production/1/afisra/publication/afisrai32-1001/afisrai32-1001.pdf>; and 'FLR-9', *Wikipedia*, [accessed 22 November 2015], at <http://en.wikipedia.org/wiki/FLR-9>.

⁶⁴² 'Installation, Maintenance and Repair of Antenna Support Structures', pp. 27-28.

⁶⁴³ *Ibid.*, pp. 27-28.

Cables from all of the antenna elements in the three circles ran to a circular central building, approximately 30 metres in diameter and 4.25 metres high. It contained a tuning filter at the cable endings and goniometers, produced by Olektron Corporation, for accurately determining the bearings of the intercepted signals. An underground tunnel, about 2.5 metres high and 2.5 metres wide, ran from the central building to the new Operations Building on the southwest side of the CDAA. Cables carried the signals from the central building through the tunnel to the Cable Vault in the Operations Building, from which they were passed to signal processing equipment.⁶⁴⁴

The AN/FLR-9 system had a nominal HF interception and DF range of 7,400 km, substantially further than the NSG's AN/FRD-10 system. According to a Misawa veteran who worked with both the old DF facility near the corn fields and the AN/FLR-9, 'DF was a brand new world with the FLR-9'.⁶⁴⁵ Eight AN/FLR-9s were constructed around the world, including three others in the western Pacific/Southeast Asia – at Clark AFB in the Philippines, Elmendorf AFB in Alaska, and Ramasun Station near Udon Thani in Thailand.⁶⁴⁶

The new Operations Building (S-1500), located on the northern side of S-1555, was officially opened with a ribbon-cutting ceremony in March 1965. Intercept operations began in the new building on 14 May 1965. Building S-1555 was converted into a Community Center, with a post office, barber shop, dental clinic, dispensary, etc.⁶⁴⁷ The old DF shed and the rhombic and Inverted V antennas were dismantled soon afterwards.

The centerpiece of the new Operations Building was the Surveillance and Warning (S&W) Center, colloquially called the 'Fishbowl'. Its walls were made of transparent Plexiglass maps; when 'important activity was taking place, people came from all over the compound to watch the action'.⁶⁴⁸ The Operations Communications Center (OPSCOMM), equipped with teletype machines, connected the Operations Building with other USAFSS units and HQ NSA at Fort Meade; it was situated next to the Fishbowl.⁶⁴⁹

⁶⁴⁴ Ibid, p. 28.

⁶⁴⁵ T. Wayne Babb, *Honto!*, p. 424.

⁶⁴⁶ 'FLR-9', *Wikipedia*.

⁶⁴⁷ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1197; T. Wayne Babb, *Honto!*, p. 366; and Ed Leonard, 'Updates [on the 1st Radio Squadron and Misawa]'.⁶⁴⁸

⁶⁴⁸ T. Wayne Babb, *Honto 3!*, p. 137.

⁶⁴⁹ Ibid., p. 557.

Surrounding the Fishbowl and the OPSCOMM were several alleys and more than a dozen Blocks, many of which contained banks of R-390 radio receivers used by the intercept and DF operators. One Block was occupied by Chinese linguists. Some Blocks contained positions for more than one unit. Specific sections were devoted to Soviet Air, Air Defence, Naval Air, Civilian Air and Diplomatic communications. The DF Section consisted of a minimum of five operators and a controller per shift. A closely associated unit was initially called Advanced Identification Techniques (AIT), which was later upgraded to Radio Finger Printing (RFP). Another was called the Emitter Location and Identification (ELI) section.⁶⁵⁰ There was also a Research and Development (R&D) Section.⁶⁵¹ A special ('real screwy') position was installed at the rear of Block 1; it was equipped with four R-390 receivers and two printers, and was used to intercept 'clandestine traffic'.⁶⁵² There was also 'a super secret compartmented area' which contained the office of the NSA Representative and was staffed by a select group of Russian linguists (203-1s) and V-202 cryptanalysts.⁶⁵³ The NSA office was renamed the office of the Department of Defense (DoD) Special Representative Japan (DSRJ) in the late 1960s.

The 6989th Support Squadron continued to be responsible for maintenance of all equipment on Security Hill. A member of the squadron was name Airman of the Quarter (January-March) in April 1966.⁶⁵⁴ A Philco Corporation Technical Representative (James Janosko) was attached to the squadron in 1965-67.⁶⁵⁵ It had about 1,250 personnel in 1969-70.⁶⁵⁶

The new Operations Building was supposed to be 'earthquake proof', but its internal structures were badly damaged by a severe quake on 16 May 1968. One of the NSG members was injured. Communications equipment down on the main base was used 'to notify the AF Special Security Officer at Fuchu that we were out of business and to activate

⁶⁵⁰ Ibid., p. 383.

⁶⁵¹ James Miller, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=4>.

⁶⁵² T. Wayne Babb, *Honto!*, p. 367.

⁶⁵³ Ibid., pp. 96-97.

⁶⁵⁴ 'El Pasoan Named Airman of the Month', *El Paso Herald Post*, 2 May 1966, p. B-1, at <http://newspaperarchive.com/us/texas/el-paso/el-paso-herald-post/1966/05-02/page-33>.

⁶⁵⁵ James Janosko, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=4>.

⁶⁵⁶ Milton Oliver Newman, Sr., *Born Under an Oak Tree: Living for God, Family, and Country*, (Crossbooks, Bloomington, Indiana, 2011), p. 189.

the Alternate Intercept Coverage Plan for Misawa Operations'. The station was 'only down for about 24 hours'.⁶⁵⁷

A new antenna system, apparently called Project *Landway*, was installed around 1966-67 to cover the 'above HF' (i.e., VHF and UHF) part of the spectrum. It was essentially a cheap version of the AN/FLR-12 system. It was located west of the Operations Building, and consisted of five very tall steel masts, three of which held a single VHF or UHF crossed-dipole log-periodic antenna (LPA) and two of which had a pair of similar VHF and UHF LPAs, together with a small support building. The antennas were cut to different lengths to give the whole set a broad-band capability across the VHF-UHF range. All of the antennas were rotatable, but they were generally pointed in a 'northerly direction'.⁶⁵⁸ (The authors have a collection of photographs of these antennas taken in 1988, 1989 and 1991). AN/FLR-12 processing equipment was installed in the Operations Building.⁶⁵⁹

On 22 August 1967, the HQ USAF announced a new policy to increase the minute proportion of women in the service, and on 19 December the USAFSS stated that it would assign women to several SIGINT stations, including Misawa.⁶⁶⁰ The first woman arrived in August 1968, with '64 more expected soon'. Many more arrived in 1972-73, following the abolition of the military draft and the introduction of the 'All Volunteer Force'. They included Russian and Chinese linguists, Morse Code intercept operators, Intelligence Analysts, and OPSCOMM operators.⁶⁶¹

A small number of USAFSS personnel from the 6918th Security Squadron at Hakata transferred to Misawa when Hakata was being closed down in 1971-72. The first of these arrived at Misawa in March 1971.⁶⁶²

The NSG presence at Misawa began fitfully and tentatively in the early 1960s. A 'small detachment of about four or five Navy CTs [communications technicians] and one or

⁶⁵⁷ T. Wayne Babb, *Honto!*, pp. 580, 583, 589.

⁶⁵⁸ 'White Paper: Nuclear War and the Self-Defense Forces', *Sekai*, February 1985, pp. 74-139, in Foreign Broadcast Information Service (FBIS), Japan Report, (JPRS-JAR-85-013), 9 May 1985, at <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA349828>; and 'Google Earth', *Ruminations of a Preacher*, 23 January 2007, at <http://temsmail.blogspot.com.au/>.

⁶⁵⁹ Thomas R. Johnson, *American Cryptology During the Cold War, 1945-1989. Book II*, p. 310.

⁶⁶⁰ Harvey W. Yale, *A Special Historical Study of the Organizational Development of the United States Air Force Security Service, 1966-1970*, p. 17.

⁶⁶¹ T. Wayne Babb, *Honto!*, pp. 519-520, 548-551, 557.

⁶⁶² Harry Lawrence, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=24>; and Jerry Robertson, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=28>.

two Marines' arrived at Misawa 'sometime during the spring of 1961' but departed 'after about six or eight weeks'.⁶⁶³ A small unit was activated at Misawa for DF operations on 5 January 1962.⁶⁶⁴ It was located in the S-645 Operations Annex on the main base. It was disestablished on 20 February 1963.⁶⁶⁵ In 1964, there were four Navy CTs attached to the 6921st Security Wing. They were also located in S-645, but moved into the new Operations Building around May 1965. They maintained Transcription and Analysis positions.⁶⁶⁶

A USAFSS veteran has recalled that when the NSG contingent moved into the new Operations Building, he trained two NSG members and a Marine 'on the Naval Air problem'. After two or three months of on-the-job training, they assumed the mission and the USAFSS 'dropped the Naval Air mission at Misawa forever'.⁶⁶⁷ An NSG Detachment was formed at Misawa soon after September 1965, when a disastrous fire destroyed part of the Operations Complex at the NSGA station at Kami Seya, and some of its missions were moved up to Misawa.⁶⁶⁸

The NSG personnel kept mainly to themselves during the 1960s. According to a USAFSS veteran who served at Misawa from 1965 to 1967, they were not located on the main Operations Floor of the new building, but 'in small offices' around the building. He said that they 'consisted of DF and a few collection folks', and that 'if you didn't interact with them, as our DF shop did occasionally, you could totally miss them'. He noted that 'their shift change times were different from ours, so often, we would never even pass them coming or going'.⁶⁶⁹ Another USAFSS veteran has recalled that:

For many years, the Navy compartmented their DF operations and it required special access to enter their spaces. This was mainly due to the nature of the signals they were DFing and some other efforts geared toward short [burst] signals, etc. Once I got indoctrinated into their program. I could see why they kept the area compartmented.⁶⁷⁰

⁶⁶³ T. Wayne Babb, *Honto!*, p. 401.

⁶⁶⁴ Captain Barry L. Bernas, 'Misawa, Then and Now', *NCVA Cryptolog*, (Winter 1998), p. 5; and 'Misawa, Japan: Historical Data', at http://www.anzwers.org/free/navyscpo/misawa_history_patches_photos.html.

⁶⁶⁵ Memorandum from the Commanding Officer, NSGA Kamiseya, to the Commander U.S. Forces Japan, 'Command History', 14 January 1964, p. 2.

⁶⁶⁶ T. Wayne Babb, *Honto!*, p. 400.

⁶⁶⁷ *Ibid.*, p. 399.

⁶⁶⁸ *Ibid.*, pp. 399, 420.

⁶⁶⁹ *Ibid.*, p. 401.

⁶⁷⁰ *Ibid.*, p. 402.

In addition to intercepting Soviet submarine HF burst transmissions, the compartmented area provided SIGINT and communications support for the US Navy's covert submarine operations in the Sea of Okhotsk.⁶⁷¹

The NSG detachment was commissioned as NSGA Misawa on 1 July 1971.⁶⁷² Its founding commander was Captain G. P. ('Pat') March, who had previously been the commanding officer of NSGA Kami Seya and had planned the transfer of the Activity to Misawa. It was organised into ten Divisions (Nos. 50-59), divided into Sections. For example, through the 1970s and until the early 1980s, Division 50 had Collection Management and Analysis & Reporting Sections, Division 53 included HF DF and TEBO Sections as well as the OPSCOMM Center, Division 54 was Processing & Reporting, Division 55 was the Direct Support Unit, Division 57 was the Automatic Data Processing (ADP) unit, and No. 59 was the Maintenance Division. Division 53 later had a Watch Section 1. The Direct Support Unit was redesignated Division 57 around 1985.⁶⁷³

The Misawa NSGA was assigned Detachments at Wakkanai (until it was closed in 1972), Atsugi, Kami Seya and Yokosuka.⁶⁷⁴ A detachment was maintained at Pyong Taek in South Korea from 1 March 1972 to 13 January 1980, and another was established at Seoul on 1 October 1977.⁶⁷⁵ The NSGA at Misawa was awarded the Travis Trophy for the best US cryptologic field site in 1975.⁶⁷⁶

The NSG Command also began assigning women to Misawa in the early 1970s. Among the first was Joan A. Dempsey, a cryptologic technician who arrived in 1974, when she was 18 years old, who monitored 'Soviet bomber and submarine traffic'. Dempsey later served as Deputy Assistant Secretary of Defense for Intelligence and Security (1997-98), Deputy Director of the CIA responsible for Community Management (1998-2003), and Executive Director of the President's Foreign Intelligence Advisory Board (PFIAB) (2003-

⁶⁷¹ Ibid., p. 420.

⁶⁷² 'Command History', *U.S. Navy Information Operations Command, Misawa, Japan*, at <http://www.niocmisawa.navy.mil/history.html>.

⁶⁷³ 'The "All NAVSECGRU Japan" Veterans E-mail Roster', numerous entries\; 'The Edgington's Misawa Reunion', at <http://touring.edgingtons.com/MISAWA/mreunionboard/mreunion.html>; and 'NDGA Misawa CT Crew', at <https://groups.yahoo.com/neo/groups/nsgamisawactcrew/conversations/messages?messageStartId=13&archiveSearch=true>.

⁶⁷⁴ Rear Admiral G. P. March, 'Comments', *NCVA Cryptolog*, (Spring 1998), p. 17.

⁶⁷⁵ Captain Barry L. Bernas, 'Misawa, Then and Now', p. 5.

⁶⁷⁶ JO2 L. Armstrong, 'The Trophy Comes Home', *Misawa*, May 1988, p.4.

05).⁶⁷⁷ She stated in 2004 that during the time she worked at Misawa, the NSG and the NSA fought ‘huge battles’ over information sharing. She said that:

The NSG wanted to get near real-time intelligence we were collecting on the Soviet fleet out to our naval battle groups operating in the Pacific, but NSA felt that dissemination would put its sources at risk. That was my first experience with data owners believing that controlling intelligence was more important than using it.⁶⁷⁸

Around 1967, a TEBO system was installed in S-1500. It had been developed by the NSA. TEBO may have been an acronym for ‘Technical Exploitation of Bauded Operations’, although this is disputed among veterans. It was formally called an AN/GSQ-76 Automatic Data Acquisition System; its sub-systems included TT-470/UG and TT-471/UG teletypewriters and RD-289 digital magnetic recorders, for which it had an AN/GSH digital data recorder-reproducer as a back-up. It was used by MOS 292 Non-Morse intercept operators from both the USAFSS and NSG.⁶⁷⁹ The NSG’s TEBO operations were expanded in 1976-78.⁶⁸⁰ The TEBO system was replaced by the *KEELAN* system in the mid-1980s.⁶⁸¹

Other computerised processing and analysis systems installed in the 1970s included *FLEXSCOP* and *Kinder*. The *FLEXSCOP* [Flexible Signal Collection and Processing] system, designated AN/GYK-8, consisted of a Univac 24-bit computer, a CP-818 computer, and their ‘peripherals’, and involved consoles and equipment for use by ‘collection position operators’. It also used RD-289 digital magnetic recorders, with an AN/GSH-28(V) recorder reproducer as a back-up. *Kinder* involved an AN/TCA-4 ‘digital converter programming group’, which essentially consisted of a demultiplexer ‘to separate time division multiplex (TDM) signals into individual channels and to perform signal translation functions’, a synchronizer (‘the heart of the AN/TCA-4’) which synchronised ‘the equipment to the speed of the incoming signal’, and a specially designed printer called the AN/UGC-33X for simultaneous printing of inputs from each channel.⁶⁸²

⁶⁷⁷ Marjorie Censer, ‘Government IT Contractors’; ‘Centennial Character Sketch: Joan Dempsey’; and Tim Shorrock, *Spies for Hire: The Secret World of Intelligence Outsourcing*, (Simon & Schuster, New York, 2008), p. 32.

⁶⁷⁸ Tim Shorrock, *Spies for Hire*, p. 32.

⁶⁷⁹ National Security Agency (NSA), *AN/GSC-76 Data Acquisition System Instruction Manual*, (National Security Agency, Fort George G. Meade, Maryland, 1966); ‘Cryptologic Collection Equipments 1977 Edition – NAVETRA 10251’, at <http://www.virhistory.com/navy/manuals/crypto-equip.htm>; and T. Wayne Babb, *Honto II! The Pictorial History of the USAF Security Service at Misawa, Japan*, (Booklocker.com, 2012), pp. 310-313.

⁶⁸⁰ Dean Minter, ‘SECGRU History Reunions’s Message Board’, at <http://www.boards2go.com/boards/board.cgi?action=read&id=1293497583&user=navyscpo2>.

⁶⁸¹ T. Wayne Babb, *Honto II! The Pictorial History of the USAF Security Service at Misawa, Japan*, p. 311.

⁶⁸² Harry Weiss, ‘6922nd Visitor’s Book’, at <http://saturn.guestworld.tripod.lycos.com/wgb/wgbview.dbm?owner=CobraDen&lang=default&place=guest>

Personnel from Misawa were often deployed on special projects aboard SIGINT-equipped aircraft, ships or submarines. In 1973, for example, four enlisted USAFSS men joined an NSA officer and a team of RCA civilian contract personnel on a 3-month mission aboard the USS *Hoyt Vandenberg*, which monitored the re-entry of Soviet test ICBMs in the northwest Pacific. They spent 45 days in the main impact area off the coast of Kamchatka Peninsula. One of the enlisted men's duty was to 'monitor different Soviet communications associated with weather and missile activity' and to 'coordinate with NSA when I thought there would be a launch'. He has said that 'we recovered data on the launching of many missiles while on station'.⁶⁸³

The Army's ASA also maintained a presence at Misawa in the 1960s and 1970s. The US Army Signal Research Unit No. 4 was established at Misawa in the early 1960s. It was a sister unit to the US Army Signal Research Unit No. 3 at Itazuke, tasked with detecting possible nuclear detonations by electronic means, as described earlier. Its authorised strength was two officers and 14 enlisted men as of 30 June 1964. It was assigned to HQ USAPAC until December 1964, when it was transferred to the 12th Field Station at Chitose for administrative and logistical support. Operational control was exercised by the USASA Processing Centre at Vint Hill Farms Station. It maintained 'two out-stations', about eight km from 'the central recording station' at Misawa's Security Hill.⁶⁸⁴

The ASA established a Field Station at Misawa in September 1970, following the closure of its station at Chitose. Its mission was: 'To provide rapid radio relay and secure communications for defense of the United States and its allies. Additional functions include transmission security and research into electronic phenomena'. Command and control of the Field Station was exercised by the 500th Military Intelligence Group at Camp Zama.⁶⁸⁵

book%20server&approved=0; Harold P. Myers, John P. Williamsom, Gabriel G. Marshall and Benjamin T. Jones, *A Continuing Legacy: USAFSS to ALA, 1948-2010. A History of the Air Intelligence Agency and Its Predecessor Organizations*, (Air Force ISR Agency History Office, San Antonio, Texas, 6th edition, 2010), p. 19, at <http://www.25af.af.mil/shared/media/document/AFD-101206-040.pdf>; Tony Mannucci, in '24-bits, Page 51', *Information Technology Pioneers*, at <http://vipclubmn.org/CP24bit.html>; and Nick England, 'Cryptologic Collection Equipments 1977 Edition – NAVEDTRA 10251', *US Navy Radio Communications - 1950s & 1960s*, at <http://www.virhistory.com/navy/manuals/crypto-equip.htm>.

⁶⁸³ T. Wayne Babb, *Honto!*, pp. 427-432.

⁶⁸⁴ U.S. Army Security Agency, *Annual Historical Summary, FY 1964*, p. 262; U.S. Army Security Agency, *Annual Historical Summary, FY 1965*, p. 359; U.S. Army Security Agency, *Annual Historical Summary, FY 1966*, p. 161; and U.S. Army Security Agency, *Annual Historical Summary, FY 1967*, pp. 324-325.

⁶⁸⁵ *United States Army Field Station Misawa, Unit History FY 85*, pp. 1-2.

A 7-stanza poem called ‘Silent Warriors’ was composed by Russ Butcher, who served with the USAFSS in Misawa in 1961-65. Four of the stanzas are excerpted as follows:

What is the make-up of this breed,
these strange and special few?
Where do they come from, year-on-year
What is it that they do?

They are like shadows in the night
or vapor in the air,
so seldom seen and rarely heard
but rest assured, they’re there.

And what they do, you needn’t ask
for none will ever tell,
in silence based on “need to know”
they proudly serve so well.

They’re much the same as all before
who vanquished freedom’s foe.
They are the ones who fuel the fire
which keeps THE TORCH [of freedom] aglow.⁶⁸⁶

Personnel at the Misawa station were very involved in various sorts of community activities. Beginning in 1961, the men on Security Hill organised an annual Operation *Eyesight*, a ‘drive to raise funds for surgery to restore the sight to blind Japanese’.⁶⁸⁷ It became a substantial philanthropic activity, and was still thriving in 2014.⁶⁸⁸

⁶⁸⁶ Russ Butcher, ‘Silent Warriors’, Honoring America’s Silent Warriors, at http://sw.propwashgang.org/usafss_poem.html.

⁶⁸⁷ John Sinnard, ‘Operation Eyesight’, *USAFSS Misawa Family*, at <http://www.usafssmisawa.com/prd/memories.php?idx=operationeyesight>; Helen J. Henderson, ‘The Edgington’s Misawa Reunion’; and T. Wayne Babb, *Honto!*, pp. 658-659. 663.

⁶⁸⁸ ‘The 301st Intelligence Squadron Says “Sayonara” to Misawa’, *Air Force ISR Agency*, 27 June 2014.

Plate 89
AN/FLR-9 CDAA under construction, Misawa, 1964



Source: 'Misawa Images: 1964 FLR-9 Under Construction', *USAFSS Misawa Family*, at <http://usafssmisawa.com/misaw-images/displayimage.php?album=6&pos=5>.

Plate 90
AN/FLR-9 CDAA, Misawa, 1974



Plate 91
AN/FLR-9 CDAA, Misawa



Plate 92
AN/FLR-9 CDAA, Misawa



Source: Photo by Jess Lokoski, 'Misawa to Tear Down Massive "Elephant Cage" Antenna',
Stars and Stripes, 19 November 2012, at
<http://www.stripes.com/news/pacific/misawa-to-tear-down-massive-elephant-cage-antennae-1.197638#>.

Plate 93
Antenna elements, AN/FLR-9 CDAA, Misawa, 1991



Source: Owen Wilkes.

Plate 94
Low-band (2-6 MHz) sleeve monopole element,
AN/FLR-9 CDAA, Misawa, 1991



Source: Owen Wilkes.

46. Kami Seya (USN-39) from the 1960s to 1995

The NSG station at Kami Seya was organised as NSG Activity, Kami Seya, on 15 January 1960. At that date it had ‘approximately 1,500 people assigned’.⁶⁸⁹ It underwent numerous changes over the next third of a century, with respect its organisation, roles, and equipment. As of September 1965, Kami Seya was the largest NSG station in the world, with more than 1,000 officers and enlisted personnel.⁶⁹⁰ However, its status wavered. It was relegated to a detachment (of NSGA Misawa) from 1971 to 1984, when it was re-commissioned as an Activity. It was closed, seemingly peremptorily, in 1994-95.

The interception and DF antenna systems were substantially upgraded in the early 1960s. In 1963, the ‘old AN/FLR-7’ CDAA was upgraded to a ‘state of the art’ AN/FLR-11 CDAA, which utilised elements developed for the first AN/FRD-10(V) CDAA system, and the AN/FRA-44 recorder/analyser sub-system was replaced with an AN/FRA-54 sub-system. The high-band elements of the AN/GRD-6 were also upgraded with some of the prototype elements from the first AN/FRD-10(V) system in the early 1960s. This enabled Kami Seya to participate in the world-wide *Classic Bullseye* HF DF network, which was otherwise limited to stations with AN/FRD-10 systems. A *Bullseye* Data Transfer Sub-System (BDTSS) was installed in the Tunnel. It used AN/FRR-60 ‘dual diversity’ radio receivers and AN/FGC-60 teletype multiplexers to receive *Bullseye* data from other stations in the Western Pacific HF DF Net.⁶⁹¹

In August 1964, NSGA Kami Seya was assigned major new communications security (COMSEC) missions. As its unit history for 1964 noted, COMSEC 702 Unit at Kami Seya ‘has been assigned responsibility for coordinating the transmission monitoring, cryptomonitoring, traffic analysis, frequency measurement and communications security training programs conducted by all WESTPAC communications security components’. In addition to these roles, it became the second-echelon COMSEC Processing and Reporting

⁶⁸⁹ ‘Command History’, *NAVCOMTELSTA Far East Yokosuka Ja*, at <http://www.public.navy.mil/fcc-c10f/nctsfe/Pages/AboutUs.aspx>.

⁶⁹⁰ Bernie Ferrara, ‘Kami Seya Reflections: 1965, The Fire, and Liberty’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 19.

⁶⁹¹ W. E. “Pat” Garrett, ‘Kami Seya Memories: 1965 and Further’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 15; and Robert L. Goehring, ‘NSGA Edzell, Scotland, UK: March 1975 to March 1977’, at <http://www.ctmcm.com/RobertsPages/NavyLife/EdzellFirst.html>.

Center for the Western Pacific. The unit initially comprised four officers and 40 enlisted men

⁶⁹²

NSGA Kami Seya maintained several detachments elsewhere in Japan through the 1960s. A detachment was maintained at Hakata from May 1959 until Hakata was elevated to an NSG Activity itself in July 1967. Another was located at Sasebo from December 1957 to July 1968. A detachment was established for DF purposes at Misawa on 5 January 1962. It was inactivated on 20 February 1963, but was reactivated soon after the fire in September 1965.⁶⁹³ One was located at the USASA's 12th Field Station at Chitose, Hokkaido, around 1962-63; it reciprocated with an ASA detachment at Kami Seya, which became operational in January 1960.⁶⁹⁴

Another detachment was established at Yokosuka on 1 August 1969, where it remained until Yokosuka became an NSG Activity in June 1995.⁶⁹⁵ Personnel from Kami Seya visited the Yokosuka detachment frequently, to borrow equipment, to get equipment repaired, or for social reasons.⁶⁹⁶ NSGA Kami Seya also provided the Navy Element at the PACOM ELINT Center at nearby Fuchu Air Base.⁶⁹⁷ Detachment 2 of the USAFSS's 6988th RSM based at Fuchu was stationed at Kami Seya from 1 July 1955 to 16 January 1962.⁶⁹⁸

The Kami Seya station suffered a terrible fire on the night of 23-24 September 1965. The fire destroyed most of the Operations Complex adjacent to the Tunnel, including Building 25 near the entrance, and severely damaged operational areas inside the Tunnel. Twelve men died; they were the Officer-of-the-Deck, ten Morse Code Russian Intercept

⁶⁹² Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, 'Command History', 31 December 1964; and Hiram M. Wolfe, Raymond P. Schmidt and Thomas N. Thompson, *Working Against the Tide (COMSEC Monitoring and Analysis), Part One*, pp. 54-55.

⁶⁹³ Captain Barry L. Bernas, 'Misawa, Then and Now', p. 5; Memorandum from the Commanding Officer, NSGA Kamiseya, to the Commander U.S. Forces Japan, 'Command History', 14 January 1964, p. 2; and T. Wayne Babb, *Honto!*, pp. 399-401.

⁶⁹⁴ Norm Kitchin, 'Army ASA Detachment at NSGA Kami Seya, Japan, 1960-61'; Norm Kitchin, in 'Kamiseya Roster Part Six'; and John A. Winner, in 'Kamiseya Roster Part Three', at groups.msn.com/KamiSeyaReunion/kamirosterpart3.msnw.

⁶⁹⁵ 'Naval Security Group Station History', *The Worldwide CT Community and Our Naval Security Group*, at <http://www.navycthistory.com/NSGStationsHistory.txt>.

⁶⁹⁶ Douglas Easton, 'Gulf War Diary', p. 36.

⁶⁹⁷ Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, 'Command History for Calendar Year 1966', 14 February 1967, Annex 1.

⁶⁹⁸ Richard R. Ferry, *A Special Historical Study: Organizational Development of the USAFSS, 1948-62*, p. 58; and Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

Operators (including one Marine), and a Russian linguist.⁶⁹⁹ The R-390A radio receivers that could be salvaged were taken by bus to the NSAPAC facility at Camp Fuchinobe. One of the NSG operators said that ‘it was strange, seeing the NSA employees in ties doing the same job we did’.⁷⁰⁰ Other personnel were temporarily transferred to Misawa, Hanzo in Okinawa, and ‘other places that could handle the load’.⁷⁰¹

In November 1965, Project *Running Light* was organised to construct, ‘on an urgent basis’, four new buildings to replace Building 25 and other parts of the operations complex destroyed in the fire. These were completed during 1966. A 1,700-square foot Communications Addition was also constructed. A ‘new receiver site’ was also established during 1966.⁷⁰²

As of 31 December 1966, there were 81 officers and 1,270 enlisted men stationed at NSGA Kami Seya (with another 23 officers and 360 enlisted men stationed at detachments assigned to Kami Seya). Company E of the Marine Support Battalion, attached to the NSGA, had four officers and 115 enlisted Marines.⁷⁰³

The NSGA at Kami Seya had a Direct Support (DIRSUP) unit, also called the 5th Division, which provided the personnel for airborne, ship-borne and submarine SIGINT collection operations in the Far East. Six men from Kami Seya were aboard the USS *Pueblo*, the US Navy’s SIGINT ship captured by the North Koreans in January 1968, comprised of four NSG CTs and two Marine sergeants. The Marines were assigned as Korean linguists, although they barely knew the language.⁷⁰⁴ While the *Pueblo* was dock-side at Yokosuka in December-January being prepared for its patrol, all its CTs were sent to Kami Seya for training (apart from six who went to the PACOM ELINT Center at Fuchu).⁷⁰⁵ During the

⁶⁹⁹ ‘Fire’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 18; George H. Morton, ‘Recollections of the Fire’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 20-21; and Henry Van Gemert, ‘Kami Seya Tunnel Fire’, at <http://pihank.freewebsites.com/>.

⁷⁰⁰ Gary Thomas, in ‘Kamiseya Roster Part Seven’, at groups.msn.com/KamiSeyaReunion/kamirosterpart7.msnw.

⁷⁰¹ George H. Morton, ‘Recollections of the Fire’, *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 20-21.

⁷⁰² Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, ‘Command History for Calendar Year 1965’, 22 March 1966, p. 1; and Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, ‘Command History for Calendar Year 1966’, 14 February 1967, p. 4.

⁷⁰³ Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, ‘Command History for Calendar Year 1966’, 14 February 1967, p. 4.

⁷⁰⁴ Ed Brandt, *The Last Voyage of USS Pueblo*, pp. 21-22; and ‘USS Pueblo (AGER-2): Crewmember List’, at <http://www.usspueblo.org/Aftermath/Crewmembers.html>.

⁷⁰⁵ Ed Brandt, *The Last Voyage of USS Pueblo*, p. 38; and Trevor Armbrister, *A Matter of Accountability*, p. 164.

seizure of the vessel, the DF systems at Kami Seya ‘recorded the ship’s position as well beyond North Korean waters’.⁷⁰⁶

The Kami Seya station suffered another tragedy on 14 April 1969, when North Korean fighter aircraft shot down an EC-121M SIGINT aircraft, flown by the VQ-1 Squadron based at Atsugi, on an ELINT collection mission along North Korea’s eastern coast. Nine men were from NSGA Kami Seya’s Direct Support Unit were aboard the aircraft, including two from Hakata who were on temporary duty at Kami Seya.⁷⁰⁷

As of 31 December 1969, the NSG station occupied 237 hectares (586 acres) and was staffed by 1,652 personnel, of who 1,370 performed ‘NSG functions’. The mission of the NSGA at Kami Seya was officially described as being to ‘provide direct and timely Naval Security Group Support to the fleet in the Pacific. Primarily this support consists of HF-DF, COMSEC and other Naval Security Group functions’.⁷⁰⁸

The NSG Activity was ‘downsized’ to a Detachment on 1 July 1971, and ‘most of the mission moved to Misawa’, where the previous detachment was recommissioned as an Activity. According to Captain G. Patrick March, commander of NSGA Kami Seya (and later Rear Admiral and commander of the NSG Command), the relocation of ‘the primary mission and functions’ of Kami Seya to Misawa was ‘dictated’ by the ‘Japan Realignment’ policy adopted by the US in 1970-71. Admiral March noted that ‘we were very much concerned that the strong sense of continuity of mission and [a tradition of] excellence not be diminished’.⁷⁰⁹ The cryptologic and DF functions moved to Misawa in March 1971. All of the Marines moved to Misawa on 20 June 1971. The large AN/FLR-11 and AN/GRD-6 HF DF arrays were dismantled. Kami Seya remained a Detachment of NSGA Misawa until 23 May 1984.⁷¹⁰

In a final address at Kami Seya, Captain March said that: ‘NSGA Kamiseya will be no more. During this period of time [from 1952 to 1971] tens of thousands of the Navy’s

⁷⁰⁶ Mitchell B. Lerner, *The Pueblo Incident: A Spy Ship and the Failure of American Foreign Policy*, (University Press of Kansas, Lawrence, Kansas, 2002), p. 88.

⁷⁰⁷ Matthew Aid, ‘1969 EC-121 Shootdown’; and T. Wayne Babb, *Honto!*, p. 434.

⁷⁰⁸ US Senate Foreign Relations Committee, *United States Security Agreements Abroad*, (US Government Printing Office, Washington, D.C., 1971), pp. 1455, 1485. See also ‘Narrowband Assignment and Reporting Instructions for the Pacific High Frequency Direction Finding Net’, 17 February 1982, in *CINCPAC Fleet Note 5215*, 11 February 1983, Enclosure 1, p. 10.

⁷⁰⁹ Rear Admiral G. P. March, ‘Comments’, p. 17.

⁷¹⁰ Jay R. Browne, ‘Kami Seya Update P-2’, *NCVA Cryptolog*, (Spring 1995), p. 2; Jay R. Browne, ‘Navy Road and the Back Gate’, p. 35; and Lieutenant Colonel Pete Brown, USMC, ‘Marine Corps History and Tradition’, p. 33.

finest have established an enviable record of achievement and a peerless tradition of excellence'.⁷¹¹

However, several new SIGINT-related units were soon established at Kami Seya. Most importantly, the FOSIF [Fleet Ocean Surveillance Facility] WESTPAC was activated at Kami Seya on 15 February 1972. The FOSIF in the Western Pacific was the last element of the US Navy's Ocean Surveillance Information System (OSIS) to be constructed. The OSIS integrated all ocean surveillance information, collected by HF DF Networks, SOSUS undersea arrays, maritime reconnaissance aircraft, and the Classic Wizard ocean surveillance satellite system, and then distributed the product to Fleet commands. Organisationally, it comprised a Naval Ocean Surveillance Information Center (NOSIC) located at Suitland, Maryland; three Fleet Ocean Surveillance Information Centers (FOSICs) located at major Fleet commands, including one established with CINCPACFLT [Commander-in-Chief Pacific Fleet] at Pearl Harbor, Hawaii; and two FOSIFs, one at Rota in Spain which covered the Atlantic Ocean and the other at Kami Seya.⁷¹²

The location of FOSIF WESTPAC was a major issue. According to a former US Navy intelligence officer who was involved in the site selection process in 1971, three areas were initially proposed – California, Guam and Japan. 'Both the San Francisco and San Diego regions of California were investigated, but considered too far from principal areas of surveillance', while 'Guam had the advantage of being US territory, but its communications facilities and available operating spaces were considered secondary to Japan'. Kami Seya was finally selected because of the presence of the Naval Security Group's large SIGINT station and its proximity to Yokosuka.⁷¹³ At Kami Seya, the FOSIF was situated inside the Tunnel.⁷¹⁴ The Naval Radio Receiving Facility (NRRF) at Kami Seya, together with the Naval Radio Transmitting Facility (NRTF) at nearby Totsuka, provided connectivity with other US Navy elements.

In addition, the Commander Task Force 72 (CTF-72) arrived on 23 February 1973 and occupied one of the new buildings constructed after the fire. In July, when Patrol Force Seventh Fleet 'assumed full operational control of VQ-1', CTF-72 was officially redesignated Patrol and Reconnaissance Force Seventh Fleet, but it was usually still referred to as CTF-

⁷¹¹ Captain Barry L. Bernas, 'Misawa, Then and Now', p. 5.

⁷¹² Gus Hancock, 'OSIS: Forging the Links', *Naval Intelligence Professionals Quarterly*, Summer 1991, pp. 9-10.

⁷¹³ Ibid.

⁷¹⁴ Neves Kanagawa, 'Kamiseya', (1982), in files provided by Owen Wilkes.

72.⁷¹⁵ Other SIGINT-related units were the Cryptologic Support Group (CSG) Seventh Fleet, which was transferred from Okinawa in June 1973, the Signals Analysis Laboratory (30 Department), and the North East Asia Tactical Information Communications Center (NEATICC).⁷¹⁶

On 1 July 1974, the 6970th Support Group based at the NSA HQ at Fort Meade activated its OL-FX at Kami Seya.⁷¹⁷ The unit was reassigned to the 6921st Security Wing at Misawa in 1974, which in turned reassigned it to the 6920th Security Wing in 1976. It was deactivated in 1977.⁷¹⁸

The antenna systems were quite different in the early 1980s to those that had been maintained in the 1960s. The AN/FLR-7 and AN/GRD-6 had been removed a decade before, but the number of rhombics had also been reduced to a single rosette with nine. They were still aimed at the Soviet Far East. For example, the major axis of one was directed at Sakhalin and Magadan, and that of another at Petropavlovsk in Kamchatka. There was a variety of new antenna systems. Located just southeast of the rhombic rosette was a large horizontally-polarised HF LPA which provided point-to-point communications with Guam; an inverted HF cone antenna was strung between six tall masts; and an LF umbrella antenna was strung between two tall masts. Just southwest of the rhombics was a conical monopole antenna. A 32-element Type-612 crossed-loop HF DF array was located in the South Activity, near the operations complex. The loops were slightly flattened, measuring about 1.5 metres high and 2 metres across. Nearby was a HF double loop array for surveillance operations. It was similar to the loop array maintained at the Japan Defense Agency/Japan Self Defense Force (JDA/JSDF) SIGINT station at Kobunato in 1982-88, which was manufactured by Hermes Electronics Limited in Canada, and which had 16 double-loop elements, each 92-cm in diameter. Situated on the roof of the Operations Building were two AN/WSC-3 helical antennas and two AN/SSR-1 mini-loop antennas for UHF

⁷¹⁵ Jay R. Browne, 'P-181, the Operations Center that Never Was', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 41; and 'Welcome to Misawa Air Base, Japan', (Airman and Family Readiness Center, Misawa Air Base, May 2009), p. 8, at <http://www.misawa.af.mil/shared/media/document/AFD-090507-001.pdf>.

⁷¹⁶ Jay R. Browne, 'Kami Seya Update P-2', *NCVA Cryptolog*, (Spring 1995), pp. 1-2; Jay R. Browne, 'P-181, the Operations Center that Never Was', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 41; and Michael D. Henry, 'Memories', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), p. 34.

⁷¹⁷ James E. Pierson, *A Historical Study of the Organizational Development of United States Air Force Security Service, 1970-1974*, p. 35.

⁷¹⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1601.

communications through the US Navy's Fleet Satellite Communications System (FLTSATCOM).⁷¹⁹

Kami Seya continued to maintain a Direct Support unit. For example, an operator (O Branch) who served in the DIRSUP unit at Kami Seya in 1982-84 had 13 missions aboard surface ships, collecting SIGINT from as far afield as the Sea of Okhotsk, the Sea of Japan, the South China Sea, the Indian Ocean and the northern Arabian Sea. The same operator, who served with the unit again in 1992-95, went on only three DIRSUP missions during that period; he found that there was then 'not as much action' as on his earlier tour.⁷²⁰

Kami Seya was reinstated as an NSG Activity in May 1984. The station was revitalised, with new buildings and new antenna systems. Subordinate activities were maintained at Atsugi from 15 December 1971 to 1 August 1991, when VQ-1 moved to Misawa. It also had a detachment at Yokosuka until June 1995.⁷²¹

The NSGA Activity and the Cryptologic Support Group Seventh Fleet provided significant support to the US Central Command during Operation *Desert Shield*, following Saddam Hussain's invasion of Kuwait in August 1990, and Operation *Desert Storm*, the first Gulf War in January-February 1991, with the purview of FOSIF WESTPAC covering the Indian Ocean as well as the western Pacific.⁷²² On 16 January, the day war broke out, all Operations, Communications and Maintenance Departments 'went into a heightened state of preparedness'. NSGA Kami Seya was later commended for 'meritorious service' during the period from 1 January 1990 to 31 March 1991 by the Secretary of the Navy. His Letter of Commendation stated that:

The personnel of the Navy Security Group Activity, Kami Seya, Japan and Cryptologic Support Group Seventh Fleet displayed utmost professionalism and unparalleled technical expertise in providing timely special intelligence and communications support of critical importance to tactical commanders and the United States intelligence effort.

Particularly impressive was their support of the United States Central Command and allied forces in the areas of electronic warfare target identification, tactical intelligence, communications support, and cryptologic direct support augmentation during DESERT SHIELD and DESERT STORM operations. Their

⁷¹⁹ Neves Kanagawa, 'Kamiseya', (1982), in files provided by Owen Wilkes.

⁷²⁰ 'RE: [Spooks R Us] Re: Where is everybody?', *Spooks R Us: A Place for CT's to Get Together*, 19 August 2005, at <https://groups.yahoo.com/neo/groups/spooksrus/conversations/topics/1039>.

⁷²¹ Douglas Easton, 'Gulf War Diary', p. 36.

⁷²² *Ibid.*, pp. 35-37.

resourcefulness, initiative, and professionalism were vital elements to mission success during the Gulf War.⁷²³

The FOSIF OSIS system at Kami Seya was upgraded during 1993. The 'old OSIS Baseline computer system' was removed and a new OSIS Baseline Upgrade (OBU) system was installed.⁷²⁴

As of 30 September 1993, the following SIGINT and SIGINT-related units were based at Kami Seya: the NSGA; the Cryptologic Support Group (CSG) Seventh Fleet; FOSIF WESTPAC, which became Joint Intelligence Detachment-J (or J-Det) on 1 October 1993; the Signals Analysis Laboratory (30 Department); the Commander Task Force 72 (CTF-72); and the Naval Radio Receiving Facility (NRRF).⁷²⁵

On 5 August 1994, the commander of the NSG Command announced the decision 'to terminate all communications functions at NSGA Kamiseya and close out the Naval Security Group presence at Kamiseya' by 1 June 1995.⁷²⁶ NSGA Kami Seya was officially closed on 1 June and its personnel transferred to the new NSG Activity at Yokosuka. The Signals Analysis Laboratory (30 Department) also moved to Yokosuka. The NRRF receiver function was moved to the USAF's communications station at Owada, about 20 km to the north.⁷²⁷

In July 2003, the US and Japan reached agreement on the return of the site to Japan.⁷²⁸ CTF-72, the last remaining unit, moved to Misawa. An NSG veteran who visited the site in August 2004 said that 'they [CTF-72] just cleared out, locked the doors and departed'. A sign with the CTF-72 'label' was still attached above the main entrance to the Tunnel. The Japanese authorities had condemned all the buildings, including the Tunnel, for demolition.⁷²⁹

⁷²³ Ibid., p. 37.

⁷²⁴ Paul Phillips, in 'Kamiseya Roster Part Eight', at groups.msn.com/KamiSeyaReunion/kamirosterpart8.msnw.

⁷²⁵ Jay R. Browne, 'Kami Seya – The Last Years', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 43-47.

⁷²⁶ Jay R. Browne, 'Kami Seya Update', *NCVA Cryptolog*, (Summer 1994), p. 7.

⁷²⁷ Jay R. Browne, 'Kami Seya – The Last Years', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 43-47.

⁷²⁸ Dick Irving, 'Stars and Stripes Articles about KamiSeya, July 2003', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/Kami_Irving_1.html.

⁷²⁹ Dick Irving, 'KamiSeya, Japan, August 2004', *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/kami_irving_02.html.

Figure 1. NSGA Kami Seya, 1966

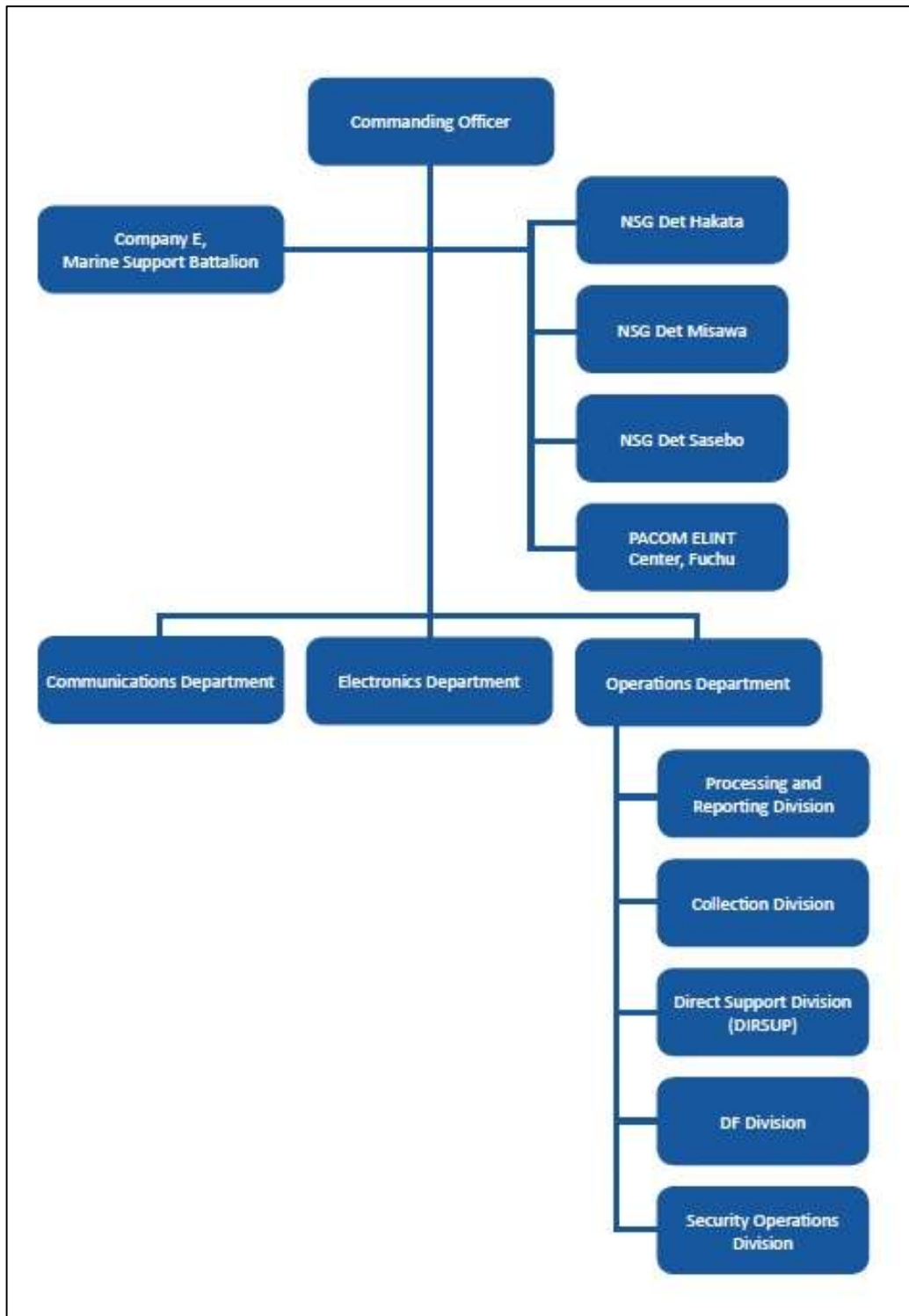
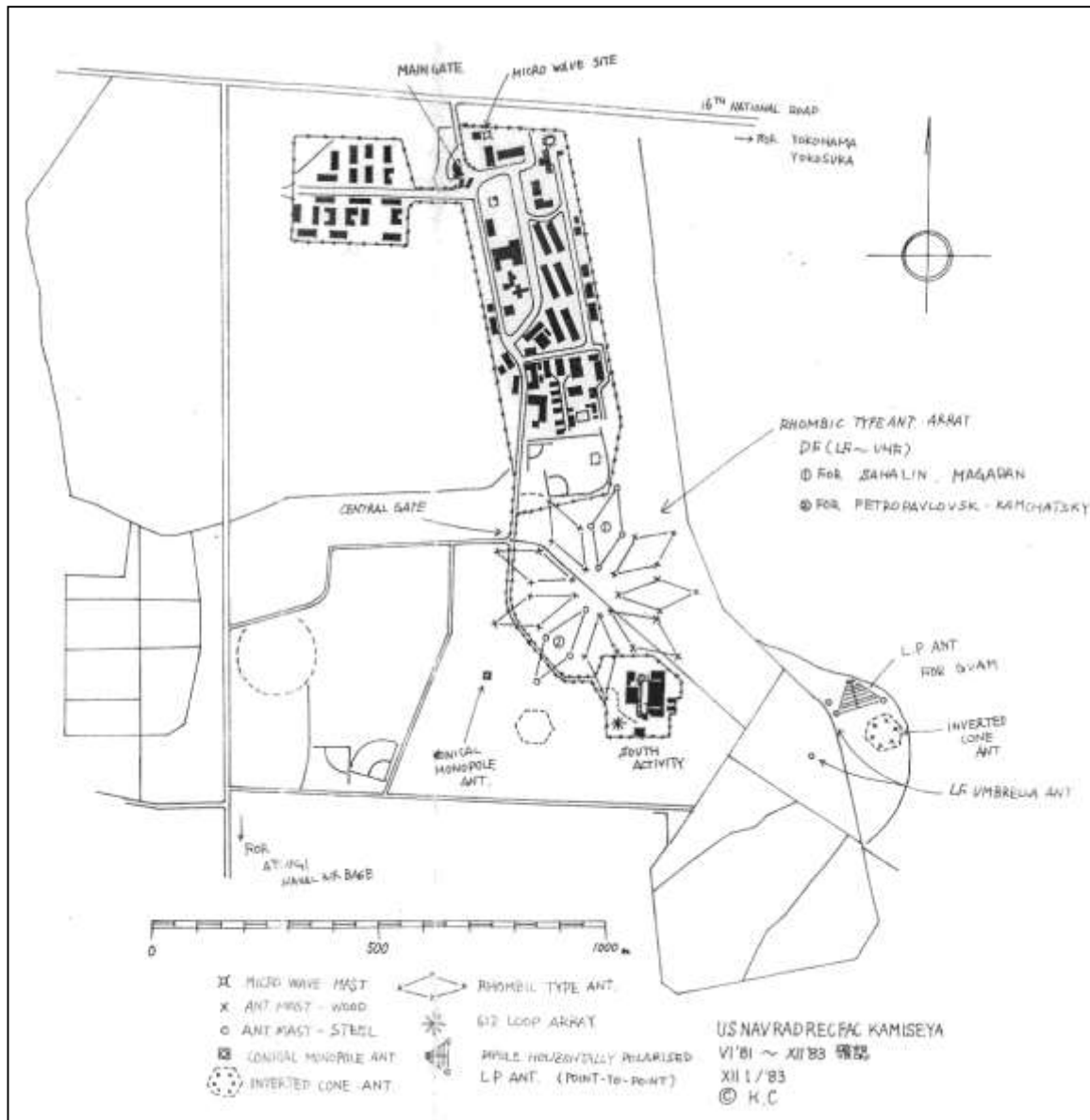
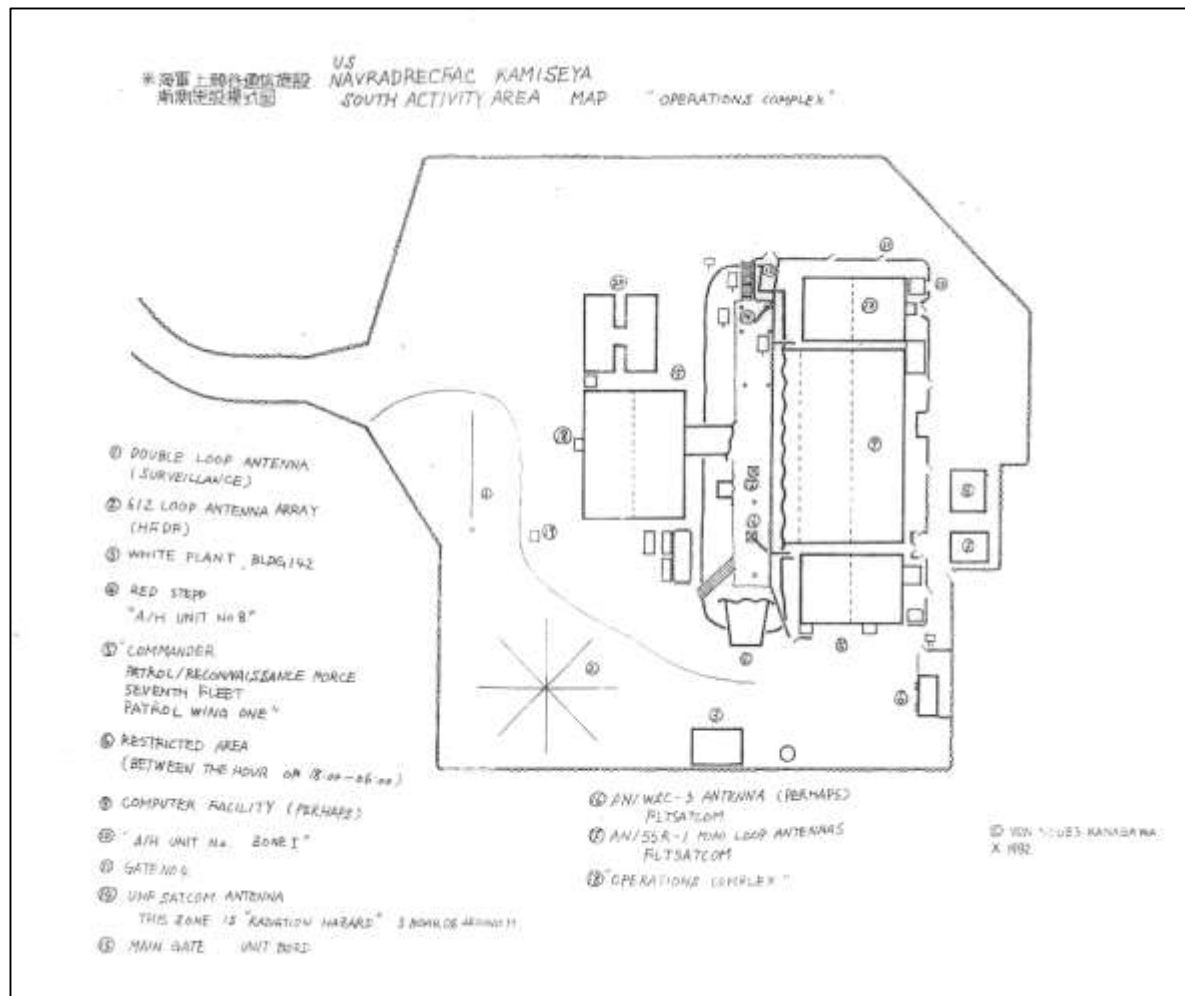


Plate 95
Schematic of Kami Seya, 1983



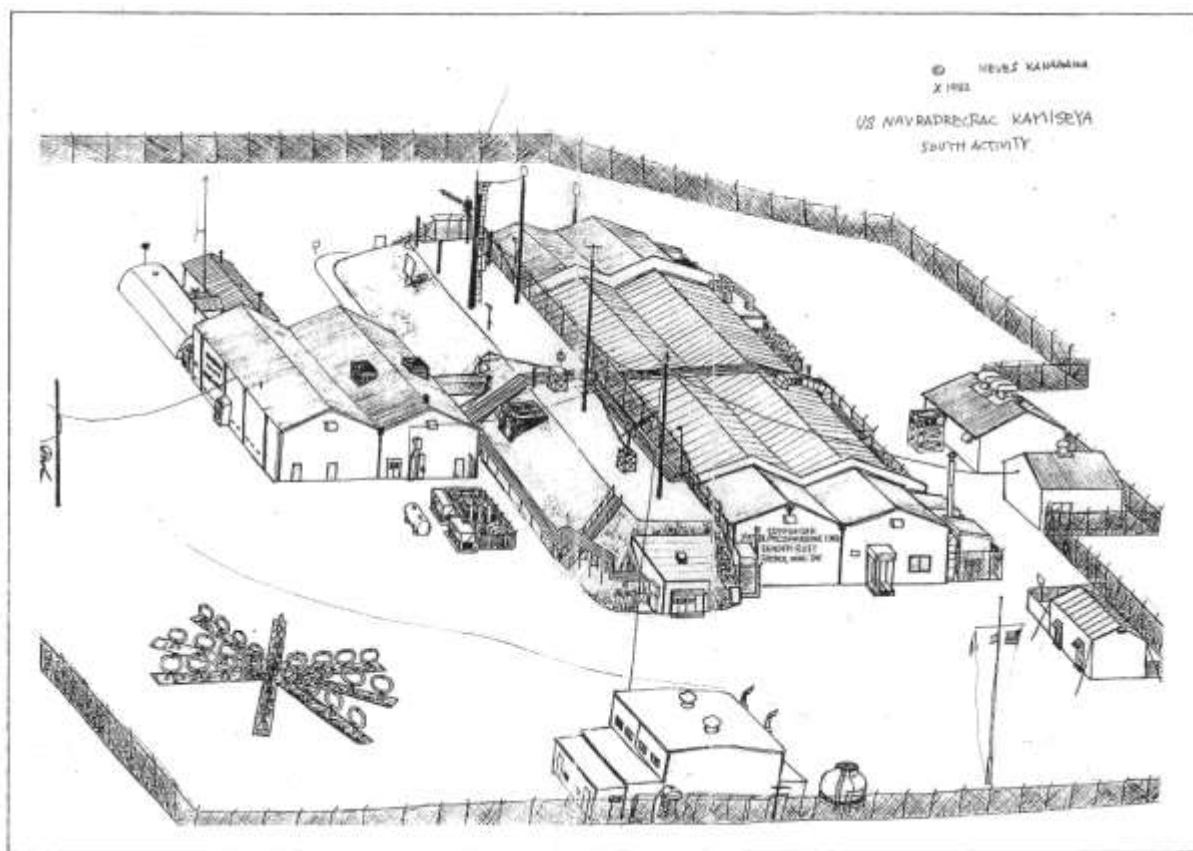
Source: Von Neves Kanagawa, *Kamiseya*, (1983).

Plate 96
Schematic of Kami Seya, South Activity, 1982
(Schematic by Von Neves Kanagawa)



Source: Von Neves Kanagawa, *Kamiseya*, (1983).

Plate 97
Schematic of Kami Seya, South Activity, 1982
(Schematic by Von Neves Kanagawa)



Source: Von Neves Kanagawa, *Kamiseya*, (1983).

Plate 98
Tunnel and antennas, South Activity, Kami Seya, c. 1983



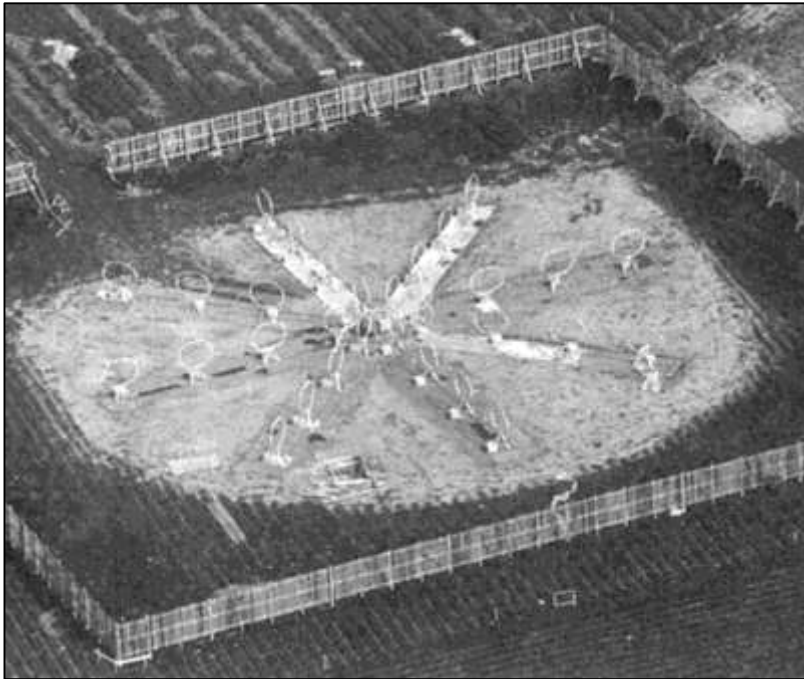
Source: 「見えない戦争」新藤健一（著者）情報センター出版局 1993 年.
(Shindo Kenichi, *Invisible War*, Joho Sentaa Shuppan Kyoku, 1993), p. 29.

Plate 99
South Activity, Kami Seya, c. 1983



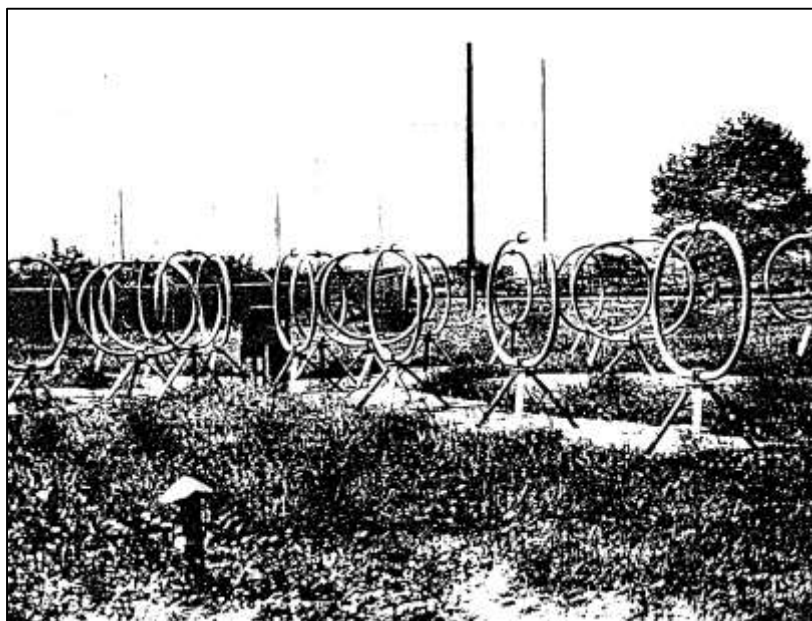
Source: 「見えない戦争」新藤健一（著者）情報センター出版局 1993 年.
(Shindo Kenichi, *Invisible War*, Joho Sentaa Shuppan Kyoku, 1993), p. 29.

Plate 100
32-element Type 612 loop array, South Activity, Kami Seya



Source: 「見えない戦争」 新藤健一（著者）情報センター出版局 1993 年.
(Shindo Kenichi, *Invisible War*, Joho Sentaa Shuppan Kyoku, 1993), p. 29.

Plate 101
32-element Type 612 loop array, South Activity, Kami Seya, 1982



Source: Von Neves Kanagawa, *Kamiseya*, (1983).

Plate 102
Rear Admiral G. Patrick March, Commanding Officer,
NSGA Kami Seya, 1970-71



Source: 'Rear Adm. G. Patrick March (1924-2009): An Enduring Legacy', *Anchor Watch*, January-February 2010, at <http://www.public.navy.mil/fcc-c10f/niocmd/AnchorWatch/Anchor%20Watch%20January-February%202010.pdf>.

47. Torii Station in the 1970s and 1980s

The ASA station at Sobe, established in 1953 and named Torii Station in 1957, was maintained by the 51st USASA Special Operations Command (SOC) from June 1961 until its closure in December 1985. The 51st SOC was organised into a HQ, a HQ and Service Company, and the 3rd USASA Operations Company responsible for the SIGINT operations.⁷³⁰ The station was officially designated US Army Field Station Okinawa on 1 May 1977, following the incorporation of the ASA into the newly-formed INSCOM. It won the Travis Trophy for its 'cryptologic excellence' in 1976.⁷³¹

Some ASA personnel were also transferred to Torii Station when the ASA Field Station at Hakata was closed in 1971-72.⁷³² The station was reorganised after the closure of the JSPC in June 1971, although both USAFSS and NSG personnel remained stationed there. Its principal mission remained the interception of Chinese Army and diplomatic radio communications.

The primary antenna system for SIGINT operations was a large expanse of rhombic antennas. These consisted of 50 sets, each with a direction about seven degrees different from the next, very similar to the configuration installed at the NSG station at Kami Seya in the 1950s. In addition to interception of HF communications, the rhombics also provided a good DF capability.⁷³³

By the 1980s, Torii Station also had a crossed loop antenna array for HF DF purposes. This consisted of 32 double loop antennas. It was similar to the loop antenna array maintained at the JDA/JSDF SIGINT station at Kobunato in 1982-88, which was manufactured by Hermes Electronics Limited in Canada, and which had 16 double-loop elements, each 92-cm in diameter, laid out in a single row, and to the double loop antennas installed at Kami Seya in the early 1980s, which were also in a straight line. At Torii station, however, these were laid out as a crossed array, similar in configuration to the Type-612 array installed at Kami Seya. There was also a set of five tall steel towers, on top of each was mounted a large crossed VHF LPA.⁷³⁴

⁷³⁰ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 292.

⁷³¹ 'Field Station Okinawa: Known as Torii Station', pp. 9-10; and 'Brief History of Signal Intelligence on Okinawa' p. 6.

⁷³² Greg Sheppard, '14th USASA FS Hakata Guestbook'.

⁷³³ 'White Paper: Nuclear War and the Self-Defense Forces', *Sekai*, February 1985, pp. 74-139.

⁷³⁴ Photographs of Torii Stations in files from Owen Wilkes.

In April 1976, the Army asked Congress for \$124,000 to fund ‘a water pollution abatement project’ at Torii Station. The project was needed to ‘connect the Torii Station sewage system to the Okinawa Corporation system instead of discharging raw sewage into the sea’. Congress was told that ‘Torii Station is a fixed strategic installation of the Army Security Agency engaged in communications intelligence activities’.⁷³⁵

In 1981, a Staff Sergeant at Torii Station, Ronal Eaton, was awarded the INSCOM Commander’s Plaque for Operational Achievement. His alertness evidently saved several US lives. According to a report on the award: ‘While working at his position, he noticed a situation that, if left unattended, could place the lives of several U.S. citizens in peril. Realizing the seriousness of the situation, Eaton took immediate steps and reported the problem’.⁷³⁶

An Army officer who worked at the US Army Garrison at Torii Station said in 1999, 14 years after SIGINT operations had ceased at the station, that: ‘The antenna field is still full of old rusting masts. I think they leave them up so we don’t have to give the land back’.⁷³⁷

⁷³⁵ US Congress, Senate, Committee on Armed Services, *Military Construction Authorization Fiscal Year 1977*, (U.S. Government Printing Office, Washington, D.C., 1976), p. 416.

⁷³⁶ ‘The INSCOM Commander’s Plaque: SSgt. Eaton’s Alertness Wins Him the Award’, *INSCOM Journal*, August 1982, p. 8.

⁷³⁷ Barry Sherwood, ‘Torii Station Guestbook’, at <http://htmlgear.lycos.com/guest/control.guest>.

Plate 103
Torii Station logo, Okinawa



Source: Steve Thickstun, 'Okinawa Patches/Logos',
The Worldwide CT Community and Our Naval Security Group,
http://www.navycthistory.com/images/sneaky_steve_thickstun_big.jpg.

Plate 104
Rhombic antenna at Torii Station, Okinawa



Plate 105
Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/ts-af2.jpg>.

Plate 106
Antenna field and JSPC Communications Centre,
Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 107
Antenna field and JSPC Communications Centre,
Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 108
Antenna field and JSPC Communications Centre,
Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 109
JSPC Communications Centre,
Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 110
Antenna field at Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 111
Antenna field at Torii Station, Okinawa, 1972



Source: <http://pages.prodigy.net/johna/torii.htm>.

Plate 112
Crossed VHF LPA, Torii Station, Okinawa, 27 April 1981



Source: Owen Wilkes.

Plate 113
Crossed VHF LPA, Torii Station, Okinawa, 27 April 1981



Source: Owen Wilkes.

Plate 114
Crossed VHF LPAs, Torii Station, Okinawa, 27 April 1981



Source: Owen Wilkes.

Plate 115
Crossed VHF LPA, Torii Station, Okinawa, 27 April 1981



Source: Owen Wilkes.

Plates 116 - 118
Crossed VHF LPAs, Torii Station, Okinawa, 27 April 1981
Source: Owen Wilkes.



Plate 119
32-element double-loop antenna array,
Torii Station, Okinawa, 27 April 1981



Source: Photo by Owen Wilkes.

Plate 120
Demonstration at Torii Station, Okinawa, April 1964



Source: 'Torii Station', *Torii Net*, <http://www.oocities.org/tokyo/flats/3244/torii.htm>.

48. Atsugi Naval Air Station

The NSGA at Misawa maintained a detachment at Atsugi from 15 December 1971 to 1 August 1991. It had a HF DF facility, which operated with sites at Misawa (Net Control) and Pyong Taek in South Korea for triangulation purposes.⁷³⁸

In July 1960, Atsugi became home to the Navy's Fleet Air Reconnaissance Squadron One (FAIRECONRON ONE, or VQ-1). The squadron was equipped with 15 aircraft (nine Douglas A3D-2Q medium-range twin-engine *Skynwarrior* jets, four EC-121 WV-2Q *Super Constellations*, and two F9F-8T *Cougar* trainers), with 62 officers and 373 men. The first EP-3 *Aries I* joined the squadron in 1969, beginning the replacement program for the EC-121s, which was completed in 1974. In June 1971, VQ-1 Squadron moved its home base to Agana Naval Air Station, Guam, leaving a detachment at Atsugi. By the 1980s, VQ-1 consisted of 30 aircraft (16 *Skynwarriors*, 12 EC-121s and two EP-3 *Aries Is*), many of which were deployed operationally out of Atsugi. By the late 1980s, the squadron flew the EP-3 *Aries I* exclusively. A Navy Reconnaissance Support Detachment (NAVRECSUPP DET) was formed at Atsugi on 26 June 1979 to provide support for the squadron. On 13 May 1991, VQ-1 Detachment and the NAVRECSUPP DET were transferred from Atsugi to Misawa.⁷³⁹

In 1962, a new IBM 650 computer system was installed at Atsugi which allowed ELINT collected by VQ-1 aircraft to expeditiously process the data soon after the aircraft had returned to Atsugi from their missions. As an official history of US Naval Intelligence has noted:

Through machine-processing equipment acquired by VQ-1 during 1962, the processing of SIGINT data was accomplished within 72 hours after the collecting aircraft had landed; no further processing was necessary at the Pacific Command ELINT Center [at Fuchu], other than to add the resultant data to its data bank.⁷⁴⁰

The official history also describes some of the activities undertaken by VQ-1 in 1962, as follows:

VQ-1, based at Atsugi, continued its outstanding contribution to the many requirements for ELINT during 1962. Flying a variety of tracks, the squadron conducted routine and special collection operations along the Sino-Soviet periphery, in Southeast Asia, and off Indonesia. Using specially configured aircraft, a detachment of VQ-1 participated in the collection of intercontinental ballistic missile

⁷³⁸ Captain Barry L. Bernas, 'Misawa, Then and Now', p. 5; and T. Wayne Babb, *Honto!*, p. 422.

⁷³⁹ Captain Don C. East, 'A History of U.S. Navy Fleet Air Reconnaissance: Part 1, The Pacific and VQ-1'.

⁷⁴⁰ Captain Wyman H. Packard, *A Century of U.S. Naval Intelligence*, pp. 108, 244.

(ICBM) intelligence in the vicinity of Soviet impact areas on the Kamchatka Peninsula and in the mid-Pacific. The squadron was the largest contributor of ELINT in the Pacific Command area, outproducing all other air collection efforts combined.⁷⁴¹

In the early 1960s, VQ-1 'originated and successfully tested a new concept in ELINT collection techniques known as *Brigand*, which allowed 'more accurate pin-pointing' of the locations of detected radars.⁷⁴² The *Brigand* system was still in use aboard VQ-1's EP-3B/E aircraft in the late 1970s.⁷⁴³

From 1963 to 1972, the ASA maintained a Special Activities Detachment 1 (SAD-1), which was home-based with the VQ-1 Squadron at Atsugi. The unit was directly subordinate to the commander of ASAPAC. It was assigned a VQ-1 EA-3B *Skywarrior* (No. 146449) and flight crew. The aircraft, which carried a 'mission crew' of four ASA technical specialists was equipped with telemetry collection systems, and was primarily engaged in monitoring Soviet ICBM test launches into the Pacific. The main telemetry intelligence (TELINT) system was code-named '*Farm Team*'. When the unit was formed in 1963, it had one officer and nine enlisted men. It had 'approximately 20 Army personnel' in 1965. Although SAD-1 was home-based at Atsugi, 'we conducted very few missions from there'. Rather, missions were flown 'from just about anywhere in the Pacific', including Shemya in Alaska, Guam, Midway Island, Johnston Island, Hawaii, and the Philippines, in addition to Atsugi.⁷⁴⁴

VQ-1 Squadron maintained a detachment at Da Nang in South Vietnam from 1964 to 1973. It was officially designated VQ-1 Detachment Bravo, but was usually referred to as FASU/NSA [Fleet Air Support Unit/Naval Support Activity] Da Nang.⁷⁴⁵

On 14 April 1969, a VQ-1 EC-121M aircraft based at Atsugi was shot down by a North Korean MiG-21 fighter jet over the Sea of Japan, over international waters perhaps 80-90 nautical miles off the coast of North Korea. The US Navy described the flight as 'a *Beggar Shadow* mission, implying that it was primarily a COMINT flight ... under NSA authority', but it was actually 'primarily an Elint-directed one ... in direct support of Seventh Fleet requirements'. Thirty-one men were aboard, including the flight crew, a group of

⁷⁴¹ Ibid., p. 108.

⁷⁴² Ibid.

⁷⁴³ U.S. Navy Patrol Squadrons: VQ-1 Shipmates' *VP Navy*

⁷⁴⁴ Ronald H. Eddins, 'FAIRECONRON ONE (VQ-1)', *Army Security Agency Online*, at <http://www.asalives.org/ASAONLINE/redd01.htm>; and Bill Crane, 'NSA, ASA and 1st SAD', *Special Activities Detachment One*, at <http://www.1-sad.org/Images/book.pdf>.

⁷⁴⁵ 'U.S. Navy Patrol Squadrons: VQ-1 Shipmates', *VP Navy*.

trainees, and nine NSG and Marine linguists, all of whom died. Following its departure from Atsugi, the EC-121 (call-sign *Deep Sea 129*) flew northwest across the Sea of Japan to a point off the North Korean city of Ch'ongjin, from which it planned to fly two and a half elliptical orbits off the North Korean-Soviet coasts and then land at Osan Air Base in South Korea. It had been considered to be a 'low risk' mission, as more than 190 similar US Air Force and Navy reconnaissance flights had been undertaken in this area without incident during the preceding three months.⁷⁴⁶

The EC-121 aircraft was in regular radio contact with the NSG station at Kami Seya (USN-39), where the NSG personnel aboard the flight were based. The mission was monitored by the 6918th Security Squadron at Hakata (SIGINT Designator USA-58) and Detachment 1 of the 6922nd Security Wing at Osan Air Base (USA-31), which intercepted North Korean air defence radar tracking transmissions. The Osan station also copied 'North Korean voice and Morse air defence radio traffic'. The NSG station at Kami Seya intercepted Soviet radar tracking data.⁷⁴⁷

On 18 April, President Nixon revealed at a press conference that the US knew that the North Korean and Soviet air defence authorities were aware that the EC-121 was over international waters because the NSA had monitored both their air defence tracking nets. His statement 'caused a major reaction at NSA', which was 'deeply concerned' about 'its possible impact on future SIGINT successes'. Indeed, Nixon's revelation 'caused both countries to immediately change all their radio frequencies, operating procedures and crypto systems in use at the time'. It reportedly 'took NSA's cryptologists months to get back to the point where they were prior to Nixon's press conference'.⁷⁴⁸

From April 1957 to July 1960, the US maintained a few U-2 reconnaissance aircraft at Atsugi, where they operated under the cover-name of Detachment C of the 3rd Weather Reconnaissance Squadron (Provisional).⁷⁴⁹ (Incidentally, Lee Harvey Oswald, President Kennedy's assassin, served at Atsugi as a Marine Corps radar operator from September 1957

⁷⁴⁶ 'The National Security Agency and the EC-121 Shootdown', p. 1; and Matthew Aid, '1969 EC-121 Shootdown'.

⁷⁴⁷ 'The National Security Agency and the EC-121 Shootdown', pp. 13-24; and Matthew Aid, '1969 EC-121 Shootdown'.

⁷⁴⁸ 'The National Security Agency and the EC-121 Shootdown', p. 37; Matthew M. Aid, *The Secret Sentry*, pp. 149-150; and Matthew Aid, '1969 EC-121 Shootdown'.

⁷⁴⁹ Dick van der Aart, *Aerial Espionage*, p. 30.

to October 1958).⁷⁵⁰ Most U-2 missions from Atsugi were over China, North Korea and North Vietnam. Only one over-flight of the Soviet Union was undertaken from Atsugi, on 1 March 1957, when a mission was undertaken along the Trans-Siberian Railroad line in search of possible Soviet ICBM sites.⁷⁵¹ On 8 July 1960, following the shoot-down of a U-2 (which had taken off from Pakistan) over the Soviet Union on 1 May and the subsequent collapse of the planned Paris summit talks between President Eisenhower and Nikita Krushchev, the Japanese Government ‘formally requested the removal of the U-2s’ from Atsugi.⁷⁵²

The VQ-1 Squadron played an important role in Operations *Desert Shield* and *Desert Storm* in the Iraq/Kuwait theatre in 1990-91. With its EP-3E *Aries 1* SIGINT aircraft, the squadron flew nearly 1,400 combat hours with a 100 per cent ‘mission completion rate’. The tasks assigned to the squadron included ‘strike support, combat search and rescue, communications and over-the-horizon-targeting support to Coalition forces’.⁷⁵³

A Maritime Fleet Coordination Center was established at Atsugi in November 2009. The Center is jointly maintained by the US Navy and the JMSDF, and is primarily concerned with enhancing cooperation between them with respect to P-3C *Orion* ocean surveillance operations. Five US Navy personnel were assigned to the Center in January 2010, when it was announced that another ‘two dozen’ personnel would be transferred from CTF-72 at Misawa to Atsugi in ‘coming months’.⁷⁵⁴

⁷⁵⁰ Jack R. Swike, *The Missing Chapter: Lee Harvey Oswald in the Far East*, (CreateSpace 2008), pp. 177, 195.

⁷⁵¹ Ibid., pp. 91-92.

⁷⁵² Norman Polmar, *Spyplane: The U-2 History Declassified*, (MBI Publishing Company, Osceola, Wisconsin, 2001), p. 152.

⁷⁵³ ‘VQ-1 History’.

⁷⁵⁴ T. D. Flack, ‘Navy Moving Two Dozen CTF-72 Personnel to Atsugi’, *Stars and Stripes*, 20 January 2010, at <http://www.stripes.com/news/navy-moving-two-dozen-ctf-72-personnel-to-atsugi-1.98146>.

49. The US Embassy, Tokyo

‘A special National Security Agency collection unit’ is located in the US Embassy in Tokyo, which is located in the Akasaka neighbourhood of Minato-ku, just a few blocks from the Ministry of Foreign Affairs, the Prime Minister’s residence, and other government buildings on the southern side of the city centre. The unit was first revealed by Seymour Hersh in 1986, in his book on the shoot-down of KAL-007 by Soviet fighter aircraft in September 1983. He stated the unit ‘operated from a sealed compartment’ in the Embassy, that its linguists were ‘highly skilled’, and that, in the immediate aftermath of the shoot-down, it was asked to improve the quality of the JASDF and CLEF tape recordings from Wakkanai and to ‘work on translation’ of them.⁷⁵⁵ Since the early 1990s, such Embassy collection units have been reorganised into joint NSA-CIA Special Collection Elements (SCEs).

It was widely reported in early November 2013, following revelations from Edward Snowden about the NSA’s interception of Japanese communications and bugging of Japan’s Embassy in Washington, that ‘an unnamed US source [had] confirmed that electronic espionage in Japan had been conducted through the American Embassy premises in Tokyo’. The Japanese Defence Minister, Itsunori Onodera, said that, if the reports were ‘proved to be true’, such action would undermine the mutual trust between the two allies.⁷⁵⁶

In addition, the Canadian Embassy in Tokyo might also host a SIGINT collection unit from Canada’s Communications Security Establishment (CSE) which cooperates with the NSA facility in the US Embassy. The Canadian Embassy is also in Akasaka, but about a kilometer northwest of the US Embassy, on the southern side of the Takahashi Korekiyo Memorial Park, with microwave line-of-sight azimuths not accessible from the US Embassy. According to a former CSE officer who worked on a program code-named *Pilgrim*, which involved the installation of SIGINT equipment in Canadian embassies in Europe, Asia and Latin America, installation of a *Pilgrim* operation in Tokyo was under consideration in 1990. It seems that a site survey was conducted in the early 1990s, when ‘a lot of electronic equipment was brought to the Embassy there and a number of staffers from outside

⁷⁵⁵ Seymour Hersh, *The Target is Destroyed*, p. 146.

⁷⁵⁶ ‘US Spying Activities Anger Japanese Government’, *PressTV.com*, 5 November 2013, at <http://www.presstv.com/detail/2013/11/05/333172/us-spying-activities-irk-japan/>.

External Affairs came to work on the machinery for a month'. The *Pilgrim* operations are supported by the joint NSA-CIA Special Collection Service.⁷⁵⁷

⁷⁵⁷ Tu Thanh Ha, 'Is Secret Spy Agency's Mission Changing?', *The Globe and Mail*, 12 November 1994; Mike Frost and Michel Gratton, *Spyworld: Inside the Canadian and American Intelligence Establishments*, (Doubleday Canada Limited, Toronto, 1994); Wayne Madsen, 'There is an NSA/CIA Hybrid Agency that May Explain Snowden's Involvement in SIGINT and HUMINT', at <http://leaksource.info/2013/06/14/there-is-an-nsacia-hybrid-agency-that-may-explain-snowdens-involvement-in-sigint-and-humint/>; and Wayne Madsen, *National Security Agency Surveillance: Reflections and Revelations, 2001-2013*, (CreateSpace: Wayne Madsen, 2013), p. 210.

50. Yokota Air Base since the 1970s

In the late 1970s, the office of the US Department of Defense Special Representative Japan (DSRJ), the renamed NSAPAC Representative, was relocated from Camp Zama to Yokota Air Base. The HQ US Forces Japan (USFJ), which maintained an Indications and Warning Center, had moved to Yokota in late 1974. The HQ Fifth Air Force moved to Yokota on 11 November 1974. Both HQs maintained Special Security Offices (SSOs) for handling SIGINT collected and processed at other stations in the region.

The DSRJ facility at Yokota consists of personnel from the three Services as well as civilian contractors. It includes, for example, Army Information Technology Specialists, Navy communications technicians (CTs) and Communications Watch Officers, USAF Special Collection Systems Senior Engineers (which ‘provide RF and computer systems field engineering support’), and civilian Computer Information Security Managers from NSA at Fort Meade.⁷⁵⁸ The DSRJ maintains subordinate offices at Misawa and Okinawa.

In the late 1980s, the DSRJ also established collection sites elsewhere in the region. A Special Collection Systems Senior Engineer at the DSRJ facility in 1986-89, where he was ‘responsible for RF and computer systems field engineering support’, also ‘designed and installed special Quick Reaction Capability (QRC) collection systems throughout the Pacific’ while at Yokota.⁷⁵⁹

A detachment of the 692nd Intelligence Squadron was activated at Yokota on 1 October 1993. The squadron, activated at Hickam Air Base in Hawaii at the same time, was established to provide intelligence support to the Pacific Air Forces (PACAF), especially with respect to Network-centric warfare (NCW) and the achievement of ‘information dominance’ throughout the battle-space. It became the 692nd Intelligence Group on 1 May 2005. The Group commander said that it ‘acts as a one-stop shop for HQ PACAF’s intelligence needs’, and that ‘the newly renamed intelligence group now has a clear focus on

⁷⁵⁸ ‘Members Previously Assigned to 441st Military Intelligence Battalion (441st MI)’, at <http://www.rallypoint.com/units/441st-mi-441st-military-intelligence-battalion-camp-zama-japan/previous>; T. R. Garner, ‘Where Are You From/Stationed?’, *Military Fools*, *The Motley Fool*, 22 May 2000, at <http://boards.fool.com/where-are-you-fromstationed-12610139.aspx?sort=whole>; Keith Westgate, *LinkedIn*, at <http://www.linkedin.com/pub/keith-westgate/89/315/873>; Ronald Hackett, *LinkedIn*, at <http://www.linkedin.com/in/ronaldhackettpe>; and Robert Force, ‘Resume’, *Indeed.com* at <http://www.indeed.com/r/Robert-Force/fda1156035076a73?sp=0>.

⁷⁵⁹ ‘Resume: Ronald D. Hackett’, at <http://www.rhackett.net/rhackett/civresume.shtml>.

heavy-lift cryptology'.⁷⁶⁰ The squadron also serves NSA's Kunia Regional Security Operations Center (KRSOC), near Wahiawa. The unit at Yokota was identified as Detachment 4 of the 692nd Intelligence Group in a USAF Instruction issued in October 2008. The detachment commander has equivalent rank to the Deputy Chief DSRJ, the Chief of Operations DSRJ, and the Chief of the Communications Center DSRJ, under the Chief DSRJ.⁷⁶¹

A unit of the 315th Intelligence Squadron was also activated at Yokota on 1 October 1993. The 315th Intelligence Squadron was established at the NSA HQ at Fort Meade to provide both defensive and offensive Network Warfare capabilities. At Yokota, the unit is attached to the DSRJ facility. In 1997, the 315th Intelligence Squadron's unit and the DSRJ had a combined total of about 80 personnel.⁷⁶²

By the late 1990s, according to an internal guide to the base, Yokota hosted the DSRJ, the Cryptologic Services Group (CSG), the 315th Intelligence Squadron, the 605th Air Intelligence Squadron, an office of the Defense Intelligence Agency (DIA), and a Detachment of the Joint Intelligence Center Pacific (JICPAC) headquartered at Pearl Harbor, Hawaii.⁷⁶³ The 605th Air Intelligence Squadron provided 'a mission-tailored flow of intelligence information and materials to 5th Air Force aircrews, their commanders, and staff to improve readiness and accomplish assigned tasks'. It advised the commander of the 5th Air Force on all intelligence matters, including 'targeting, enemy military capabilities, collection management functions, electronic combat matters, order of battle, and intelligence warning'.⁷⁶⁴ On 21 March 1997, the Air Intelligence Agency defined the mission of the 315th Intelligence Squadron as conducting 'information operations to meet regional and national requirements to achieve information dominance in the Pacific theater'.⁷⁶⁵

⁷⁶⁰ 'Mission and Lineage and Honors of the 67th Network Warfare Group', *24th Air Force*, USAF, at <http://www.24af.af.mil/library/factsheets/factsheet.asp?id=15332>; John W. Lent, *480th Intelligence, Surveillance, and Reconnaissance Wing*, (Heritage Pamphlet, 480th ISR Wing, 1 May 2012), pp. 55-59, at <http://www.25af.af.mil/shared/media/document/AFD-120712-038.pdf>.

and Marilyn C. Holliday, 'A Day of Change for America's Cryptologic Wing', *Soundoff*, 18 May 2005, at <http://www.ftmeadesoundoff.com/news/1918/day-change-americas-cryptologic-wing/>.

⁷⁶¹ 'Family Housing Management', (Air Force Instruction 32-6001, 374th Airlift Wing, Pacific Air Forces, 8 October 2008), pp. 2, 4, at http://static.e-publishing.af.mil/production/1/374aw/publication/afi32-6001_374awsup/afi32-6001_374awsup.pdf.

⁷⁶² '315th Earns Commander's Trophy', *Spokesman*, September 1997, p. 30

⁷⁶³ 'Yokota Base Units', *Yokota Air Base, Japan*, at <http://www.yokota.af.mil/units/index.asp>.

⁷⁶⁴ '605th Air Intelligence Flight', at http://www.fas.org/irp/agency/usaf/pacaf/5_af/605aif/index.html.

⁷⁶⁵ HQ Air Intelligence Agency, '315th Intelligence Squadron', (Mission Directive 1515, 21 March 1997), at http://www.fas.org/irp/doddir/usaf/aia/aia_md-1515.htm.

An internal Yokota Air Base directory dated 7 March 2007 describes the 315th Intelligence Squadron as follows:

The 315th Intelligence Squadron provides air and space technical intelligence to operational units in the 692nd Intelligence Group's area of responsibility [i.e., PACAF's area]; they maintain readiness to respond to contingencies in this area; [and] support the scientific and technical intelligence missions of the National Air Intelligence Center and the Air Force Information Warfare Center. They also provide specialized support to the Fifth Air Force.⁷⁶⁶

The 315th Intelligence Squadron was renamed the 315th Network Warfare Squadron on 26 July 2007. It was described as being 'home to some uniquely-trained Airmen that deliver a myriad of cyber capabilities to Combatant Commanders' and providing the Air Force 'with enhanced capabilities and expert crews on the leading edge of network warfare operations'.⁷⁶⁷

The INSCOM's Information Technology specialists (called MOS 25Bs) at Yokota are members of the 441st MI Battalion at Camp Zama.⁷⁶⁸ Most of the 25Bs at Yokota are engaged in 'offensive information operations' involving penetration of computer networks for intelligence and operational purposes.

The NSA whistle-blower, Edward Snowden, worked at the DSRJ facility at Yokota from 2009 to 2012, as an employee of Dell, the IT company, under contract to the NSA. Snowden has said that it was while he worked at DSRJ that he became aware of the magnitude of the NSA's global electronic surveillance and data-mining activities concerning civilian communications and decided to expose them to the international media.⁷⁶⁹ According to Snowden:

The stuff I saw [at Yokota] really began to disturb me.... I watched NSA tracking people's Internet activities as they typed. I became aware of just how invasive US surveillance capabilities had become. I realized the true breadth of this system. And almost nobody knew it was happening.
The more time I spent at the NSA in Japan, the more I knew I couldn't keep it all to myself. I felt it would be wrong to, in effect, help conceal all this from the public.⁷⁷⁰

⁷⁶⁶ 'Relocation Information for Yokota AB, Japan', *Standard Installation Topic Exchange Service [SITES]*, 7 March 2000, p. 11, at www.military.com/sites/books/site2620.rtf.

⁷⁶⁷ William J. Allen, 'Air Force Cyber Mission Grows – Adds Network Warfare and Ops Squadrons', *8th Air Force*, 31 July 2007, at <http://www.8af.af.mil/news/story.asp?id=123061908>.

⁷⁶⁸ 'Who is Stationed in Japan?', *Army Study Guide*, 13 July 2007, at <http://community.armystudyguide.com/groupee/forums/a/tpc/f/6181053041/m/2961014521/p/2>.

⁷⁶⁹ Luke Harding, *The Snowden Files*, pp. 37-39.

⁷⁷⁰ Glenn Greenwald, *No Place to Hide*, p. 43.

By 2009, Yokota had become a nodal ‘defensive’ site in the US cyber-warfare architecture, equipped to perform ‘active’ attacks against particular Web users or broader networks. It maintains a program called *Turbulence*, which is fed by the NSA’s data retrieval system called *X-Keyscore* and its enormous data bases, a major element of which is provided by Project *Ladylove* at Misawa. *Turbulence* includes programs called *Turmoil* and *Quantum*. *Quantum* is a ‘family’ of programs, including ‘Quantuminsert, Quantumhand, Quantumtheory, Quantumbot, and Quantumcopper, which are used for offensive computer intrusion’.⁷⁷¹

The 373rd Intelligence Group at Misawa established a detachment at Yokota Air Base in the early 2000s. A member of the Group stationed at Yokota in 2008-09 was the recipient of the Group’s award for ‘Officer of the Year’ for 2008. He was an Information Technology Engineering specialist. His award was presented by Steven Johnson, the deputy chief of the DSRJ, at Yokota on 21 February 2009.⁷⁷²

By the early 1990s, civilian contractors were increasingly being used for installing, operating and maintaining the computer networks serving the DSRJ and associated units at Yokota as well as providing the connections with collection sites (such a Project *Ladylove* at Misawa) and higher military commands. Lorel Corporation was a prime contractor in this area through the 1990s. For example, a Field Service Engineer employed by Lorel at Yokota from December 1993 to January 1999 was responsible for maintenance of the Defense Red Switch Network (DRSN). Lorel personnel worked with ElectroSpace Systems Inc. (ESI) engineers on maintaining the ESI Remote Switching Unit (RSU) Secure Digital Telephone Switch, which was initially ‘plagued with numerous problems’, as well as Texas Instruments (TI) network circuits which were similarly troublesome.⁷⁷³

In September 2012, the Department of the Air Force advertised contracts for ‘On-Site Maintenance of Defense Red Switch Network (DRSN)/Voice Over Internet Protocol (VoIP)’ at Yokota, Misawa, Joint Base Pearl Harbor-Hickam in Hawaii, and Osan Air Base in South Korea. The solicitation notice stated that:

⁷⁷¹ J. Appelbaum, A. Gibson, J. Goetz, V. Kabisch, L. Kampf, and L. Ryge, ‘NSA Targets the Privacy-Conscious’, *Panorama*, *ARD Mediathek*, 3 July 2014, at http://daserste.ndr.de/panorama/aktuell/nsa230_page-5.html.

⁷⁷² ‘The Secret of His Success: Air Force Captain Named “Officer of the Year”’, *Guam Daily Post*, 9 March 2009, at http://www.mvguam.com/component/content/article/4915-the-secret-of-his-success.html#.U_7id6Nade5.

⁷⁷³ ‘Ronald Lee: Field Engineer/Logistics Specialist’, *Indeed.com*, at <http://www.indeed.com/r/Ronald-Lee/fe079a108b400f97?sp=0>.

Services include on-site maintenance for installed secure and non-secure Defense Red Switch Network (DRSN) switches and secure and non-secure Voice over Internet Protocol (VoIP). The telephone switch types are the Raytheon Secure Digital Switch (SDS), Remote Switching Unit (RSU), Enhanced Remote Switching Unit (ERSU), and the Digital Small Switch (DSS-2A). The VoIP systems are comprised of Cisco Unified Call Manager (CUCM) servers and Cisco Internet Protocol (IP) Phones. When the CUCM system is deployed on the Government's Non-Secure Internet Protocol Router Network (NIPRNet) the system will be referred to as Voice over Internet Protocol (VoIP). When the system is deployed on the Government's Secure Internet Protocol Router Network (SIPRNet) the system will be referred to as Voice over Secure Internet Protocol (VoSIP).

The DRSN equipment will include the Raytheon telephone switch, Raytheon Channel Encryption Units (CEU), and Raytheon Universal Multiplexer (UMUX) / Multi-Function Digital Adapter (MDA) Multiplexers. The VoIP/VoSIP system will include two Cisco CUCM servers and Cisco 7931/7962 IP Telephones.⁷⁷⁴

The contract personnel were required to have TS/SCI [Top Secret/Sensitive Compartmented Intelligence] security clearances.

In anticipation of receiving the contract, Raytheon advertised for 'multiple Field Engineers to support the Defense Red Switch Network (DRSN) in the Republic of Korea, Japan, and Hawaii'. Applicants needed 'knowledge and experience with Cisco Voice over IP network equipment', 'knowledge and experience with the DRSN, with an understanding of various cryptographic equipment and the ability to interface to such equipment', and 'knowledge and experience with Raytheon switching system products including SDS, RSU, DSS-2 and DSS-2A and peripherals'.⁷⁷⁵

In addition to Raytheon, several other companies are also involved in maintaining the DRSN and associated systems at Yokota, Misawa, Pearl Harbor-Hickam and Osan. Since January 2012, ITT Excelis has provided the DRSN/VoIP Program Manager at PACAF HQ at Hickam, responsible for oversight and support of elements of the program at the four places.⁷⁷⁶ In August 2014, SGIS advertised for a Telecommunications Technician to perform 'a variety of electronic and technical assignments on data communications equipment and

⁷⁷⁴ 'On-Site Maintenance of Defense Red Switch Network (DRSN)/Voice Over Internet Protocol (VoIP)', *FedBizOps.gov: Federal Business Opportunities*, 4 September 2012, at <https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=c5045788ef1d49bb322f1dace1f62ae>
a. See also 'Performance Work Statement (PWS) for On-Site Maintenance of Defense Red Switch Network (DRSN)/Voice Over Internet Protocol (VoIP)' 13 September 2012, at <http://www.netcents.af.mil/shared/media/document/AFD-140214-012.pdf>.

⁷⁷⁵ 'Raytheon: Sr Field Engineer 1 – DRSN', *Raytheon Jobs*, at <http://jobs.raytheon.com/jobs/sr-field-engineer-i-drsn-job-pearl-harbor-hawaii-1-4707651>.

⁷⁷⁶ Harry Wise, *LinkedIn*, at <http://www.linkedin.com/pub/harry-wise-pmp/1b/230/395>.

systems’ at the same four sites. Applicants needed a ‘minimum of 3 years experience operating and maintaining Defense Red Switch Network (DRSN) equipment’, knowledge of ‘current versions of Cisco CUCM Technical Manuals’ as well as Cisco IP Telephony certification, and ‘current Raytheon Digital Small Switch (DSS-2A) training/certification’.⁷⁷⁷

Serco Inc. maintains ‘the RED Switch’ position at Yokota and Misawa. According to an advertisement for the position in August 2014, ‘the Defense Red Switch Network (DRSN) and Voice Over Internet Protocol (VOIP)/ Voice Over Secure Internet Protocol (VOSIP) is a secure/non-secure conferencing network that provides mission critical voice and data communications for operational commands, senior level DoD and Office of the Secretary of Defense leadership to plan and implement wartime and peacetime operations’. The position included ‘operation and administration’ of the Cisco Unified Call Manager (CUCM) system. A TS/SCI clearance was ‘mandatory’.⁷⁷⁸

The USAFSS’s 1837th Electronics Installation Squadron (EIS) was based at Yokota from 1 July 1980 to 8 November 1994. It evolved from an E&I (engineering and installation) unit which had been operating at Yokota for some time before 1971.⁷⁷⁹ The 1837th EIS ‘was responsible for wartime and peacetime installation, inspection, relocation, removal, damage assessment, mobile depot maintenance, and emergency repair or replacement of communications/computer systems equipment in support of the Pacific Theater’.⁷⁸⁰ Members of the squadron did ‘a significant amount of work’ on Security Hill at Misawa. It maintained a detachment at Clark Air Force Base in the Philippines until 31 August 1988, when it joined the mother company at Yokota.⁷⁸¹

Although SIGINT aircraft have not been home-based at Yokota since 1972, the base has subsequently been used for SIGINT flights on several occasions. For example, two EC-130H *Compass Call* aircraft from the 43rd Electronic Combat Squadron used the base in

⁷⁷⁷ ‘Telecom Tech at SGIS’, *Simply Hired*, 22 August 2014, at <http://www.simplyhired.com/job/za25sqcepm>.

⁷⁷⁸ ‘DRSN/VoIP/VoSIP Operations and Maintenance Technician -- Yokota, Japan’, *Servo Careers*, at http://jobs.serco-na.com/united-states/other/jobid5978229-drsn_voip_vosip-operations-%EF%B9%A0-maintenance-technician%E2%80%93yokoto%C2%B8-japan-jobs.

⁷⁷⁹ Hank Holloway, ‘USAFSS Misawa Family Guestbook’, at <http://www.usafssmisawa.com/guestbook/index.php?page=26>; and ‘Deeek94’, Comment on ‘A View From Yokota Air Base’, *YouTube*, at http://www.youtube.com/all_comments?gl=UG&hl=en-GB&v=zupgiS_bTrs.

⁷⁸⁰ ‘Document Detail for IRISNUM=01098653: Squadron/1837/Electronics Installation’, *Air Force History Index*, at <http://airforcehistoryindex.org/data/001/098/653.xml>.

⁷⁸¹ Hank Holloway, ‘USAFSS Misawa Family Guestbook’.

October-November 1997.⁷⁸² A RC-135W ‘*Rivet Joint*’ aircraft (No. 62-126) was stationed at Yokota in October 2013. It was probably conducting ‘a special operation’ against North Korea.⁷⁸³

51. Camp Zama since the 1990s

On 29 September 1995, the 500th Military Intelligence Group, in a significant reorganisation, established the MI Battalion (Provisional) as a subordinate unit. The Asian Studies Detachment (ASD) became part of Company A. Company B Counter-intelligence was wholly concerned with counter-intelligence.

The 500th Military Intelligence Group moved to Fort Schofield Barracks in Hawaii in 2002-03. It has ‘theater-wide collection and analytical responsibilities at the tactical, operational and strategic levels’.⁷⁸⁴

The 500th MI Battalion remained at Camp Zama, but was reorganised as the 441st MI Battalion (Forward Operations). Personnel currently assigned to the battalion include SIGINT analysts, Information Technology specialists, geospatial intelligence imagery analysts, human intelligence collectors, and Counter-intelligence Special Agents.⁷⁸⁵ The current commander of the battalion is Lieutenant Colonel Daniel D. Jones. He succeeded Lieutenant Colonel Ira E. Mikesell, who in turn had replaced Lieutenant Colonel Robert A. Culp on 10 May 2011.⁷⁸⁶

The 441st MI Battalion continued to exercise command and control over the Army SIGINT unit at Misawa. Established as the ASA Field Station Misawa in 1970, this unit was subsequently designated the 750th Military Intelligence Battalion, the 750th Military Intelligence Company, the 403rd Military Intelligence Detachment and the 708th Military Intelligence Detachment.⁷⁸⁷ The commander of the 441st MI Battalion, Lieutenant Colonel

⁷⁸² Gordon Van Fleet, ‘Deployed Receive “Valuable” Help from Team Yokota’, *News, Hickham Air Base, USAF*, 14 November 1997, at <http://www2.hickam.af.mil/news/news.archive/1997/ns97139.htm>.

⁷⁸³ ‘USA: Air Force Boeing RC-35W Rivet Joint 62-126’, *Airplane Pictures*, at <http://www.airplane-pictures.net/photo/329336/62-126-usa-air-force-boeing-rc-135w-rivet-joint/>; and Matthew Aid, ‘New RC-135 Pics’, 26 October 2013, at <http://www.matthewaid.com/post/65135782808/new-rc-135-rivet-joint-pics>.

⁷⁸⁴ Randie O’Neill, *LinkedIn*, at <http://www.linkedin.com/in/linkedinoneal>; and ‘500th Military Intelligence Brigade’, at <https://www.inscom.army.mil/msc/500mib/s1.html>.

⁷⁸⁵ ‘441st Military Intelligence Battalion, 500th Military Intelligence Brigade, Camp Zama, Japan’, *Rally Point*, at <https://www.rallypoint.com/units/441st-mi-441st-military-intelligence-battalion-camp-zama-japan/current>.

⁷⁸⁶ ‘Change of Command, 441st MI’, Photostream - United States Army Japan, *Flickr*, 10 May 2011, at <https://www.flickr.com/photos/usarmyjapan/5712347672/>.

⁷⁸⁷ Patrick Ciccarone, ‘708th Military Intelligence Detachment Says Farewell’. *DVIDS*, 18 June 2014.

Daniel D. Jones, presided over a closure ceremony for the 708th MI Detachment at Misawa on 6 June 2014.⁷⁸⁸

The 500th MI Brigade has included ‘numerous Department of the Army civilians’ since the 1950s. A job vacancy for a civilian position with the 441st MI Battalion at Camp Zama was advertised by the Army’s INSCOM in late 2012. This required ‘an Information Technology Specialist within the Asian Studies Detachment’.⁷⁸⁹

The INSCOM’s Information Technology specialists (MOS 25Bs) assigned to the 441st at Camp Zama are actually stationed at Yokota.⁷⁹⁰

The 78th Signal Battalion was activated at Camp Zama on 16 October 1992. It provides command, control, communications and computer (C4) services to HQ USARJ, ‘enabling Battle Command and Information Superiority’.⁷⁹¹ It maintains a Network Enterprise Center (NEC), which monitors Local and Wide Area Networks (LAN/WAN) throughout Honshu and provides support for the Pacific LandWarNet on Honshu.⁷⁹² The HQ of the 78th Signal Battalion is in Building 696 in North Camp Zama, while the NEC is in Building 101, Room E-225.⁷⁹³

The 78th Signal Battalion also operates and maintains the DoD Gateway/Teleport SATCOM facility at Camp Zama. It is equipped with a single Modernized Enterprise Terminal (MET) parabolic dish, 12.2 metres in diameter, produced by Harris Corporation, which provides connectivity with both the Defense Satellite Communications System (DSCS) and the Wideband Global SATCOM (WGS) satellite constellations. It was installed in 2014, the latest in a lineage which began with installation of an AN/MSC-46 DSCS terminal in 1977, replaced by an AN/FSC-78B DSCS-III terminal installed in 1982, an AN/GSC-39C installed later in the 1980s, and an AN/GSC-52A installed in 1999.⁷⁹⁴

⁷⁸⁸ ‘708th MI Detachment Closure Ceremony’, *Facebook*, at <https://www.facebook.com/pages/708th-MI-Detachment/190570767655368>.

⁷⁸⁹ ‘Army Intelligence and Security Command: Information Technology Specialist (Data Management/System Admin)’, *USAJobs.gov*, at <https://www.usajobs.gov/GetJob/PrintPreview/330055900>.

⁷⁹⁰ ‘Who is Stationed in Japan?’, *Army Study Guide*.

⁷⁹¹ ‘78th Signal Battalion’, *GlobalSecurity.org*, at <http://www.globalsecurity.org/military/agency/army/78sig.htm>.

⁷⁹² Chris Conn, *LinkedIn*, at <http://www.linkedin.com/in/chrisconn>.

⁷⁹³ ‘78th Signal Battalion: Contacts’, *USARJ.ARMY.MIL*, at

<http://www.usarj.army.mil/organization/78sig/contacts.aspx>; and ‘Portable Receiver’, Solicitation Number: W91RUS-14-T-0444, *FedBizOps – Federal Business Opportunities*, 27 August 2014, at <https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=f2725be21edaf6acfe7b46c5390945e1>.

⁷⁹⁴ Major J. A. Savittiere, *United States Forces, Japan: Command History 1977*, (Headquarters United States Forces, Japan, Yokota Air Base, 1977), p. 130; ‘Document Detail for IRISNUM= 01020016’, *Air Force History Index*, at

The 78th Signal Battalion has two subordinate companies, the 333rd Signal Company at Fort Buckner and the 349th Signal Company at Torii Station in Okinawa. The 349th Company ‘runs the Network Enterprise Center on Torii Station, providing IT Systems Support, Networking, Cyber Defense, and the planning aspects of the Signal mission’.⁷⁹⁵

Allied Telesis Corporation maintains a Customer Service Representative at Camp Zama. The company provides secure, high-speed broadband services between the Defense Switched Network (DSN) inside Camp Zama and outside connections.⁷⁹⁶

<http://airforcehistoryindex.org/data/001/020/016.xml> ; Antonio Young, *LinkedIn*, at <https://www.linkedin.com/pub/antonio-young/5/a27/b9b>; Justin Pace, *LinkedIn*, at <https://www.linkedin.com/pub/justin-pace/50/a19/744>; ‘Post Pictures of What You Do at Work with No Captions’, *RX7 Club.com*, at <http://www.rx7club.com/nw-rx-7-forum-33/post-pictures-what-you-do-work-no-captions-417506/page2/>.

⁷⁹⁵ Liana Mayo, ‘58th Signal Battalion Colors Cased, 333rd, 349th Signal Companies OPCON to 78th Signal Battalion’, News, www.army.mil, 30 October 2012, at http://www.army.mil/article/90253/58th_Signal_Battalion_colors_cased__333rd__349th_Signal_Companies_OPCON_to_78th_Signal_Battalion/.

⁷⁹⁶ ‘Jobs: Other Local Positions’, *Torii*, 2 September 2010, at <http://www.scribd.com/doc/71094365/Torii-U-S-Army-Garrison-Japan-weekly-newspaper-Sep-2-2010-edition>.

Plate 121
DoD Gateway/Teleport, 78th Signal Battalion, Camp Zama,
installation of AN/MSC-46 in 1977;
AN/GSC-52, April 2004;
AN/GSC-52, 2013; and
Modernized Enterprise Terminal (MET) parabolic dish
(12.2 metres in diameter), GoogleEarth imagery, 15 March 2014



Sources: Scott N Lucy Slater, '1956 CG OLC Camp Zama, Japan', at <https://www.facebook.com/1956CgOlcCampZamaJapan/posts/656287401061130>; Jim Schultz, 'Airmen at Zama In It for the Communication', *Stars and Stripes*, 19 April 2004, at <http://www.stripes.com/news/airmen-at-zama-in-it-for-the-communication-1.18963>; Andrea Salazar, 'Keeping the Flow of Information Going', *Pacific Air Forces*, 12 April 2013, at <http://www.pacaf.af.mil/news/story.asp?id=123344171>; and GoogleEarth imagery, 15 March 2014.

52. Kadena since the 1970s

At the beginning of the 1980s, the principal SIGINT-related units at Kadena consisted of the 6990th Electronic Security Group; the 343rd Reconnaissance Squadron, part of the 55th Wing based at Offutt AFB in Nebraska, the mission of which ‘is to provide world-wide reconnaissance for national command authorities, theater CINCs (commanders in chief), the intelligence community, and war-fighters’, later expressed as being ‘to provide dominant intelligence, surveillance, reconnaissance; electronic attack; command and control; and precision awareness to national leadership and war-fighters across the spectrum of conflict any time, any place’, which flew RC-135 reconnaissance aircraft;⁷⁹⁷ the 376th Strategic Wing, which flew RC-135 electronic reconnaissance aircraft and KC-135 aerial refueling aircraft in the western Pacific;⁷⁹⁸ Detachment 1 of the 9th Strategic Reconnaissance Wing based at Beale Air Force Base in California, which flew the SR-71s; the US Navy’s VQ-1 Detachment, equipped with EP-3E *ARIES* (Airborne Reconnaissance Integrated Electronics System) SIGINT aircraft; and an NSGA Detachment, attached to the 343rd Reconnaissance Squadron, which supported both USAF and US Navy SIGINT flights.⁷⁹⁹

On 1 April 1990, due to the restructuring of the 6990th ESG’s responsibilities, the unit was again designated a squadron. On 1 October 1993, the 6990th ESS was redesignated the 390th Intelligence Squadron, which it remains today.⁸⁰⁰ The squadron commemorated ‘30 years of airborne combat intelligence operations in the Pacific theater’ in September 1997.⁸⁰¹ Its principal task has continued to be to provide direct support to RC-135V/W *Rivet Joint* SIGINT operations. It also provides crews for RC-135U *Combat Sent* and RC-135S *Cobra Ball* flights when required.⁸⁰² The squadron had about 245 personnel around 2007.⁸⁰³

In February 1999, the chief of the 6990th Intelligence Squadron’s Logistic Branch, Captain Juan Z. Crawford, was honoured for the support he provided to the squadron. The

⁷⁹⁷ ‘Offutt Air Force Base: Units’, *Offutt Air Force Base, USAF*, at <http://www.offutt.af.mil/units/>.

⁷⁹⁸ ‘History of the 376th Air Expeditionary Wing’, *U.S. Air Forces Central Command*, at <http://www.manas.afcent.af.mil/library/factsheets/factsheet.asp?id=12790>.

⁷⁹⁹ ‘343rd Reconnaissance Squadron Naval Security Group Activity Kadena Detachment 2001’, *USAF Patches.com*, at <http://www.usafpatches.com/gallery/displayimage.php?pid=31219>; and ‘United States Naval Security Command: Annual History Report for 1985’, *Declassified US Government Internal Documents on the Central Intelligence Agency (CIA)*, at https://archive.org/stream/CIADocuments/CIA-530_djvu.txt.

⁸⁰⁰ ‘U.S. Air Force Fact Sheet: 390th Intelligence Squadron’, *Offutt Air Force Base*.

⁸⁰¹ Senior Airman David Johnson, “Born in Battle”, 390th Holds Birthday Bash’, *Spokesman – Air Intelligence Agency*, June 97, p. 9, at <http://fas.org/irp/agency/aia/cyberspokesman/97jun/390th.htm>.

⁸⁰² ‘U.S. Air Force Fact Sheet: 390th Intelligence Squadron’, *Offutt Air Force Base*, 26 July 2011.

⁸⁰³ ‘Offutt Directory’, at <http://www.omahanewsstandextra.com/offuttdirectory/operations.html>.

branch then consisted of '72 military people from four Air Force specialties and nine contractor personnel'. It provided 'airborne maintenance, logistics and supply support for tactical reconnaissance missions in politically sensitive and potentially hostile areas'. The chief of the branch was responsible for managing and protecting 'resources valued in excess of \$250 million'. Crawford flew 155 hours on 16 RC-135 *Rivet Joint* missions 'while learning the intricacies of the job and the stresses his technicians face'.⁸⁰⁴

In July 2011, the 390th Intelligence Squadron had 161 assigned personnel, including 'cryptologic linguists', communications specialists, intelligence analysts, and maintenance and administrative personnel. According to a USAF 'fact sheet', the squadron is comprised of 'a diverse and highly motivated force of professionals to guarantee the success of the RC-135 mission'. It 'ensures information superiority to the "last tactical mile" by providing tailored intelligence to war-fighters, combatant commanders and national decision-makers'.⁸⁰⁵

An RC-135 flight was undertaken from Kadena, along the Chinese coast south to the South China Sea and back, on 7 May 2001, five weeks after a mid-air collision between a PLAAF fighter jet and a US Navy EP-3 *Aries II* SIGINT aircraft forced the latter to make an emergency landing on Hainan Island. US officials said that the purpose of the RC-135 flight, along the same route as the EP-3, was 'to establish a new baseline' for intelligence collection on China.⁸⁰⁶

One RC-135V/W *Rivet Joint* aircraft is almost always stationed at Kadena. In 2010, for example, five RC-135V/Ws deployed to Kadena, each staying for 2-3 months, amounting effectively to the whole of the year.⁸⁰⁷ No. 14844 was at Kadena from late 2013 through into February 2014.⁸⁰⁸ No. 14845 was at Kadena from May into July 2014.⁸⁰⁹ Two

⁸⁰⁴ 'Captain Juan Z. Crawford', *Kadena Shogun*, 5 February 1999, at <http://www-2.kadena.af.mil/current/18pa/feb5.htm#Feb.5>.

⁸⁰⁵ 'U.S. Air Force Fact Sheet: 390th Intelligence Squadron', *Offutt Air Force Base*, 26 July 2011.

⁸⁰⁶ 'China Surveillance Flights Resumed', *ABC News*, 7 May 2001, at <http://abcnews.go.com/International/story?id=81116&page=1>.

⁸⁰⁷ David Axe and Joe Trevithick, 'Just How Much Does the U.S. Air Force Spy on China?', *Medium.com*, 22 January 2014.

⁸⁰⁸ 'RC135 at Kadena', *FighterControl.co.uk*, 3 February 2014, at <http://www.fightercontrol.co.uk/forum/viewtopic.php?f=16&p=580830>.

⁸⁰⁹ 'Pacific Airwaves: RODN Kadena May 13-16 2014, Part 3 of 3', *Pacific Airwaves*, at <http://pacificairwaves.blogspot.com.au/2014/06/rodn-kadena-report-part-3-of-3.html>; and 'RC-135 Rivet Joint Kadena Airbase United States Air Force', *YouTube*, 11 July 2014, at <https://www.youtube.com/watch?v=1quNQ6y8Jyw>

RC-135 *Rivet Joints* were stationed there in late May, when they provided 24-hours a day SIGINT coverage of a joint Russian-Chinese naval exercise in the East China Sea.⁸¹⁰

The RC-135U *Combat Sent* aircraft are responsible for providing 'strategic electronic reconnaissance information to the President, Secretary of Defense, Department of Defense leaders, and theater commanders'. According to a USAF description: 'Locating and identifying foreign military land, naval and airborne radar signals, the *Combat Sent* collects and minutely examines each system, providing strategic analysis for war-fighters'.⁸¹¹

Two *Combat Sent* aircraft were stationed at Kadena from June to September 2010, during which period they conducted 34 missions. Eighteen were *Diamond Sent* flights over the East China Sea, three were *Sapphire Sent* missions over the South China Sea, eight *Cheyenne Sent* patrols covered the Sea of Japan, and five flights were directed against North Korea.⁸¹² In April 2014, an RC-135U *Combat Sent* aircraft stationed at Kadena, No. 14849, was involved in an incident over the Sea of Okhotsk, described as 'a reckless intercept by a Russian Su-27 while on a routine mission in international airspace'.⁸¹³

The RC-135S *Cobra Ball* aircraft is equipped to intercept telemetry and other electronic activity associated with foreign missile tests. In March 1996, a *Cobra Ball* deployed to Kadena to monitor a series of Chinese ballistic missile tests which splashed-down in waters around Taiwan. In May 1997, a *Cobra Ball* monitored a North Korean anti-ship missile test.⁸¹⁴

A *Cobra Ball* was deployed to Kadena from mid-September to late December 1997, when it undertook almost daily flights, evidently monitoring North Korea's preparations for launching a *Nodong-1* medium-range ballistic missile (IRBM); the test did not eventuate.⁸¹⁵ In June 2000, a *Cobra Ball* was sent to Kadena to monitor an imminent launch of a Chinese DF-31 ICBM into the Pacific.⁸¹⁶ In March 2003, a *Cobra Ball* was approached by four North

⁸¹⁰ 'US Monitoring China-Russia Joint Naval Drills', *WantChinaTimes*, 22 May 2014, at <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20140522000080&cid=1102>.

⁸¹¹ 'RC-135U Combat Sent', *U.S. Air Force*, 14 February 2005, at <http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104495/rc-135u-combat-sent.aspx>.

⁸¹² David Axe and Joe Trevithick, 'Just How Much Does the U.S. Air Force Spy on China?', *Medium.com*, 22 January 2014, at <https://medium.com/war-is-boring/just-how-much-does-the-u-s-air-force-spy-on-china-f490733b72a7>.

⁸¹³ 'Pacific Airwaves: RODN Kadena May 13-16 2014, Part 3 of 3', *Pacific Airwaves*.

⁸¹⁴ Jeffrey T. Richelson, *The US Intelligence Community*, (Westview, Boulder, Colorado, 5th edition, 2008), p. 223; and 'Recon Wing Famed For Skill, Endurance', *Aviation Week & Space Technology*, 4 August 1997, p. 53.

⁸¹⁵ 'US Interest Increases as Test Looms for Nodong-1', *Jane's Intelligence Review*, December 1997, p. 10.

⁸¹⁶ "'Informed Sources" Tell TASS US Alerted to Imminent Chinese ICBM Test', (FBIS-SOV-2000-0606), 6 June 2000.

Korean MiG fighters in international airspace about 240 km off North Korea, but they turned away when the RC-135S aborted its mission and flew toward Japan.⁸¹⁷ In 2010, *Cobra Ball* RC-135S aircraft staged to Kadena from 2 to 7 November and again from 27 November to 29 December to monitor Chinese missile tests.⁸¹⁸ *Cobra Ball* No. 24128 was stationed at Kadena in May 2014, together with a WC-135C *Constant Phoenix* aircraft, No. 23582, which was ready to monitor a reportedly imminent North Korean nuclear test.⁸¹⁹

The SR-71 *Blackbirds* continued to operate out of Kadena through the 1980s, mainly undertaking missions along the Soviet, North Korean and Chinese coastlines. In the early 1980s, an important task was collecting ELINT on the new Soviet SA-10 *Grumble* long-range surface-to-air missile system and its associated radar systems, which operated at higher frequencies than previous systems. The SR-71s carried a programmed scanning ELINT system for monitoring radar networks; once a specific signal was found, the electronic receiver searched for the associated radar frequencies. In the case of the SA-10, for example, once the signals from the long-range acquisition radar was encountered, the ELINT system then searched specifically for the frequencies of the associated tracking and fire control radars.⁸²⁰

On 26 August 1981, North Korea attempted to shoot down an SR-71 with two SA-2 *Guideline* missiles over the Yellow Sea. After a brief suspension, flights over the Korean Peninsula were resumed on 3 September.⁸²¹ In January 1984, a fairly typical 'mission profile took us west on an ELINT collection over the South China Sea and then east across the DMZ in Korea'.⁸²² On 22 July 1987, No. 967 flew from Kadena to the Persian Gulf and back, with five aerial refuellings, specifically to collect ELINT on the *Silkworm* anti-ship missile system, after Iran deployed *Silkworm* batteries around the Strait of Hormuz.⁸²³ On 21 April 1989, No. 974 was lost in a crash in the South China Sea, near the Philippines.⁸²⁴ The last SR-71 at Kadena, No. 962, departed for Beale on 21 January 1990.⁸²⁵ A memorial plaque was erected at 'Habu Hill', at the southern side of the base, which states that: 'Throughout

⁸¹⁷ Eric Schmitt, 'North Korea MiG's Intercept U.S. Jet on Spying Mission', *New York Times*, 4 March 2003.

⁸¹⁸ David Axe and Joe Trevithick, 'Just How Much Does the U.S. Air Force Spy on China?',

⁸¹⁹ 'Pacific Airwaves: RODN Kadena May 13-16 2014, Part 3'.

⁸²⁰ Col. Richard H. Graham, *SR-71 Revealed: The Inside Story*, p. 84.

⁸²¹ Ibid., p. 75; and Dick van der Aart, *Aerial Espionage*, pp. 68-69.

⁸²² Col. Richard H. Graham, *SR-71 Revealed: The Inside Story*, p. 89.

⁸²³ Ibid., pp. 113-114.

⁸²⁴ 'U.S. Spy Plane Crashes in South China Sea', *New York Times*, 22 April 1989.

⁸²⁵ 'A-12, YF-12A, and SR-71 Timeline of Events, June 2010'.

those 22 years [1968-90], the Habu roamed Pacific skies unchallenged, in war and peace, to ensure the freedom of the United States and her allies'.⁸²⁶

Four U-2 *Dragon Lady* reconnaissance aircraft, together with about 150 personnel, were temporarily moved to Kadena in 2003 while the home-base at Osan Air Base in South Korea was undergoing repairs. The Kadena Town Council 'expressed strong opposition to the deployment'.⁸²⁷ The Osan-based U-2s were primarily used for monitoring North Korea, although they sometimes flew southward along the Chinese coastline as far as the Taiwan Strait.

A U-2 was based at Kadena from mid-June to mid-July 2010 for operations against China.⁸²⁸ On 29 June 2011, a U-2 from Kadena was intercepted by two Chinese Su-27 fighter jets over the Taiwan Strait; it had evidently been flying on the Chinese side of the 'median line' between Chinese and Taiwanese airspace.⁸²⁹

The US Navy's VQ-1 Detachment at Kadena normally has two Lockheed EP-3E *ARIES-II* assigned. (VQ-1 Squadron, home-based at Whidbey Island in Washington, has a fleet of 16 EP-3Es). Different aircraft rotate through Kadena every 3-9 months. The EP-3E *ARIES-II* (No. 156511) that was involved in an emergency landing on Hainan Island on 1 April 2001 was based at Kadena. (No. 156517 was also deployed at Kadena at this time). It was nearing the end of its 6-hour ELINT mission (Mission PR-32), about 110 km from Hainan, when it was approached by two Chinese J-8 fighter jets, one of which collided with the SIGINT aircraft. The crew had 26 minutes between when the collision and the emergency landing to destroy sensitive items on board the aircraft, including the ELINT equipment, COMSEC systems, documents and data collected during the flight. The disassembled aircraft was returned to the US in July 2001.⁸³⁰ According to an account by the flight commander:

The EP-3E bulged and bristled with sensor pods.... EP-3Es were one of America's most capable platforms for collecting signals intelligence (SIGINT). With our sensitive receivers and antennas we could look over the horizon from international

⁸²⁶ Col. Richard H. Graham, *SR-71 Revealed: The Inside Story*, p. 130; and 'USAF SR-71 Kadena Operations'.

⁸²⁷ 'Kadena Town Opposes U.S. Forces' Plan to Deploy U2 Spy Aircraft', *Japan Press Weekly*, at <http://www.japan-press.co.jp/2003/2349/kadena.html>; and Hazel Smith, 'Northeast Asia Frustrated by US Pyongyang Policy', *Jane's Intelligence Review*, November 2003, p. 35.

⁸²⁸ David Axe and Joe Trevithick, 'Just How Much Does the U.S. Air Force Spy on China?',

⁸²⁹ Bill Gertz, 'Chinese Jets Chase U.S. Surveillance Jet Over Taiwan Strait', *Washington Times*, 25 July 2011.

⁸³⁰ 'U.S. Surveillance Plane Lands in China after Collision with Fighter', *CNN.com*, 1 April 2001, at <http://archives.cnn.com/2001/US/04/01/us.china.plane/>; and 'Hainan Island Incident', at <http://shelf3d.com/i/Hainan%20Island%20incident>.

airspace in support of the ships and aircraft of the Fleet to pinpoint a wide range of radar and radio emissions. This was required to develop an accurate picture of what's been called the "electronic order of battle" [EOB], which might include the electromagnetic activity of surface-to-air or surface-to-surface missile systems. We also were capable of providing direct "real time" tactical electronic reconnaissance during combat operations to our fighters and strike aircraft so that they could better avoid threats and locate targets.⁸³¹

It was noted in 2005 that No. 156511 had been repaired and reassembled and 'is still flying with VQ-1 and every once in a while she makes her way back to Kadena to fly the same mission profile [as in April 2001]'.⁸³²

EP-3E No. 156529 was based at Kadena through the first months of 2012. It was replaced by No. 156511, the rebuilt victim of the 2001 incident, in May 2012. No. 156511 was replaced by No. 157316 in August. It was replaced by No. 159893 in May 2013.⁸³³ No. 159887 was reportedly one of 'a pair' at Kadena in May 2014.⁸³⁴

⁸³¹ Shane Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, (Broadway Books, New York, 2001), p. 5.

⁸³² 'P-3A Aero Union Fire Bomber', *FlightSim.com*, at <http://www.flightsim.com/vbfs/showthread.php?129036-P-3A-Aero-Union-Fire-Bomber>.

⁸³³ 'US Navy P-3 TDY Changes in Japan', Forum, *Scramble*, at <http://forum.scramble.nl/viewtopic.php?p=583437>.

⁸³⁴ 'Pacific Airwaves: RODN Kadena May 13-16 2014, Part 1 of 3', *Pacific Airwaves*, at <http://pacificairwaves.blogspot.com.au/2014/06/rodn-kadena-report-part-1-of-3.html>.

53. DoD Special Representative Okinawa (DSRO), Kadena

In the late 1950s, HQ NSAPAC at Camp Fuchinobe established an office in Okinawa called NSA Pacific Representative Okinawa, sometimes also known as NSA Pacific Representative Ryukyus (NRRYU).⁸³⁵ The chief of the office in 1961 was Richmond D. ('Don') Snow.⁸³⁶ (Snow was stationed at NSA HQ at Fort Meade in 1969, where he coordinated the 'Cryptologic Compromise Damage Assessment' of information and materials obtained by the North Koreans when they captured the USS *Pueblo*).⁸³⁷ The office was deactivated on 11 May 1962, and the chief of the JSPC was designated the senior NSA representative on Okinawa. The post was disestablished on 30 July 1972, following the closure of the JSPC and the reversion of Okinawa to Japan. The last occupant was Colonel Graydon Eubank, the last chief of the JSPC, who then served at Torii Station with OL-FR of the 6970th Support Group at Fort Meade in 1971-72.⁸³⁸

The post was later reactivated as the Department of Defense (DoD) Special Representative Okinawa (DSRO), based in Building 3520 at Kadena Air Base. The DSRO Chief in 2000 was C. David Lloyd.⁸³⁹ The US Forces Okinawa Telephone Directory for 2012 gives the chief's number as 634-6083. It also lists, at the same number, a Detachment of the Cryptologic Services Group (CSG) and the office of the representative of L3 Communications Corporation.⁸⁴⁰

⁸³⁵ Rona Lerner, 'NSA Representatives and Offices in Various Locations'.

⁸³⁶ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment' p. ii.

⁸³⁷ Robert E. Newton, *The Capture of the USS Pueblo and Its Effect on SIGINT Operations*, (Center for Cryptologic History, National Security Agency, 1992), p. 132, at http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB278/US_Cryptologic_History--The_Capture_of_the_USS_Pueblo.pdf.

⁸³⁸ 'The Joint Sobe Processing Center, 1961-1971: A Brief Overview of a Successful Experiment', p. 25; 'Col. Graydon K. "Rocky" Eubank' and 'KA6 AMRS: Auxiliary Military Radio Stations'.

⁸³⁹ 'Relocation Information for Kadena AB, Japan', *Standard Installation Topic Exchange Service [SITES]*, 7 January 2000, p. 14.

⁸⁴⁰ 'U.S. Forces Okinawa, Japan: Telephone Directory, 2012 Electronic Version 1st Quarter', p. 72, at <http://www.kadena.af.mil/shared/media/document/afd-120203-001.pdf>.

54. US Army Network Operations and Security in Okinawa

There are now several Network-related activities on Okinawa. These have mostly involved units of the 58th Signal Battalion at Fort Buckner, which was activated in October 1986 as part of US Army Information Systems Command (USAISC), although it had direct organisational antecedents on Okinawa going back to 1947.⁸⁴¹ Its main function in the 1980s and 1990s was to support the Defense Satellite Communications System (DSCS) facility at Fort Buckner, which was operated by its 333rd Signal Company. The 333rd Signal Company's motto was initially 'Hub of the Pacific', but this was changed around 2007 to 'Connecting the War-fighter'.⁸⁴² It operates the Department of Defense Standardized Tactical Entry Point (STEP)/Teleport Gateway at Fort Buckner, which supports 'continuous operation of the Joint War-Fighter Inter-base Telecommunications Network [JWITN]'.⁸⁴³

The first DSCS terminal at Fort Buckner, an AN/MSC-46 (with a 40-foot or 12-metre diameter dish in a 20-metre diameter radome), was installed in 1966-68; an AN/GSC-39C (with a 38-foot or 11.6 metre diameter dish in a 20-metre radome) was installed in the late 1970s and another AN/GSC-39C in the early 1990s.⁸⁴⁴ Fort Buckner was officially designated a DSCS Operations Center (DSCSOC) on 14 May 1993.⁸⁴⁵ These three radomes dominated the landscape at Fort Buckner for the next two decades. The two AN/GSC-39C terminals are operated by the 333rd Signal Company and the AN/MSC-46 by Echo Company of the 53rd Signal Battalion.⁸⁴⁶

Echo Company of the Army's 1st Satellite Control (SATCON) Battalion was organised at Fort Buckner on 4 April 1995. The 53rd Signal Battalion (SATCON) of Space Command, headquartered at Peterson AFB in Colorado, was activated on 14 October 2005.

⁸⁴¹ '58th Signal Battalion', *Global Security.org*, at <http://www.globalsecurity.org/military/agency/army/58sig.htm>.

⁸⁴² Scott Baker, 'Radome Maintenance Team Effort at 333rd', *Army Communicator*, (Vol. 32, No. 2), June 2007, p. 27.

⁸⁴³ Second Lieutenant Allison O'Kelly, '333rd Provides Critical Communications Support for Super Typhoon Haiyan Relief Operation', *Premier Signal*, Summer 2014, p. 10, at <http://www.usarpac.army.mil/311sc/pdf/Premier%20Signal%20Spring%202014%20V2.pdf>.

⁸⁴⁴ Desmond Ball, *Code 777: Australia and the US Defense Satellite Communications System (DSCS)*, (Canberra Papers on Strategy and Defense No. 56, Strategic and Defence Studies Centre, Australian National University, Canberra, 1989), pp. 42, 65, 70; Ken Bower, 'Steve's Bar - Udon Thani', Thai Falang Board, *Delphi Forums*, 29 May 2005, at <http://m.delphiforums.com/thaifalang/messages/2300/11>; and *Commander in Chief U.S. Pacific, USCINCPAC Command History: 1992, Volume 1*, (Command History Division, HQ USCINCPAC, Camp H.M. Smith, Hawaii, 1993), p. 435, at <http://nautilus.org/wp-content/uploads/2012/01/1992.pdf>.

⁸⁴⁵ Sharon Watkins Lang, 'Can You Hear Me Now?', *Army Space Journal*, Spring/Summer 2011, p. 39, at <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA559472>

⁸⁴⁶ Scott Baker, 'Radome Maintenance Team Effort at 333rd', p. 27.

It assumed responsibility for control of the DSCS and Wideband Global SATCOM (WGS) satellite constellations together with command of units previously under the Army's 1st SATCON Battalion. Five companies and associated Wideband Satellite Operations Centers (WSOCs) were established around the world: Alpha Company at Fort Detrick, Maryland; Bravo Company at Fort Meade, Maryland; Charlie Company at Landstuhl in Germany; Delta Company, at Wahiawa, Hawaii; and Echo Company at Fort Buckner.⁸⁴⁷

In 2003, Harris CapRock Corporation was contracted to provide 'all facets of operations and maintenance (O&M) support' to the Fort Buckner-Torii Station Teleport. This involved O&M services with respect to DSCS, EHF and UHF satellites at Fort Buckner and C and Ku-band systems at Torii Station. By around 2009, the Harris team consisted of '24 experienced Communications (O&M) technicians and one highly qualified Site Manager'. The DSCS unit was honoured as the 'top performing U.S. Department of Defense-operated teleport facility' in 2003, 2006, 2007, 2008 and 2009.⁸⁴⁸

Exelis Corporation provides support services for operations and maintenance of the Global SATCOM Configuration Control Element (GSCCE) of Echo Company's WSOC.⁸⁴⁹ There are personnel at Fort Buckner who were assigned to Echo Company of the 1st Space Battalion in the late 1990s, left the Army and worked for Harris CapRock, and transferred more recently to Exelis Corporation as Field Engineers.⁸⁵⁰ In addition to its satellite control services, Exelis also provides 'support services for Visual Information (VI)/Video Teleconference (VTC) systems' at the WSOC.⁸⁵¹

The three large radomes were refurbished in 2007. According to the commander of the 333rd Signal Company (Captain Scott Baker), this was necessary 'due to metal parts being corroded by salt, bolts vibrating loose due to the wind, and deterioration of the silicone caulking that seals the numerous panels'.⁸⁵² A 6.1-metre diameter Restoral Terminal, probably a variant of the AN/TSC-86, was installed in April 2007. It was located next to

⁸⁴⁷ D. J. Montoya, 'A Signal Celebration', [www.army.mil](http://www.army.mil/article/47141/a-signal-celebration/), 25 October 2010, at <http://www.army.mil/article/47141/a-signal-celebration/>.

⁸⁴⁸ 'Harris CapRock Provides Dedicated Team to Support Fort Buckner's Teleport Operations', *Harris CapRock*, at http://www.harriscaprock.com/pro_technical_services-government-buckner.php.

⁸⁴⁹ Ryan Adams, 'E Company 53rd Signal Battalion', *Facebook*, at <https://m.facebook.com/254781077933893/posts/629280087150655/>.

⁸⁵⁰ Jason Adams, *LinkedIn*, at <http://la.linkedin.com/pub/jason-adams/51/483/69>.

⁸⁵¹ 'VI/VTC Systems Expert at Exelis, Inc.', *SimplyHired*, at <http://www.simplyhired.com/job/vi-vtc-systems-expert-job/excelis-inc/5pgzp33ajv>.

⁸⁵² Scott Baker, 'Radome Maintenance Team Effort at 333rd', p. 27.

Echo Company's WSOC.⁸⁵³ This was a transportable system which provided 'the same capabilities as a medium fixed satellite terminal' and which was used 'to help in the re-routing of communications traffic and to support the satellite control mission of E Company' and hence 'minimize interruption of DISN [Defense Information Systems Networks] services being provided to our customers'.⁸⁵⁴

Three very small radomes (4 metres in diameters) are situated together in the southern part of the radome complex. They are evident in a photograph of the compound on a Harris CapRock Web-site, labeled 'Hub of the Pacific', the old motto of the 333rd Signal Company, probably taken soon after the Restoral Terminal was removed in 2007 or 2008 (as its circular cement base was still extant). They are clearly shown in high-resolution GoogleEarth imagery dated 19 November 2012 and 12 April 2013.

The GoogleEarth imagery of November 2012 and April 2013 also shows two small (9-metre diameter) radomes and a small (6.5-metre diameter) dish, in the area where the Restoral Terminal had been located. A photograph taken on 18 September 2014 shows the dish enclosed in a radome, identical to the previous two.⁸⁵⁵

The GoogleEarth imagery of November 2012 and April 2013 shows a large dish (perhaps 11.5 metres in diameter), without a radome, in the northwest of the complex, where Echo Company's 20-metre radome had previously been. (The large radome was still there in GoogleEarth imagery dated 18 April 2009). Another Restoral Terminal was installed in October 2013, suggesting the imminent replacement of the dish.⁸⁵⁶

A Modernized Enterprise Terminal (MET) parabolic dish was installed on 9 June 2014. It weighs 45,000 lbs and has a diameter of 12.2 metres. The MET terminal was developed by Harris Corporation to interface with the WGS satellite constellation, and 'provides a 200% increase in bandwidth capacity, thereby further improving its world-class

⁸⁵³ 'Photo Gallery', *Eagle*, April 2007, at http://www.smdc.army.mil/smdcphoto_gallery/eagle/Apr07/Eagle.html; and Steven Adams, 'Wideband and DSCS Satellite Systems Network and Payload Controller, U.S. Army, Fort Buckner', *Indeed.com*, 7 April 2013, at <http://www.indeed.com/r/Steven-Adams/505681a931c43e1c?sp=0>.

⁸⁵⁴ Scott Baker, 'Radome Maintenance Team Effort at 333rd', *Army Communicator*, (Vol. 32, No. 2), June 2007, p. 27.

⁸⁵⁵ 'E Company 53rd Signal Battalion's Photos', *Facebook*, at <https://www.facebook.com/53rdEagles/photos/a.692014174210579.1073741880.254781077933893/692014700877193/?type=3&theater>.

⁸⁵⁶ 'October 2013 RT Setup: E Company 53rd Signal Battalion's Photos', *Facebook*.

SATCOM support to the war-fighter'.⁸⁵⁷ It also serves as an Auxiliary Satellite Control Terminal (ASCT). It is shown without any radome in a photograph taken on 12 September 2014.⁸⁵⁸

Installation of MET #2 dish began in early 2015, with construction of the circular foundation in March-April.⁸⁵⁹

In addition to its 333rd Signal Company, the 58th Signal Battalion also maintained a Regional Network Operations and Security Center (RNOSC) at Fort Buckner and exercised command over the 349th Signal Company at the US Army Garrison at Torii Station.⁸⁶⁰ The mission of the RNOSC, which in 2013 had 13 military and US civilian personnel (including the chief), involves 'monitoring, managing and operational direction of the local Defense Information Systems Networks (DISN), the Standard Tactical Entry Point (STEP) Teleport satellite communications system and the Army Pacific Land War Net'.⁸⁶¹ The 58th Signal Battalion was inactivated on 12 October 2012 and command responsibility for its units transferred to the 78th Signal Battalion at Camp Zama.⁸⁶²

The 349th Signal Company was activated at the US Army Garrison at Torii Station on 16 October 1992. It manages both a Network Enterprise Center (NEC) and the Okinawa Network Operations Security Center (ONOSC). These are both located in Building 218 (where NEC's telephone number is 644 4916 and ONOSC's is 644 4994).⁸⁶³ The NEC has a SAN [Storage Area Network] server which provides high-speed access to stored e-mails. A Systems Administrator who worked as a section supervisor at the NEC from 2004 to 2010 has said 'the Okinawa segment of the LandWarNet' had 'zero vulnerabilities' during that

⁸⁵⁷ Harris Corporation, 'Modernization of Enterprise Terminals', at http://download.harris.com/app/public_download.asp?fid=2285; and 'MET Reflector Mounting: E Company 53rd Signal Battalion's Photos', *Facebook*, at

<https://www.facebook.com/media/set/?set=a.639445259467471.1073741875.254781077933893&type=1>.

⁸⁵⁸ CSM Patrick Z. Alston, Command Senior Enlisted Leader, STRATCOM, *Facebook*, 12 September 2014, at <https://www.facebook.com/CSMPatAlston/posts/705887902825784>.

⁸⁵⁹ 'Site Prep for MET #2 Install', E Company, 53rd Signal Battalion, *Facebook*, 1 April 2015, at <https://www.facebook.com/media/set/?set=a.809765555768773.1073741903.254781077933893&type=3>.

⁸⁶⁰ 'U.S. Forces Okinawa, Japan: Telephone Directory, 2012 Electronic Version 1st Quarter', p. 72.

⁸⁶¹ 'Position Description: Supv IT Specialist (Network/Sysadmin), PD#: FC363204', FASCLASS, U.S. Army, at https://acpol2.army.mil/fasclass/search_fs/search_fs_output.asp?fcp=zutpk3eFRtaToL2jp7VGuam0buidbYGclKRQg2C7hLBmaIOZlaI%3D.

⁸⁶² Liana Mayo, '58th Signal Battalion Colors Cased, 333rd, 349th Signal Companies OPCON to 78th Signal Battalion', 30 October 2012.

⁸⁶³ 'U.S. Forces Okinawa, Japan: Telephone Directory, 2012 Electronic Version 1st Quarter', p. 72.

period.⁸⁶⁴ In 2012, the 349th Signal Company ‘was recognized as the best small Network Enterprise Center (NEC) in the Army’. It had 31 soldiers and six Department of the Army civilians at that time.⁸⁶⁵

There are two SATCOM areas at Torii Station. One is located near the middle of the base, on the southeast side of the administration and operations buildings. It has four radomes, two of which are 14.5 metres in diameter and two are 24 metres in diameter. The other is located in the northwest part of the base. It has five dishes in a north-south row, with diameters of 9 metres, 7 metres, 5 metres, 5 metres and 5 metres; a Torus multi-beam antenna, about 8 metres wide, just east of the 9-metre dish; and a 3-metre dish just south of the Torus antenna. This complex was not there in GoogleEarth imagery dated 1 November 2005, but it had been constructed by 21 June 2007. (Plate 128 shows GoogleEarth imagery dated 30 January 2014).

In January 2013, the Department of the Army announced its intention to solicit industry proposals ‘to Construct a Consolidated Strategic Communications Earth Station (SATCOM) and Technical Control Facility (TCF) [42,840 SF] at Fort Buckner’ and a Directorate of Information Management Facility (43,860 SF) at the NEC at Torii Station. The project was expected to cost between 2.5 and 10 billion yen (US\$25-100 million).⁸⁶⁶ A contract for \$84.367 million was awarded to an Okinawa-based company, Prime Projects International Japan, on 18 September 2014.⁸⁶⁷ Construction of the Information Management Facility began with a ground-breaking ceremony at Torii Station on 12 February 2015.⁸⁶⁸

⁸⁶⁴ Raymond Byrd, *LinkedIn*, at <http://www.linkedin.com/pub/raymond-byrd/35/b3a/892>.

⁸⁶⁵ Alec Kinczewski, *LinkedIn*, at <http://www.linkedin.com/pub/alec-kinczewski/11/740/132>.

⁸⁶⁶ ‘Y--MCA PN 62783, SATCOM Complex/NEC, Fort Buckner and Torii Station, Okinawa, Japan’, Solicitation Number: W912HV13R0006, *FedBizOpps.gov*, 31 January 2013, at https://www.fbo.gov/?s=opportunity&mode=form&tab=core&id=7f1881a61f65c8fbadc0180941300c59&_cview=0.

⁸⁶⁷ ‘Y--MCA PN 62783, SATCOM Complex/NEC, Fort Buckner and Torii Station, Okinawa, Japan’, *FedBizOpps.gov*, 18 September 2014, at https://www.fbo.gov/?s=opportunity&mode=form&tab=core&id=9941da1ff988d98491bc692f3dfef820&_cview=0.

⁸⁶⁸ ‘U.S. Army Garrison Okinawa: Groundbreaking’, *Facebook*, 17 February 2015, at <https://www.facebook.com/USAGOkinawa/posts/799163916785460>.

Plate 122
DoD Telecommunications Gateway/Teleport,
Fort Buckner, Okinawa, 2009



Source: Harris CapRock, 'Harris CapRock Provides Dedicated Team to Support Fort Buckner's Teleport Operations', at http://www.harriscaprock.com/pro_technical_services-government-buckner.php.

Plate 123
Installation of Restoral Terminal, E Company, 53rd Signal Battalion,
Fort Buckner, Okinawa, April 2007



Source: 'Photo Gallery', *Eagle*, April 2007,
at http://www.smdc.army.mil/smdcphoto_gallery/eagle/Apr07/Eagle.html.

Plate 124
E Company, 53rd Signal Battalion, Fort Buckner,
Okinawa, 1 December 2012



Source: 'E Company 53rd Signal Battalion's Photos', *Facebook*, at <https://www.facebook.com/53rdEagles/photos/a.387141334697866.90830.254781077933893/387141824697817/?type=1&theater>.

Plate 125
9-metre radomes, E Company, 53rd Signal Battalion,
Fort Buckner, Okinawa, 6 October 2013



Source: E Company, 53rd Signal Battalion, 'October RT' Teardown', *Facebook*, 6 October 2013, at <https://www.facebook.com/53rdEagles/photos/a.519197404825591.1073741842.254781077933893/519197684825563/?type=3&theater>.

Plate 126
Modernised Enterprise Terminal (MET), E Company,
53rd Signal Battalion,
Fort Buckner, Okinawa, 20 November 2014



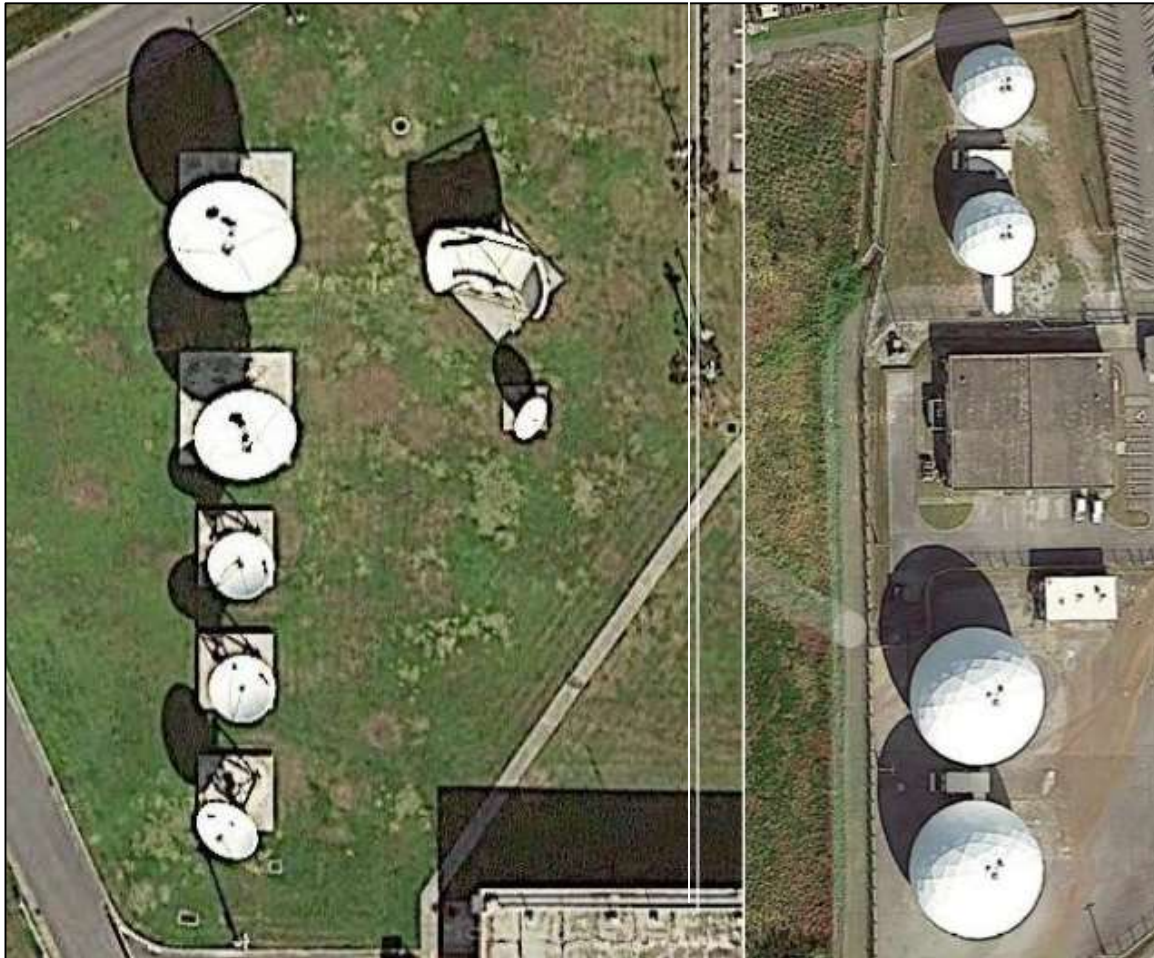
Source: E Company, 53rd Signal Battalion, *Facebook*, 21 November 2014,
at <https://www.facebook.com/53rdEagles>.

Plate 127
Site preparation for installation of MET 2 antenna,
Fort Buckner, 1 April 2015



Source: 'Site Prep for MET' #2 Install', E Company, 53rd Signal Battalion, *Facebook*, 1 April 2015, at <https://www.facebook.com/media/set/?set=a.80976555768773.1073741903.254781077933893&type=3>.

Plate 128
DoD Telecommunications Gateway/Teleport,
Torii Station, Okinawa,
GoogleEarth imagery, 30 January 2014



55. Misawa since the 1980s and 1990s

By the early 1980s, the Misawa SIGINT station had grown to nearly 2,000 personnel. In February 1980, there were about 1,815, comprised of about 1,000 members of the Air Force's 6920th Electronic Security Group, about 600 NSG personnel, 150 INSCOM personnel, and 65 Marines.⁸⁶⁹ By July 1983, there were more than 1,900, comprised of 930 members of the 6920th ESG, more than 700 NSG members, about 200 INSCOM personnel, and about 80 Marines. It had become the 'largest Air Force collection site... in the world'. The NSG Activity at Misawa had become the largest NSG station outside the US. It monitored the Soviet Navy and Naval Air Force and Soviet shipping. The INSCOM Field Station was 'targeted at Soviet Army and General Staff activity, as well as at Afghanistan'.⁸⁷⁰

In 1984, the Air Force asked Congress for \$2 million to provide a 'chiller' or air-conditioning plant for the 6920th Electronic Security Group's 'operations facility' at Misawa. Congress was told that the mission of the unit was 'intelligence gathering', that 'the chiller plant addition will support administration, communications, and intelligence-related computer systems located within this operations facility', and that 'this project provides for temperature/humidity control of critical intelligence equipment'.⁸⁷¹

A new *Keelan* system was installed around 1985, replacing the old TEBO system. It was sometimes called '*Annulet*'.⁸⁷² According to a member of the 6920th ESG who helped put it into service, it was 'hot stuff in those days'.⁸⁷³ In the NSG, *Keelan* operators were designated 9154 mission specialists. NSG personnel were still assigned to the *Keelan* project in 1993.⁸⁷⁴ An Air Force 'KEELAN system collection operator' was stationed at Misawa from December 1993 to December 1996. He also worked on a new 'Morse/Non-Morse

⁸⁶⁹ 'Misawa Units intercept Soviets Routinely', *Aviation Week & Space Technology*, 11 February 1980, pp. 96-97; and Keyes Beech, 'Secret U.S. Base Keeps Eye on Far East', *Los Angeles Times*, 20 January 1980, p. 12.

⁸⁷⁰ Seymour Hersh, '*The Target is Destroyed*', pp. 47-48.

⁸⁷¹ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1985*, (U.S. Government Printing Office, Washington, D.C., 1984), Part 6, p. 621.

⁸⁷² Amber Lynn Shepard, 'Professional Experience', OMDE 670 *Amber Shepard* e-portfolio, at <http://ambershepard.weebly.com/uploads/8/7/8/1/8781945/resume.2012.nr.pdf>.

⁸⁷³ Dave Jeffries, 'USAFSS Misawa Family Guestbook', at <http://v8v.us/kniga/index.php?page=270>.

⁸⁷⁴ Lt. Robert Turnbull, 'Cryptologic Technician Collection', *Navy: Together We Served*, at <http://navy.togetherweserved.com/usn/servlet/tws.webapp.WebApp?cmd=ShadowBoxProfile&type=AssignmentExt&ID=1481164>; and Sharon Lytell, 'Cryptologic Technician', *Navy: Together We Served*, at <http://navy.togetherweserved.com/usn/servlet/tws.webapp.WebApp?cmd=ShadowBoxProfile&type=AssignmentExt&ID=44199>.

integrated collection system [called] MEDIATOR'.⁸⁷⁵ The AN/GYK-8 *FLEXSCOP* and AN/TCA-4 *Kinder* systems were still employed in the period around 1982-85.⁸⁷⁶

According to the Systems Acquisition Manager at NSA HQ from 1987 to 1995, 'numerous upgrades' were installed at Misawa during this period.⁸⁷⁷ In addition to *Keelan* and *Mediator*, these included a series of Unix-based operations systems called TIDYTIPS, Conventional Signals Upgrade (CSU), PARSEC and an Automatic Message Handling System (AMHS). The *Tidytips* system was installed at Misawa in the mid-1980s. The *Tidytips II* system was in service at Misawa from 1991 to 1995. The *Tidytips III* system was developed in 1990-93, and installed at Misawa and a few other places in 1994-95. These systems were employed in signals collection, analysis, reporting and mission support operations.⁸⁷⁸ According to an official history of the USAFSS, the 'new modern, computer-based, state-of-the-art automated systems' such as PARSEC and the Conventional Signals Upgrade profoundly changed 'the way command organizations [i.e., USAFSS and NSA] carried out their rapidly expanding missions'.⁸⁷⁹

In the early 1980s, the INSCOM unit occupied Building S-1335, which was used as its HQ, and S-1524 which housed its Operations Branch, as well as barracks and 'supply storage' buildings. The Operations Branch moved to S-1500, the main Operations Building, on 17 December 1984. The computer system was upgraded in February 1985. The Operations Branch contained a Processing and Reporting (P&R) Section, which was reorganised with effect from 1 May 1985; an Analytic Section; a Traffic Analysis Section; an Incoming Tip-offs Section, which received alerts 'via STREAMLINER or the OPSCOM'; a CRITIC Reporting Section, which distributed 'CRITIC messages and SIGINT Alert Actions' to NSA HQ and other major SIGINT stations; a Watch Office; and a Special Projects Section. Unidentified classified projects undertaken at the station included those code-named *Airboat*, *Bankrupt* and *Nickstuck*. A large proportion of the operators were

⁸⁷⁵ Steve Barber, *LinkedIn*, at <http://www.linkedin.com/pub/steve-barber/44/784/72>.

⁸⁷⁶ Harry Weiss, '6922nd Visitor's Book'.

⁸⁷⁷ Dave Daniels, at 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=8>.

⁸⁷⁸ Ron Moyer, 'USAFSS Misawa Family Guestbook', at <http://www.usafssmisawa.com/guestbook/index.php?page=26>; Robert Force, 'Resume', *Indeed.com*; and Kevin Igo, *LinkedIn*, at <http://www.linkedin.com/in/kevinigo>.

⁸⁷⁹ Dennis F. Casey and Gabriel G. Marshall, *A Continuing Legacy: USAFSS to ALA, 1948-2000. A Brief History of the Air Intelligence Agency and Its Predecessor Organizations*, (Air Intelligence Agency History Office, San Antonio, Texas), p. 6, at <http://misawa.angryhosting.com/download/a-continuing-legacy-1948-2009.pdf>.

female.⁸⁸⁰ In 1986, the 750th Military Intelligence Battalion was organised as the ‘operational unit’ at the Field Station.⁸⁸¹

The ASA’s Field Station Misawa won the prestigious Travis Trophy, awarded annually by NSA to field units ‘in recognition of consistently superior performance’, in 1981. It was presented to the unit’s commander, Lieutenant Colonel Gloria D. Redman, on 10 June 1981. With little more than 150 personnel, FS Misawa was at that time ‘one of the smallest Field Stations in INSCOM’.⁸⁸²

The NSGA at Misawa won the Travis Trophy in 1980 and 1987, making three times since it was commissioned in 1971 (the first time being in 1975). The award for 1987 was accepted by Captain Darrell W. Campbell, the NSGA commander, who said that it was ‘the highest honor a cryptographic unit can win and the ultimate accolade for a unit engaged in this type of this business’.⁸⁸³

The NSGA’s Direct Support Unit, designated Division 57 around 1985, continued to provide personnel for special operations aboard the US Navy’s aircraft and submarines. A Communications Technician in the unit who served aboard submarines in 1992-94 has said that ‘trips were slim in those days’. Members of the unit were trained to operate the submarine-borne *Classic Salmon* AN/WLR-18(V) ELINT system. The AN/WLR-18 antenna was raised above the ocean surface to intercept emissions in the VHF band.⁸⁸⁴

The 6920th Electronic Security Group at Misawa played ‘the key role’ in correlating the signals intelligence intercepted at Wakkanai and other USAFSS stations, including Misawa itself, concerning the shoot-down of KAL 007 on the morning of 1 September (Tokyo time) 1983.⁸⁸⁵

A contemporary report stated that operators at Misawa ‘routinely listen to and monitor radio signals between Soviet pilots and their ground controllers’.⁸⁸⁶ This evidently involved the Project *Landway* VHF/UHF LPA system located in the northwest part of the

⁸⁸⁰ *United States Army Field Station Misawa, Unit History FY 85*, pp. 19-20, 26-27, 29, 51; and ‘Standing Operating Procedures, Operations Branch, United States Army Field Station Misawa’, 1 June 1984.

⁸⁸¹ ‘708th Military Intelligence Detachment Says Farewell’, *DVIDS*, 12 June 2014.

⁸⁸² ‘FS Misawa’, *INSCOM Journal*, January 1982, p. 2; and ‘FS Misawa: Best in the Business’, p. 10.

⁸⁸³ JO2 L. Armstrong, ‘The Trophy Comes Home’, p. 4.

⁸⁸⁴ Jon Zimmer, in ‘Navy CT History Japan Guestbook’, *The Worldwide CT Community and Our Naval Security Group*, at http://www.navycthistory.com/Japan_guestbook_entries.txt.

⁸⁸⁵ Seymour Hersh, ‘*The Target is Destroyed*’, p. 46.

⁸⁸⁶ Duncan Campbell, ‘Espionage: Spy in the Sky’, *New Statesman*, 9 September 1983, p. 28; and James Bamford, ‘The Last Flight of KAL 007: How the U.S. Watches the Soviets in the Far East’, *Washington Post Magazine*, 8 January 1984, p. 8.

operations area. (The authors have a photograph of this system taken by Japanese peace researchers in 1991, which is marked ‘these are the antennas used to record the Soviet pilots’s radio conversations’). The AN/FLR-9 antenna system also ‘played a major role in collecting intelligence on the destruction of Flight 007’ as it monitored longer-range HF communications.⁸⁸⁷

An intercept operator/Russian linguist at Misawa monitored unusual early-morning ‘radio chatter’ on Soviet Air Defence circuits while KAL-007 was straying over the Sea of Okhotsk. At 2.43 a.m., the Misawa station intercepted a message from a Soviet radar site at Burevestnik on Iturup Island in the Kuriles to the Military District HQ in Khabarovsk reporting that ‘an unidentified aircraft was heading toward Sakhalin’. Other radar sites, including at least two on Sakhalin, soon joined the refrain.⁸⁸⁸

Before dawn, Misawa was already ‘awash with enciphered messages’ and other intercepts. Soon after Soviet fighter pilots reported that ‘the target is destroyed’, the Project CLEF operators at Wakkanai, who had intercepted and recorded the communications between the pilots and their ground controllers, called Misawa ‘over an open and unsecured line’ to report the incident. An aircraft was ‘dispatched to Wakkanai to pick up the tape recordings and CLEF’s preliminary transcript for further analysis by the language experts at Misawa’. Tape-recordings made by the JASDF SIGINT unit at Wakkanai were also sent to Misawa later that morning, together with transcripts that had been translated from Russian into Japanese, which were then translated into English at Misawa.⁸⁸⁹

In addition to the *Landway* system, other VHF/UHF capabilities were constructed at Misawa in the late 1980s. Photographs taken in 1988 and 1989 show two new VHF LPA systems, each atop its own separate mast. By 1991, there was also a set of five tall steel masts, each with three large horizontal VHF antennas attached at different heights up the masts, with the 15 elements providing broad VHF coverage. The *Landway* system was inactivated in 1997, and the antennas removed by the early 2000s.⁸⁹⁰ The other VHF systems were removed around the same time. (None of these VHF/UHF systems was there in GoogleEarth imagery dated 30 September 2003).

⁸⁸⁷ Seymour Hersh, ‘*The Target is Destroyed*’, p. 47.

⁸⁸⁸ *Ibid.*, pp. 46, 56.

⁸⁸⁹ *Ibid.*, pp. 56, 61, 70.

⁸⁹⁰ ‘Google Earth’, *Ruminations of a Preacher*, 23 January 2007.

The SIGINT activities on Security Hill were completely reorganised on 1 October 1993. In 1992, Congress mandated the consolidation of all Service cryptologic elements, resulting in the formation of the Misawa Cryptologic Operations Center (MCOC). It was composed of the 301st Intelligence Squadron (which was the redesignated 6920th Electronic Security Group), the NSG Activity, the INSCOM's 750th Military Intelligence Company, and Company E of the USMC's Marine Support Battalion. The Air Force, Navy, Army and Marine cryptologic agencies had shared the S-1500 Operations Building since 1965, but they had essentially functioned as independent (or 'stove-piped') units. They now worked as 'one consolidated team' under the MCOC Director (the commander of the 301st Intelligence Squadron).⁸⁹¹ The NSGA commander served as the Vice Director. The position of Director of Operations rotated between USAF and Navy officers.⁸⁹² The official mission of the MCOC was 'to provide critical cryptologic information to the United States and allied military commanders, tactical war-fighters, host-nation agencies, and national level consumers'.⁸⁹³ It had 'a combined Watch Reporting Center that handles predominantly national but some tactical reporting'.⁸⁹⁴

The mission of the 301st Intelligence Squadron was to play 'a key role in building the MCOC as a dominating force to execute decisive information warfare shaping operations for tomorrow's frontier'.⁸⁹⁵

On 7 September 2000, the USAF's Air Intelligence Agency activated the 373rd Intelligence Group at Misawa as the superior intelligence command at Misawa. It had two squadrons, the 301st Intelligence Squadron and the 373rd Support Squadron. The 373rd Group became the Department of Defense's 'host service organization' for the MCOC. The Group was directly subordinate to the 70th Intelligence Wing at Fort Meade.⁸⁹⁶ The 373rd Intelligence Group maintained a detachment at Yokota Air Base.⁸⁹⁷

⁸⁹¹ Larry Tart, *Freedom Through Vigilance, Volume III*, p. 1211.

⁸⁹² Captain Barry L. Bernas, 'Misawa, Then and Now', Winter 1998, p. 5.

⁸⁹³ '301st Intelligence Squadron', (Air Intelligence Agency Mission Directive 1510, HQ Air Intelligence Agency, Department of the Air Force, 23 April 1999), at <http://www.docstoc.com/docs/168997283/AIAMD-1510---301ST-INTELLIGENCE-SQUADRON>.

⁸⁹⁴ Captain Barry L. Bernas, 'Misawa, Then and Now', Winter 1998, p. 5.

⁸⁹⁵ '301st Intelligence Squadron', (Air Intelligence Agency Mission Directive 1510, HQ Air Intelligence Agency, Department of the Air Force, 23 April 1999).

⁸⁹⁶ '373rd Intelligence Group – 373 IG History', *Misawa Air Base*, at http://www.misawa.af.mil/default.asp?org=associates_373rd&office=ig_history.

⁸⁹⁷ 'The Secret of His Success: Air Force Captain Named "Officer of the Year"', *The Guam Daily Post*, 9 March 2009.

The MCOC was renamed the Misawa Security Operations Center (MSOC) on 1 July 2003. The MSOC is also referred to as NSA Field Site F79F. It celebrated the 50th anniversary of SIGINT operations at Misawa, beginning with the arrival of the 1st RSM in January 1953, in September 2003. Its commander at that time was Colonel Fred W. Gortler, who had served at Security Hill as a junior USAFSS officer in the mid-1980s. It had over 900 personnel in 2003, about half of the peak number at Security Hill in the 1980s.⁸⁹⁸ On 9 January 2004, Colonel Gary Bender replaced Colonel Gortler as commander of both the MSOC and the 373rd Intelligence Group. The presiding officers at the change of command ceremony were Colonel Brian Storck, deputy chief of the DSRJ station at Yokota, and Colonel James O. Poss, commander of the 70th Intelligence Wing at Fort Meade.⁸⁹⁹

Colonel Gortler then replaced Colonel Poss as commander of the 70th Intelligence Wing, on 22 January 2004. He said at a ceremony at Fort Meade that:

Our intelligence is an absolutely essential ingredient in combat planning and execution. At our finest, we keep our national leadership fully informed, driving political and diplomatic processes aimed at deterring conflict and preventing war. When deterrence is not an option, our intelligence drives the application of combat battle, posturing America's defenders to achieve national objectives, all the while minimizing the loss of life not only to our force, but to the adversaries as well. We serve a truly great nation in a very exciting and challenging time'.⁹⁰⁰

In 2004, the 373rd Intelligence Group won the Air Intelligence Agency's Facility Innovation Award in the 'small unit category'. The award was for 'outstanding efforts' of its facility management team, which ensured that the 373rd IG always had 'adequate facilities... to support present and future mission needs'. Colonel Gortler, commander of the Group, said that he was 'humbled by the honor'.⁹⁰¹

Three members of the 373rd Intelligence Group were among the eight 'top performers' around the world honoured by the 70th Intelligence Wing for 'excellence' in 2004. One was a 'Morse block controller' with the 301st Intelligence Squadron, where he

⁸⁹⁸ Larry Tart, *Freedom Through Vigilance, Volume III*, pp. 1214-1215; Richard Dutko, *LinkedIn*, at <http://www.linkedin.com/pub/richard-dutko/41/556/5a5>; and Juliana Gittler, 'Security Hill Marks 50 Years of Silent Service', *Stars and Stripes*, 7 September 2003, at <http://www.stripes.com/news/security-hill-marks-50-years-of-silent-service-1.11105>.

⁸⁹⁹ William Bessemer, 'MSOC Changes Hands', *Spokesman*, Air Intelligence Agency, 1 February 2004, at <http://www.highbeam.com/doc/1G1-119900840.html>.

⁹⁰⁰ Kristina Brown, '70th Intelligence Wing Gets New Commander', *SoundOff*, 22 January 2004, at <http://www.ftmeadesoundoff.com/news/280/70th-intelligence-wing-gets-new-commander/>.

⁹⁰¹ Judy Sephus, '373 IG Unit Awards', *Spokesman*, Air Intelligence Agency, 1 February 2004, at <http://www.highbeam.com/doc/1G1-119900841.html>.

directed ‘a six-person work center and guaranteed successful acquisition of 289 national requirements’. The second was the superintendent for Plans and Programs at the 373rd IG. He ‘championed the request for \$130,000 funding for a 2,000-foot cable trough, paving the way for new global war on terrorism missions’. The third was a human resources management specialist with the 301st Intelligence Squadron, which in 2004 had 294 personnel.⁹⁰²

The 2010 Misawa Air Base Telephone Directory provides significant details of the SIGINT units located on Security Hill at that time. The office of the DSRJ and the Navy Information Operations Command Misawa (NIOC Misawa) occupied almost the whole of Building S-1500, the Operations Building opened in March 1965. The telephone number of the DSRJ office was 226-4250, while that of the NIOC commanding officer was 226-3754. The NIOC Operations Department, also called Department 30, the DIRSUP unit, was also in S-1500 (Tel. 226-9433). The MSOC, the 373rd Intelligence Group, the 301st Intelligence Squadron and the 373rd Support Squadron were co-located in Building S-1523, abutting the southern side of S-1500. The Army’s 403rd Military Intelligence Detachment was located in Building 1534, in the southern sector of Security Hill.⁹⁰³

In 2011, the 373rd Support Squadron at Misawa, commanded by Major Robert Parker, won the Air Force Intelligence, Surveillance and Reconnaissance Agency’s award for ‘the best communications and information systems operations’ in the Agency. An account of the award noted that:

The 373rd [Support Squadron] shoulders a considerable workload. It provides time-critical data to seven combatant commands and 15 intelligence agencies. It maintains a \$1 billion information technology infrastructure consisting of more than 150 mission systems, 1,000 servers and 40 communications circuits.⁹⁰⁴

In February 2014, US officials said that 500 personnel would be cut from the intelligence collection activities at Misawa over the next 18 months, with their intelligence units being inactivated or reassigned. These units were the USAF’s 373rd Intelligence Group, the 373rd Support Squadron, the 301st Intelligence Squadron, the NOIC, and the Army’s 708th Military Intelligence Detachment (which had replaced the 403rd MI Detachment). The

⁹⁰² Marilyn C. Holliday, ‘Wing Names Top Performers for 2004’, *Tale Feather*, January-June 2005, p. 16.

⁹⁰³ ‘Misawa Air Base, Japan: 2010 Telephone Directory’, at <http://www.misawa.af.mil/shared/media/document/AFD-100712-002.pdf>.

⁹⁰⁴ Wayne Amman, ‘Swindell Award Bound for Misawa’, *Air Force Print News Today*, 31 October 2011, at http://www.afisr.af.mil/news/story_print.asp?id=123277960.

cuts were reportedly part of the effort by Defense Secretary Chuck Hagel to create a ‘more fiscally conservative and efficient’ Department of Defense.⁹⁰⁵

The 301st Intelligence Squadron, which was formed on 1 October 1993 as the successor to the 6920th Electronic Security Group, departed Misawa in mid-2014. Its last commander at Misawa was Lieutenant Colonel Eric Monico. The Squadron was relocated to Joint Base Elmendorf-Richardson in Alaska, where it ‘[continued] its mission of providing intelligence in support of the defense of the United States and its allies’.⁹⁰⁶

These moves meant that by early 2015, some 65 years after the arrival at Misawa of the first USAFSS contingent in 1950, there will no longer be any Service presence at the station. The MSOC, wholly concerned since 2013 with the *Ladylove* SATCOM interception mission, will have ‘transitioned’ by early 2015 to an ‘all-civilian’ activity.⁹⁰⁷

The USAF has continued to use Misawa Air Base for airborne SIGINT operations on special occasions. For example, two RC-135s were sent to Misawa on 10 August 1998 in anticipation of the North Korean test flight of a *Taepodong-1* ICBM, which had been photographed on its launch pad by US imaging satellites in early August. The aircraft monitored the missile as it passed over the Sea of Japan, where the first stage separated, on 31 August.⁹⁰⁸ In August 1999, an RC-135S *Cobra Ball* aircraft was deployed to Misawa in expectation of a *Taepodong-2* ICBM test launch which did not eventuate.⁹⁰⁹

⁹⁰⁵ Travis J. Tritten, ‘Pentagon Budget Cuts Take First Toll in Japan’, *Stars and Stripes*, 26 February 2014.

⁹⁰⁶ ‘The 301st Intelligence Squadron Says “Sayonara” to Misawa’, *Air Force ISR Agency*, 27 June 2014.

⁹⁰⁷ Kenneth Takada, ‘NIOC Misawa Changes Command’, *DVIDS*, 11 July 2014, at http://www.dvidshub.net/news/135809/nioc-misawa-changes-command#.U_1npqNade5.

⁹⁰⁸ ‘U.S. Military Was Aware of Launch Beforehand’, *Mainichi*, 7 September 1998, p. 3.

⁹⁰⁹ ‘Japanese Media Cited on US Preps for Taepo Dong Launch’, (FBIS-EAS-1999-0804, 5 August 1999).

Plate 129
VHF/UHF LPAs, Misawa, October 1988



Source: Photo by Sato Yuji.

Plate 130
VHF/UHF LPA, Misawa, September 1989



Source: Sato Yuji.

Plate 131
VHF antennas, Misawa, 1991



Source: Sato Yuji.

Plate 132
VHF antennas, Misawa, 1991



Source: Courtesy of Owen Wilkes.

Plate 133
VHF antennas, Misawa, 1991



Source: Courtesy of Owen Wilkes.

Plate 134
VHF LPAs, Misawa



Source: Photo courtesy of Owen Wilkes.

56. The US Army at Misawa since the 1990s

The 750th Military Intelligence Battalion was reduced to a company in 1992, with the end of the Cold War and a decrease in personnel.⁹¹⁰ The official mission of the company was ‘to provide timely combat information and intelligence to tactical, operational and theater war-fighters as well as other higher echelon consumers through responsive SIGINT collection, processing, analysis, and reporting’.⁹¹¹ It remained subordinate to the 500th Military Intelligence Battalion at Camp Zama.

The 750th MI Company was reduced to a detachment in October 1997. It was deactivated on 16 June 2000 and replaced the same day by the 403rd MI Detachment, which ‘absorbed a portion of the 750th’s personnel’. It was reorganised as the 708th MI Detachment in 2009.⁹¹²

It was decided in early 2014 that the 708th Detachment would be inactivated and the Army presence at Misawa would cease, some 44 years after the establishment of the ASA Field Station at the base. A deactivation ceremony was held at the Tohoku Ballroom at Misawa Air Base on 6 June 2014, although the unit was to remain active until 28 October 2014.⁹¹³

⁹¹⁰ Patrick Ciccarone, ‘708th Military Intelligence Detachment Says Farewell’, *DVIDS*, 18 June 2014.

⁹¹¹ ‘Misawa Security Hill, March 1997’, at <http://199.245.17.152/corpus/terror/www-spynews-net/misawasecurityhill.html>.

⁹¹² Patrick Ciccarone, ‘708th Military Intelligence Detachment Says Farewell’, *DVIDS*, 18 June 2014; and ‘This Month in 35th Fighter Wing and Misawa Air Base History: June’, News, *Misawa Air Base*, 28 May 2014, at <http://www.misawa.af.mil/news/story.asp?id=123411702>.

⁹¹³ Patrick Ciccarone, ‘708th Military Intelligence Detachment Says Farewell’, *DVIDS*, 18 June 2014.

57. The US Navy at Misawa since the 1990s

In addition to the NSGA operations on Security Hill, the Navy moved its detachment of Fleet Reconnaissance Squadron One (FAIRECONRON ONE) (VQ-1), together with its Navy Reconnaissance Support Detachment (NAVRECSUPP DET) from Atsugi to Misawa Air Base on 13 May 1991.

Since the 1980s, VQ-1 Electronic Warfare Squadron had flown only EP-3 *Aries I* SIGINT aircraft. In 1991, the squadron received the first EP-3E *Aries II*, an upgraded version of the *Aries I* using modified P-3C airframes. The last EP-3E was delivered in 1997, when all the *Aries I* aircraft were withdrawn from service.

The NSGA activities at Misawa were realigned in September 1994. The Naval Reconnaissance Support Detachment (NAVRECSUPP DET) was abolished and its mission and manpower subsumed into the NSGA. The detachment had nine officers and 60 enlisted men as of 7 April 1994.⁹¹⁴

Fleet Air Reconnaissance Squadron Five (VQ-5) Detachment 5 was established at Misawa on 1 October 1994 'to provide support for 7th Fleet assets'. It was equipped with two ES-3A *Sea Shadow* electronic reconnaissance aircraft, which were deployed aboard the USS *Independence* aircraft carrier, based in Japan, when it was at sea. The VQ-5 Squadron was deactivated on 4 June 1999.⁹¹⁵

There were about 400 NSG personnel at Misawa in 1998. About 150 of these worked in the MCOC, while about 250 'conduct airborne, seaborne, submerged, and ashore (special warfare) Fleet Direct Support [and] maintain Navy and MCOC equipment'. In addition, the Misawa NSGA still had a detachment at Seoul, South Korea.⁹¹⁶

As of 9 September 1999, the NSG Activity at Misawa contained the following units: a Cryptologic Shore Support (CSS) Detachment, a Direct Support (DIRSUP) unit, and a Sea Duty Component, as well as the main body at the Joint Operations Center (JOC) or MCOC.

⁹¹⁴ Memorandum from the Commander, Naval Security Group Command, to the Chief of Naval Operations, 'Request for Disestablishment of U.S. Naval Reconnaissance Support Detachment (NAVRECSUPP DET) Misawa, Japan', 2 June 1994.

⁹¹⁵ 'Fleet Air Reconnaissance Squadron FIVE [VQ-5]', *Global Security.org*, at <http://www.globalsecurity.org/military/agency/navy/vq-5.htm>.

⁹¹⁶ Captain Barry L. Bernas, 'Misawa, Then and Now', [*Naval Cryptologic Veterans Association*] *Cryptolog*, Winter 1998, p. 5.

The NSGA also maintained a detachment at Kadena Air Base.⁹¹⁷ Three officers and 118 enlisted men were assigned to the JOC as of 15 October 1999.⁹¹⁸

VQ-1 detachment at Misawa was deactivated in March 2005, and its 36 members transferred to the squadron's base at Whidbey Island in Washington. A Navy spokesman said that the EP-3E flights at Misawa had decreased significantly since the move from Atsugi in 1991, and that they had become 'pretty infrequent'. He said that Kadena was now much more important for EP-3E missions, and attributed the shift to 'geography [and] world events [affecting] the places they need to go to gather intelligence'.⁹¹⁹

On 1 October 2005, the Naval Security Group Command was deactivated and replaced by the Navy Information Operations Command (NIOC), and the NSG Activity at Misawa was redesignated NIOC Misawa. Its official mission was as follows:

To provide and deploy trained Information Warfare Officers and cryptologic enlisted personnel and expertise to support Information Operations for Naval, Air, Joint, and Department of Defense forces. NIOC Misawa provides personnel to Fleet Maritime Reconnaissance and Patrol Aircraft and Misawa Security Operations Center (MSOC).⁹²⁰

The NIOC was a subordinate command to the US Navy's Naval Network Warfare Command (NNWC, or NETWARCOM) headquartered in Norfolk, Virginia. Its mission is to operate and defend the Navy's Internet systems and 'to deliver reliable, secure Net-centric and Space war-fighting capabilities in support of strategic, operational and tactical missions across the Navy'. It serves as Combined Task Force 1010 for the US Navy's Fleet Cyber Command, or 10th Fleet.⁹²¹

NIOC Misawa had two sub-units. CTG 1000.3 was a Service Cryptologic Component which contributed to the national-level *Ladylove* operation. CTG 1070.3 was responsible for Fleet and Theater Operations; it was subordinate to CTF 1070 at Hawaii.⁹²²

In June 2012, the outgoing NIOC commander, Commander Tyrone Ward, expressed his pride in 'the accomplishments [of] his sailors'. He said that 'ultimately, their efforts helped provide intelligence support to operational commanders engaged in the

⁹¹⁷ United States Department of the Navy, 'APO AP', 9 September 1999.

⁹¹⁸ United States Department of the Navy, 'NAVSECGRUACT Misawa JOC', 15 October 1999.

⁹¹⁹ Jennifer H. Svan, 'Surveillance Support Unit Based at Misawa Returning to States', *Stars and Stripes*, 24 March 2005, at <http://www.stripes.com/news/surveillance-support-unit-based-at-misawa-returning-to-states-1.30871>.

⁹²⁰ 'NIOC Misawa Mission', U.S. Navy, at <http://www.niocmisawa.navy.mil/>.

⁹²¹ 'NETWARCOM: Naval Network Warfare Command', U.S. Navy, at <http://www.netwarcom.navy.mil/>.

⁹²² 'Tenth Fleet Standing Forces', U.S. Navy, at <http://www.fcc.navy.mil/>.

Global War on Terrorism'. (Ward moved to Fort Meade, where he assumed 'a leadership role' at the NSA).⁹²³ Ward was succeeded by Captain Sean Kelley, who served until 10 July 2014.

Kelley was succeeded as commander by Commander Michael Elliot, whose principal task was to supervise the closure of the NIOC. Elliot was also commander of NIOC Yokosuka (CTG 1070-2), where he remained located. NIOC Misawa effectively became a temporary detachment of NIOC Yokosuka. It had about 80 personnel as of July 2014. It was scheduled to be closed around October 2014. Commander Elliot said that 'the final NIOC sailor' would depart Misawa in 'about the summer of 2015'. The change of command ceremony on 10 July was presided over by Captain Justin F. Kershaw, the Commander of Task Force (CTF) 1070 and the commanding officer of NIOC Hawaii.⁹²⁴

Commander Elliot said on 10 July 2014 said that the NIOC personnel would over the next several months 'continue the information dominance warfare support for the national mission in the Misawa Security Operations Center (MSOC), which will also be transitioning from a military-civilian team to an all-civilian workforce'.⁹²⁵

On 5 September 2014, the Chief of Naval Operations ordered the disestablishment of NIOC Misawa, with effect on 30 September. Its detachment at Seoul was reassigned to NIOC Hawaii. The order was 'in response to a National Security Agency directive of October 2012, which directed removal of all manpower resources from the NAVIOPCOM [NIOC] as part of a realignment of information operations responsibilities at Misawa'.⁹²⁶ On 10 October 2014, Commander Elliot and the remaining NIOC personnel at Misawa gathered at the Misawa Air Base Officer's Club to mark the official disestablishment of the NIOC.⁹²⁷

The official disestablishment ceremony on Security Hill was presided over by Rear Admiral Sean Filipowski, Director of Warfare Integration for Information Dominance at the Pentagon. He had served as Executive Officer of the NSGA at Misawa in 1999-2000. He said on 10 October that 'NIOC Misawa is, and will always be, remembered as a critical

⁹²³ Petty Officer 2nd Class Pedro Rodriguez, 'NIOC Misawa Changes Command', *DVIDS*, 15 June 2012.

⁹²⁴ Kenneth Takada, 'NIOC Misawa Changes Command'.

⁹²⁵ *Ibid.*

⁹²⁶ Memorandum from the Chief of Naval Operations, 'Disestablishment of Navy Information Operations Command, Misawa, Japan and Realignment of Navy Information Operations Command Detachment, Seoul, Korea', (OPNAV Notice 5400, 5 September 2014).

⁹²⁷ 'NIOC Misawa to be Disestablished 10 Oct 2014', *Facebook*, at <https://www.facebook.com/IDCsync/posts/10152734284624406>.

strand in our national defense and information dominance fiber'. One of the attendees, retired Rear Admiral Alex Miller, who had been Commanding Officer of NSGA Misawa from September 1993 to August 1996, said that 'time has passed, the mission has changed, and technology has now provided a new and cheaper means to provide the nation the information it needs'.⁹²⁸

Apart from the NIOC Misawa, CTF-72 moved from Kami Seya to Misawa in July 2003. It occupied Building 978 on the main base (Tel. 226-7200). It provides support for all US Navy P-3 *Orion* patrol, reconnaissance and SIGINT aircraft which continue to use Misawa Air Base for temporary deployments.

On 27 February 2014 contract for 11.7 million yen was awarded to American Engineering Corporation for the provision of a new air conditioning system for CTF-72's Building 978. The work included 'the replacement of all associated piping, controls, sensors, packaged evaporators and compressor/condensing units necessary to provide a complete and usable system', as well as 'modification and replacement of existing electrical systems to accommodate [the] new equipment'.⁹²⁹

Some 'two dozen' CTF-72 personnel moved to Atsugi in early 2010, where they joined the newly-established Maritime Fleet Coordination Center, a joint US Navy-JMSDF facility for expediting the exchange of P-3 maritime patrol information 'between the two navies'. One hundred and ten CTF-72 personnel remained at Misawa.⁹³⁰

⁹²⁸ Commander Mike Elliot, 'NIOC Misawa, Japan Disestablished', *America's Navy*, 14 October 2014, at http://www.navy.mil/submit/display.asp?story_id=83868.

⁹²⁹ 'Replace A/C System ACP-4 (CTF-72), Building 978, NAF, Misawa, Japan', *Commerce Business Daily*, 27 February 2014, at <http://www.cbd-net.com/index.php/search/show/20004620>; and 'Replace A/C System ACP-4 (CTF-72), Building 978, NAF, Misawa, Japan', FedBizOpps, Solicitation Number: N4008414B7001, 16 January 2014, at https://www.fbo.gov/?s=opportunity&mode=form&id=e8ebb82544ecef4aa0a63dac3f2acd79&tab=core&_view=0.

⁹³⁰ T. D. Flack, 'Navy Moving Two Dozen CTF-72 Personnel to Atsugi', *Stars and Stripes*, 20 January 2010

58. US Marine Corps (USMC) Company E at Misawa, 1971-2000

Company E of the USMC's Marine Support Battalion was relocated from Kami Seya to Misawa on 15 October 1971, after its supporting NSGA was transferred. The company initially had 40-50 Marines. It reached its peak strength of about 110 in the early 1990s. It established a Sub Unit 1 at Pyong Taek in South Korea on 1 September 1985, which had a 'full strength of 1 officer and 20 enlisted Marines' in May 1987. The company's mission as of the 1990s was 'to support the cryptologic mission of the Naval Security Group Activity and the Misawa Cryptologic Center while maintaining readiness for possible augmentation of Fleet Marine Force cryptologic and ground electronic warfare units'. The unit was deactivated on 30 November 2000, at which time it had just 34 personnel. It was reportedly deactivated because the USMC was moving 'to fewer and larger companies to allow more flexibility and focus on amphibious operations'.⁹³¹

⁹³¹ 'History of the Marines on Misawa's Security Hill', *MisawaJapan.com*, at <http://www.misawajapan.com/heritagehall/marines.htm>.

59. Operation Ladylove

Operation *Ladylove* is an NSA foreign satellite (FORNSAT) communications interception project, assigned to the US Air Force's Electronic Security Command (ESC) by DIRNSA on 31 March 1980. It was originally tasked with intercepting the down-links of Soviet *Raduga* and *Gorizont* geosynchronous and *Molniya* highly-elliptical communications satellites.⁹³² It was conceived in the 1970s, and was one of four such facilities located around the globe, the others being at Menwith Hill (code-named *Moonpenny*) in Yorkshire in the UK, Bad Aibling near Munich in Germany (code-named *Garlick*), and Rosman in North Carolina (which was closed in 1995). It has attracted considerable public attention since the mid-1990s because of reports about its participation in NSA's *Echelon* program, involving collection activities against civilian satellite communications. The *Ladylove* facility was operated by the 6920th Electronic Security Group (ESG) until 1993, when that unit was redesignated the 301st Intelligence Squadron, and is located on the southwest side of the AN/FLR-9 site. Over the past couple of decades, the *Ladylove* SATCOM radome farm replaced the AN/FLR-9 as the centerpiece of US SIGINT activities at Misawa.

Operation *Ladylove* has developed through several phases, beginning with *Interim Ladylove*. In January-March 1980, the NSA requested funding by Congress for 'the construction of operations facilities for interim Ladylove deployment' at Misawa. It informed Congress that 'this project is a key element of an important electronic surveillance system which must be implemented to keep pace with current technology'; that 'there are no existing facilities which can provide the intelligence to be derived from LADYLOVE'; and that 'failure to provide this facility will deny access to information which is essential to the overall U.S. intelligence effort'. It said that the design of the facility had begun in September

⁹³² Desmond Ball, *Signals Intelligence in the Post-Cold War Era: Developments in the Asia-Pacific Region*, (Institute of Southeast Asian Studies, Singapore, 1993), p. 12; William M. Arkin, *Code Names: Deciphering US Military Plans, Programs, and Operations in the 9/11 World*, (Steerforth, Hanover, New Hampshire, 2005), p. 413; 'Detailed History of the Air Intelligence Agency (AIA)', *6901st Special Communications Group*, at <http://www.6901st.org/history/history.htm>; and 'Harold P. Myers, John P. Williamsom, Gabriel G. Marshall and Benjamin T. Jones, *A Continuing Legacy: USAFSS to AIA, 1948-2010. A History of the Air Intelligence Agency and Its Predecessor Organizations*, (Air Force ISR Agency History Office, San Antonio, Texas, 6th edition, 2010), at <http://www.25af.af.mil/shared/media/document/AFD-101206-040.pdf>.

1979, and that it required funding of \$29.1 million in the FY 1981 and 1982 defence budgets.⁹³³

The *Interim Ladylove* system consisted of a 1,020 square-foot operations building, a 600 square-foot support building, and an equipment van, mounted on concrete pads, as well as two antenna systems. It was expected in January 1980 to have an initial operating capability in mid-1982. It was anticipated that ‘complete system installation’ would be achieved with the construction of ‘a new operations building’, which was to be funded in the FY 1983 budget.⁹³⁴ GTE Corporation was awarded the contract to install the interim system and assist with its maintenance and operation.⁹³⁵

In January 1983, the NSA proposed that Congress appropriate \$21.55 million in the FY 1964 budget for construction of ‘a 40,000 square foot, single story, windowless’ building, configured for a 25,000 square foot operations area and 15,000 square foot support area, ‘to house a major new collection and processing complex with associated antenna systems and support facilities’ for Project *Ladylove*. It told Congress that ‘there is a requirement to complete this project to meet an IOC [Initial Operating Capability] for the system in early 1987’. It stated that ‘this project is in support of various high priority requirements which requires access to new targets of interest’, and that ‘no existing collection system in the Far East has the capability to access targets for which this system is designed’.⁹³⁶

Aerial photographs taken in June 1982 show the foundations laid for four satellite communications (SATCOM) antennas. By September 1983, the four antennas had been installed and covered by protective radomes (the first is 28 metres in diameter, the second and fourth are 21 metres, and the third is 14 metres). A fifth was completed by May 1984. The diameter of this dish was 11.6 metres, with the radome being 20-metres. This is an AN/GSC-39 DSCS terminal, which operates as part of the US Department of Defense’s Defense Satellite Communications System (DSCS) and provides direct communications

⁹³³ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1981*, (U.S. Government Printing Office, Washington, D.C., 1980), Part 1, pp. 873-877; and US Congress, House of Representatives, Committee on Armed Services, *Hearings on H.R. 6493*, (U.S. Government Printing Office, Washington, D.C. 1980), p. 54.

⁹³⁴ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1981*, Part 1, pp. 873-877; and US Congress, House of Representatives, Committee on Armed Services, *Hearings on H.R. 6493*, p. 54.

⁹³⁵ Fred Fazzani, ‘USAFSS in Misawa, Japan’, *MyFamily.com*, at <http://www.myfamily.com/exec?c=home&htx=PopMember&popuserid=O8IUAE>.

⁹³⁶ US Congress, House of Representatives, Committee on Appropriations, *Military Construction Appropriations for 1984*, (US Government Printing Office, Washington, D.C., 1983), Part 1, pp. 1628-1629.

between Misawa and Fort George G. Meade in Maryland. Construction of a sixth dish also began in early 1984. It is shown without its radome in photographs taken in May 1984, but it was removed in 1985.

The SATCOM antennas were installed and tested by GTE Field Engineers before acceptance by the ESC's 6920th Electronic Security Group (ESG). The GTE COTR [Contracting Officer's Technical Representative] from May 1983 to May 1986, Leighton R. Johnson, produced 'Preventive Maintenance specifications and guidelines for large-scale operations, maintenance and repair of assigned equipment', as well as the 'Satellite Communications Ground Station training manual'.⁹³⁷

ManTech International Corporation, an advanced IT company based in Vienna, Virginia, joined GTE as the prime contractor for the *Ladylove* system around 1986. ManTech is known as a 'pure play' company, meaning that it works almost entirely for the US intelligence community, and mainly the NSA.⁹³⁸

In 1986-88, ManTech provided the Program Manager for a major upgrade of the *Ladylove* system.⁹³⁹ An ESC veteran who served with the 6920th ESG at Misawa from February 1986 to August 1991 has said that he worked 'to support LADYLOVE relocation and all of the Site Upgrades in the late 1980s'. The *Ladylove* project moved into its new Operations Building in 1987.⁹⁴⁰ (The original *Ladylove* building was still at the site in 1997, but had been removed by the early 2000s).⁹⁴¹

Eight more SATCOM antennas were installed in 1986-1991 (three in 1986-88, two in 1990 and three in 1991). The ninth (counting the aborted sixth), which became operational in 1988, is an AN/GSC-52 state-of-the-art medium terminal (SAMT) which also operates as part of the DSCS system and provides communications between Misawa and NSA HQ. (The dish is shown in photographs taken on 16 July 1987, before its radome was constructed). The AN/GSC-52 SAMT is described as 'a high capacity, medium-size SHF SATCOM terminal', which 'uses a concentric three-zone shielding design with fibre optics,

⁹³⁷ 'Leighton R. Johnson III', *Beyond*, at http://www.beyond.com/2D63E3DD-3868-461C-AF50-2539E3FEAC7F/export/text/2D63E3DD-3868-461C-AF50-2539E3FEAC7F_text.pdf.

⁹³⁸ Tim Shorrock, *Spies for Hire*, p. 264.

⁹³⁹ "Sr Systems Engineer or Technical Director or Peogram [sic] Manager', *FindJobz*, at <http://www.findjobz.com/resumes/key/remote-p-364>.

⁹⁴⁰ Steve Jones, 'USAFSS Misawa Family Guestbook' (Record No. 4409), at <http://v8v.us/kniga/index.php?page=178>.

⁹⁴¹ 'Google Earth', *Ruminations of a Preacher*, 23 January 2007.

and can operate and maintain traffic in EMP environments'.⁹⁴² In 1998, the Air Force advertised several positions in the Satellite Communications Section at Misawa, which it said was 'responsible for the operations and maintenance of the AN/GSC-52 terminal'. Personnel were wanted at various levels, including shift supervisors, equipment maintenance journeymen/craftsmen and equipment maintenance apprentices.⁹⁴³

HRB-Singer Company, which produced specialised signals processing equipment for the NSA, was also involved in the *Ladylove* activity in the mid-1980s. The company was taken over by Raytheon in 1988. It organised a training course on 'Ladylove/Enchilada Satellite Systems' for new Raytheon personnel at Misawa in 1989.⁹⁴⁴

On 4 September 1990, GTE/ManTech Joint Venture was awarded a contract by the Electronic Security Command (ESC) to provide 'maintenance and engineering support services for the LADYLOVE system' for 'a base year [1991] and four subsequent '1-year options'. Its principal contender was Bendix Field Engineering Corporation. The respective proposals were evaluated by the ESC in April-August 1990, which determined that, although the Bendix proposal was 'technically acceptable', GTE/ManTech's was 'exceptional'. It found that GTE/ManTech was 'superior in personnel qualifications and availability, technical approach, and past performance', and 'its offer was considered to be virtually risk-free'. The source selection authority which reviewed the evaluations agreed that 'GTE/ManTech's proposal represented the best overall value to the government'. It noted that the GTE/ManTech tender was 24 per cent higher than that of Bendix, but stated that its proposal 'offered a significantly superior approach in the areas of technical personnel and management and that its past performance on LADYLOVE provided further evidence that its technical approach was excellent'.⁹⁴⁵

Bendix filed a protest against award of the contract to GTE/ManTech with the US General Accounting Office (GAO) on 14 September 1990. It argued that 'the award to a higher-cost offer was improper' and that the ESC 'in its evaluation overemphasized GTE/ManTech's incumbent status'. Its protest was denied by the GAO on 16 January

⁹⁴² John Williamson (ed.), *Jane's Military Communications, 1996-97*, (Jane's Information Group, Coulsdon, Surrey, 17th edition, 1996), pp. 369-370.

⁹⁴³ 'Misawa SATCOM Technicians', at <http://www.geocities.com/Pentagon/Quarters/8110/techs.htm>.

⁹⁴⁴ Quinn M. Czichas, *Resume*, at http://msoexpert.tripod.com/quinn_res.html.

⁹⁴⁵ U.S. General Accounting Office (GAO), 'B-241156, Jan 16, 1991, 90-2 CPD 44', at <http://www.gao.gov/products/420547#mt=e-report>.

1991. The GAO found that ‘the record shows that GTE/ManTech was rated exceptional because its proposed team possessed an extremely high degree of balanced expertise, capability and familiarity with the specific effort’, and that ‘GTE/ManTech’s proposed supervisors, technicians and engineers had extensive formal training and in-depth expertise on LADYLOVE subsystems’. It also noted that ‘GTE/ManTech’s proposal demonstrated a “mission oriented” approach and contained numerous detailed plans for maintaining and upgrading the LADYLOVE program’.⁹⁴⁶

An Electronics Technician who worked on the *Ladylove* Project as an employee of ManTech Field Engineering Corporation from January 1989 to November 1991 has described his particular responsibilities as follows:

Provided component level repair on broad-range of RF electronics, analog and computer based systems. Computer controlled satellite communications, microwave links and HF receiving systems encompass the majority of the equipment. Wide-band analog and digital recorders were also very prevalent. Much of the equipment supported in this environment consisted of ‘one-of-a-kind’ government engineered devices built of discrete components. The ability to troubleshoot, read schematic diagrams and in some cases reverse engineer faulty circuitry was key in the maintenance of so many unique devices.⁹⁴⁷

In the early 1990s, with the end of the Cold War, the *Ladylove* operation at Misawa was evidently expanded to include, in addition to Russia’s geosynchronous and *Molniya* communications satellites, a ‘civilian communications mission’ involving international communications satellites, popularly known as *Echelon*. A history of the Air Intelligence Agency (AIA) for the calendar year 1994 noted that AIA’s participation in the *Echelon* program ‘had been limited to LADYLOVE operations at Misawa’. It noted that other *Echelon* units would be activated for the NSA at Sabana Seca in Puerto Rico, Sugar Grove in West Virginia, Yakima in Washington State and Guam in 1995.⁹⁴⁸

The fifteenth SATCOM antenna (still counting the dismantled one), was installed at Misawa in 1995. It is located in the northwest corner of the complex, near the two DSCS dishes. This dish is 11 metres and the radome 16 metres in diameter. Fourteen radomes are

⁹⁴⁶ Ibid.

⁹⁴⁷ ‘Resume: Engineer Technical Support’, *Post Job Free*, at <http://www.postjobfree.com/resume/abpqxb/vtc-tcp-ip-homepage-4000-harbor-bgp-san-jose-ca>.

⁹⁴⁸ Jeffrey T. Richelson, *The US Intelligence Community*, pp. 229-230; Jeffrey Richelson, ‘Desperately Seeking Signals’, *Bulletin of the Atomic Scientists*, March/April 2000, pp. 47-51; and ‘Activation of Echelon Units’, *History of the Air Intelligence Agency, 1 January-31 December 1994, Volume 1*, (Air Intelligence Agency, San Antonio, Texas, 1995) [National Security Archive], at <http://nsarchive.gwu.edu/NSAEBB/NSAEBB23/docs/doc12.pdf>.

clearly shown in photographs taken in 1997 and 1999.⁹⁴⁹ (In September 1999, as part of ‘Friends of Space Day’, the MCOC invited 116 students and seven teachers from an elementary school on the main base to visit the radome site; they were allowed inside the largest radome, where ‘there were lots of gaping mouths looking at the massive antenna structure’).⁹⁵⁰

One of the first international communications satellites to be monitored at Misawa was INTELSAT 802, launched on 25 June 1997 and stationed at 174° East longitude over the Pacific Ocean. This satellite could handle up to 112,500 simultaneous telephone conversations.⁹⁵¹

In the early 2000s, as GTE disappeared in a rash of corporate take-overs, Raytheon emerged as a major *Ladylove* contractor. In late 2004, for example, Raytheon advertised for a ‘senior hardware maintenance engineer’ who would be responsible for maintenance of ‘advanced level hardware and system integration support of the Ladylove mission’ at Misawa, which it described as involving ‘a complex communication system’.⁹⁵²

Raytheon had actually been involved with some aspects of the project since the mid-1990s. In particular, it was assigned responsibility for providing secure communications within the Misawa complex as well as connectivity between Misawa and designated customers. For example, a Senior Field Engineer who worked for Raytheon at Misawa from April 1996 to September 2001 was ‘responsible for overall maintenance of a Nortel Option 61C and ElectroSpace Systems Inc. RSU [Remote Switching Unit] Secure Digital Telephone Switch’.⁹⁵³

After a 12-year hiatus in the construction of new radomes, two more (the 16th and 17th) were installed in 2006-07. GoogleEarth imagery dated 21 March 2006 shows that foundations had been completed for them, adjacent to the eastern sides of the seventh and first radomes. Photographs taken in June 2007 showed the radomes being installed. The

⁹⁴⁹ For photographs of the Ladylove site showing the 14 radomes, see *Asahi Shimbun*, 15 March 1997; and *Air Force Magazine*, September 1999, p. 62.

⁹⁵⁰ SSgt. Alan Hubbard, ‘MCOC Hosts Radome Tour’, *Spokesman Online*, September 1999, at <http://fas.org/irp/agency/aia/cyberspokesman/99-09/atc9.htm>.

⁹⁵¹ James Bamford, *Body of Secrets*, p. 408.

⁹⁵² ‘139440: Hardware Maintenance Engineer, Raytheon, Misawa, Japan’, *Intelligence Careers*, October-November 2004, p. 9, at http://www.intelligencecareers.com/magazine/edition-international/2004-mags/2004_Oct-Nov.pdf.

⁹⁵³ ‘Sean St. Pierre’, *LinkedIn*, at <http://www.linkedin.com/pub/sean-st-pierre/9/88b/253>; and ‘Sean St. Pierre: Biographie’, *Yatedo*, at <http://www.yatedo.fr/p/Sean+St.+Pierre/normal/903d4e5d4fa0d7da65b16d127b776a3b>.

sixteenth dish measured 14 metres in diameter, with a 22-metre radome, while the 17th has a 19-metre radome. The crane operator said that the US site supervisor told him that the 14-metre dish weighed 12 tonnes.

Another two new ones were constructed in 2010. They were not there in 2009, but are shown completed in GoogleEarth imagery dated 17 October 2010. Both radomes, which are located at the southern end of the main line, are 21 metres in diameter. The twentieth, which is 11 metres in diameter, is shown in GoogleEarth imagery dated 4 April 2011. It is located south of the 17th radome, on the eastern side of the eighth.

In addition to the radomes, the GoogleEarth imagery of 4 April 2011 also shows three small dishes without radome covers. Two, with 2-metre and 4-metre diameters, are on the southwest side of the fourth radome; the third, on the northeast side of the fourth radome, is about four metres in diameter. The first two have been there since at least 2003, when GoogleEarth imagery first became available. The foundation for the third one is evident in imagery in 2003 and 2004, with the dish probably being installed soon after.

Table 2
***Ladylove* radomes, Misawa, 1983-2014**

	Date installed	Diameter	Comments
1	1983	18-m dish in 26-m radome.	Foundations of first four radomes constructed in mid-1982. Radomes completed in September 1983.
2	1983	11-m dish in 17-m radome.	
3	1983	4-m dish in 8-m radome.	
4	1983	11-m dish in 17-m radome.	
5	May 1984	11.6-m dish in 20-m radome.	AN/GSC-39 DSCS terminal.
6	1984		Construction incomplete in May 1984. Dismantled by 1985.
7	1986	11-m dish in 17-m radome.	
8	1987	11-m dish in 17-m radome.	
9	1988	11.6-m dish in 23-m radome.	AN/GSC-52 DSCS terminal.
10	1990	11-m dish in 17-m radome.	
11	1990	11-m dish in 17-m radome.	
12	1991	11-m dish in 17-m radome.	
13	1991	11-m dish in 17-m radome.	
14	Late 1991	9.5-m dish in 16-m radome.	Dish installed but no radome in September 1991.
15	1995	11-m dish in 16-m radome.	Located in the NW corner of the complex.
16	2007	14-m dish in 22-m radome.	Dish installed mid-2007.
17	2007	19-m radome.	Dish installed mid-2007.
18	2010	21-m radome.	Installed at SW end in 2010.
19	2010	21-m radome.	Installed at SW end in 2010.
20	2010	11-m radome.	Installed near SW end in 2010.

Plate 135
CDA and radomes, Misawa, 1983



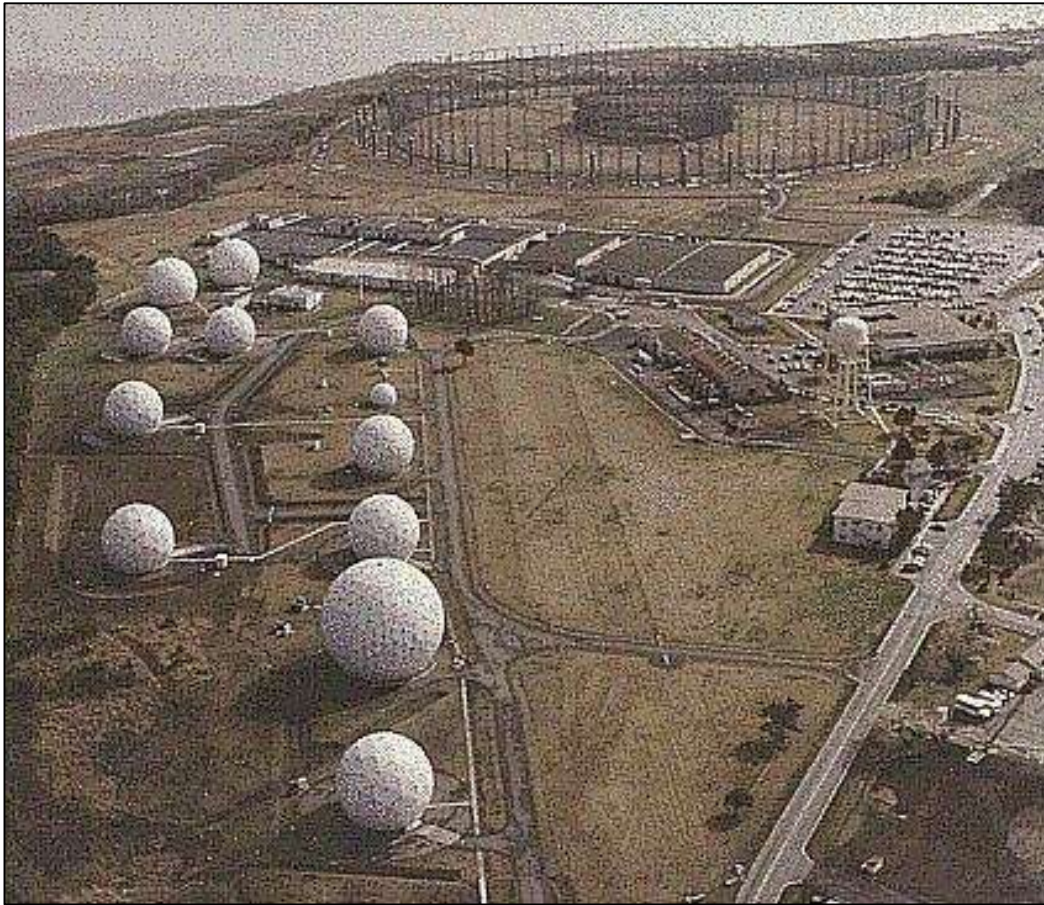
S
ource: Photo by Takoji Ozaki, courtesy of Owen Wilkes

Plate 136
Radomes at Misawa, 1983 (first four radomes)



Source: Photo by Takoji Ozaki.

Plate 137
Security Hill, Misawa, 1991 (12 radomes)



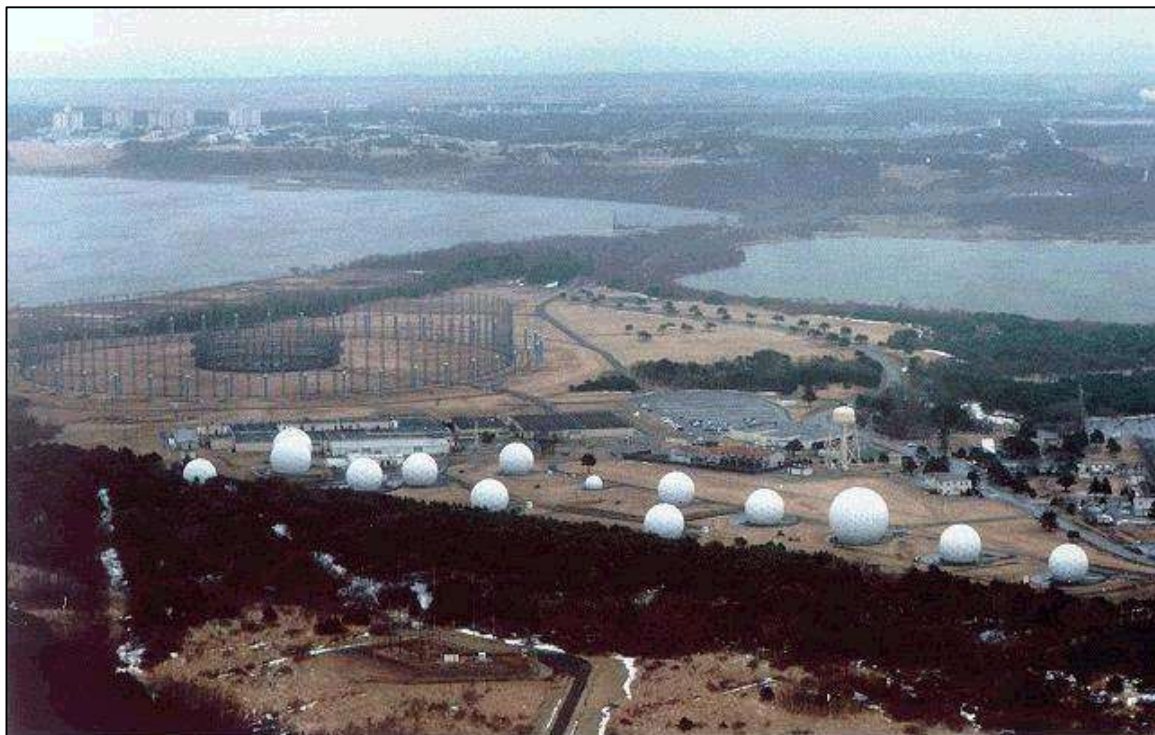
Source: http://www.anzwers.org/free/navyscpo/misawa_history_patches_photos.html.

Plate 138
9.5 metre Integrated Defense Digital Network (IDDN) dish, Misawa, 1991



Source: Owen Wilkes.

Plate 139
Security Hill, Misawa, March 1997 (14 radomes)



Source: *Asahi Shimbun*.

Plate 140
AN/FLR-9 CDAA and 14 radomes, Security Hill, Misawa, 1999



Source: *Air Force Magazine*, September 1999, p. 62.

Plate 141
Radomes at Misawa (installed in 1990, 1990 and 1983)



Source: Photo by Sato Yuji.

Plate 142
Radomes at Misawa (installed in 1983, 1986, 1983, 1983 and 1983)



Source: <http://www.aeronautics.ru/img/img004/misawa.jpg>.

Plate 143
Radomes at Misawa (1983, 1986 and 1983), June 2003



Source: Preston Keres, at <http://en.wikipedia.org/wiki/Image:Navy-Radome.jpg>.

Plate 144
Installation of new dish/radome, Misawa, June 2007



Source: http://image.blog.livedoor.jp/switch_diner/imgs/b/c/bc173a90.jpg.

Plate 145
Misawa, June 2007



Source: http://image.blog.livedoor.jp/switch_diner/imgs/3/5/351158ad.jpg.

Plate 146
Misawa (with 16 radomes), GoogleEarth imagery, 21 March 2006



Plate 147
Misawa, November 2008
(From left: Radomes 14, 8, 1, 7, 2, 3, 4, 13.)

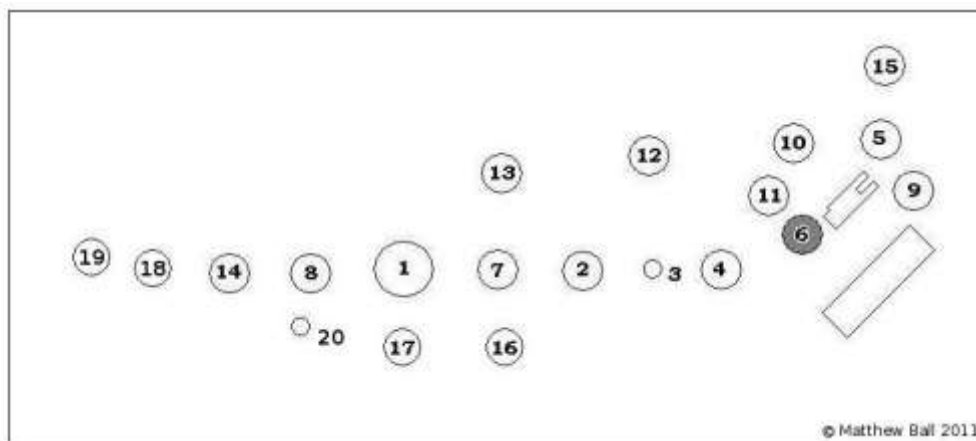


Source: 'AN/FLR=9, Misawa Images', *USAFSS Misawa Family*, at
http://usafssmisawa.com/misawa-images/albums/userpics/10001/normal_elephants-cage-2008.jpg.

Plate 148
Misawa (with 19 radomes),
GoogleEarth imagery, 4 April 2011, enumerated by Bill Robinson



Plate 149
Misawa radomes, 2011



Source: Matthew Ball.

Plate 150
Misawa (with 19 radomes), GoogleEarth imagery, 4 April 2011



60. Project *X-Keyscore* (XKS) at Misawa

Around 2010, the NSA initiated a project called *X-Keyscore* (often abbreviated to XKS), a Digital Network Intelligence (DNI) Exploitation or data-retrieval system. The system processes and analyses data collected at more than 150 sites around the world which monitor international Internet and satellite communications traffic. The system was produced by SAIC [Science Applications International Corporation] in Columbia, Maryland, and uses the Red Hat Enterprise Linux (RHEL) operating system.⁹⁵⁴ The Foreign Satellite (FORNSAT) collection sites, such as *Ladylove* at Misawa, are the most important contributor to the system. *X-Keyscore* stores ‘the full-take content’ of monitored Internet traffic at the collection site for 3-5 days, and retains meta-data for 30 days. Sub-programs such as *Marina*, *Pinwale* and *Traffickthief* extract and index the data according to the target and data types. *Marina* is the NSA’s Internet Metadata Repository, which stores Internet meta-data for up to one year. *Pinwale* stores recorded data for up to five years. *Traffickthief* ‘can both alert NSA analysts when their targets are communicating and trigger other software programs’.⁹⁵⁵

X-Keyscore is a ‘passive’ system in that it processes and stores the intercepted traffic but takes no action against the Internet users or networks being monitored. It serves a trigger or ‘tipping’ function, providing ‘real-time target activity’ to a smaller number of so-called ‘defensive’ facilities, such as at Yokota.⁹⁵⁶

⁹⁵⁴ Rich Jones, ‘NSA XKeyscore Produced by SAIC, Runs on RHEL’, *Cryptome*, 1 August 2013, at <http://cryptome.org/2013/08/nsa-xkeyscore-saic.htm>.

⁹⁵⁵ Ed Sutherland, ‘NSA’s Internet Snooping Covers “Nearly Everything” Done Online via XKeyscore App’, *iDownload.Blog*, 31 July 2013, at <http://www.idownloadblog.com/2013/07/31/nsa-internet-snooping/>; Sebastian Anthony, ‘XKeyscore: The NSA Program that Collects “Nearly Everything” That You Do on the Internet’, 1 August 2013, at *ExtremeTech*, 1 August 2013, at <http://www.extremetech.com/extreme/162739-xkeyscore-the-nsa-program-that-collects-nearly-everything-that-you-do-on-the-internet>; and James Ball, ‘NSA Stores Metadata on Millions of Web Users for Up to a Year, Secret Files Show’, *The Guardian*, 1 October 2013, at <http://www.theguardian.com/world/2013/sep/30/nsa-americans-metadata-year-documents>.

⁹⁵⁶ Ed Sutherland, ‘NSA’s Internet Snooping Covers “Nearly Everything” Done Online via XKeyscore App’, 31 July 2013; and J. Appelbaum, A. Gibson, J. Goetz, V. Kabisch, L. Kampf, and L. Ryge, ‘NSA Targets the Privacy-Conscious’.

61. Project *Botanicreality*, Misawa, 2007

Project *Botanicreality* was installed at the *Ladylove* site (called USJ-799) at Misawa in 2007 for intercepting video signals being transmitted from targeted satellites. It was developed by the NSA's Technical Exploitation Center (TEC) and the MSOC's System Development and Signals Development Laboratory after a video network was detected among satellite communications of interest. The video was initially unencrypted, but it 'then became encrypted over a period of two months.' A program called '*Saltydogs*' was 'originally... used to find carrier acquisitions and discover signal characteristics', which 'provided the frequency range, carrier rates, and a rough time up and time down for channel activity'.

In mid-April, the TEC installed the *Botanicreality* system, formerly code-named '*Uncanny*', at the *Ladylove* facility. According to an NSA Annual Report for 2007, 'within minutes of the system coming on line, BOTANICREALITY successfully collected its first signal matching the parameters of the encrypted (HIGH PRIDE) video [deleted] signals'. The operators found that 'the hub control channels are session encrypted while the outstations are bulk encrypted video'. The report stated that 'since providing the ability to automatically process these signals of interest at LADYLOVE, over 1,000 collects, totaling hundreds of hours of raw data, have been made and forwarded to cryptanalytic personnel... for further investigation'. It said that 'the collection of these signals' was not only required by the NSA but was also important to 'various special projects at the CIA'.⁹⁵⁷

⁹⁵⁷ 'TEC Successfully Installs BOTANICREALITY at LADYLOVE (USJ-799)', [American Civil Liberties Union], at <https://www.aclu.org/files/natsec/nsa/20140722/Report%20on%20the%20NSA-BND%20Cooperation%20Known%20as%20Joint%20SIGINT%20Activity%20%28JSA%29.pdf>.

62. 'Low-rate carriers', Misawa, 2009

An NSA memorandum in 2009 which described 'recent improvements' with respect to the *Ladylove* SATCOM interception system at Misawa noted that it was in the process of acquiring unprecedented capabilities for intercepting transmissions of low-rate carriers, such as the sort most frequently used by private subscribers, a manifestation of the 'collect it all' mentality prevalent at NSA. It stated that:

In the future, MSOC hopes to expand the number of WORDGOPHER platforms to enable demodulation of thousands of additional low-rate carriers.... These targets are ideally suited for software demodulation. Additionally, MSOC has developed a capability to automatically scan and demodulate signals as they activate on the satellites. There are a multitude of possibilities, bringing our enterprise one step closer to "collecting it all".⁹⁵⁸

⁹⁵⁸ Glenn Greenwald, *No Place to Hide*, pp. 97-98.

63. Civilian contractors at Project *Ladylove*, Misawa

Project *Ladylove* has become a massive data collection, storage, analysis and distribution system. Communications from a multitude of foreign satellites are intercepted, including long-distance voice telephony, e-mail traffic and computer-to-computer data transfers. The data is routed to different data-bases for storage and analysis, while at the same time being examined by programs such as *Echelon* and *X-Keyscore* for intelligence of immediate import, in some cases ‘tipping’ other programs and operators for intervention (as when a particular browser comes on-line, a targeted telephone number is being called, or an e-mail is sent to a listed address). The Net is itself used for routing data between the *Ladylove* programs and simultaneously to designated recipients elsewhere. It is an enormous data switching exchange, providing real-time intelligence for Network Warfare units and for subsequent intelligence, war-fighting and counter-terrorist activities.

The whole system is now operated for NSA entirely by civilian contractors. ManTech and Raytheon still have major roles, but many other IT companies are now also involved. In ManTech’s case, it was responsible for ‘Web database support’ in 2002-03.⁹⁵⁹ Senior executives of ManTech said in February 2006 that the company was a ‘national security pure-play’ operating ‘on the battlefield’ in the global war on terror, and that ‘[netcentric warfare is] right in the sweet spot we provide for our customers’.⁹⁶⁰

Raytheon’s role has grown progressively since the late-1980s. In addition to major project management responsibilities, it has produced numerous sub-systems used at the facility, including key elements of the Defense Red Switch Network (DRSN), switching systems and multiplexers. Raytheon has also ‘been integrally involved in X-Keyscore’.⁹⁶¹ Many components are products of Cisco Systems Inc, headquartered in San Jose, California, one of the world’s largest designers and producers of routers, servers, switching systems and other networking equipment. These components include Cisco Unified Call Manager (CUCM) servers and Cisco Internet Protocol (IP) telephone sets.

⁹⁵⁹ ‘Public Profiles: Jason France’, *Yatedo*, at <http://www.yatedo.com/p/Jason+France/normal/5387c9f6c2b17f375eb470393ac8d10b>.

⁹⁶⁰ Tim Shorrock, *Spies for Hire*, p. 284.

⁹⁶¹ Anthony Kimery, ‘Exclusive: NSA’s X-Keyscore Does Far More than Just Siphon the ‘Net, But is it Working?’ *Homeland Security Today*, 5 August 2013, at <http://www.hstoday.us/blogs/the-kimery-report/blog/exclusive-nsas-x-keyscore-does-far-more-than-just-siphon-the-net-but-is-it-working/f419986393a64eec5bf2630815d3da3e.html>.

SAIC, the producer of the *X-Keyscore* system, is a regular recipient of contracts for operations at Misawa. Leidos, a wholly SAIC-owned subsidiary, is also involved. On 30 June 2012, SAIC advertised for ‘a Hardware/Software Field Service Engineer to work at Misawa’. The job was ‘to perform the full range of system administration, database management and hardware break-fix maintenance tasks as directed by an on-site US Government Quality Assurance Evaluator’. The primary responsibilities were to ‘work with Microsoft Windows based operation system administration, installation, configuration, and reconfiguration’; to ‘install, load, and applications server configuration for ‘Theater Battle Management Core Systems-Unit Level (TBMCS-UL) system hardware/software’; and to operate a Database SQL [Structured Query Language] system and write Oracle Reports ‘to satisfy user articulated requirements’.⁹⁶²

On 30 August 2013, SAIC advertised for a ‘Hardware/Software Field Service Engineer supporting intelligence community programs’ at Misawa. The primary responsibility of the position was to ‘provide system and database administration to Windows (Oracle) and Unix based systems’. Applicants were required to have ‘5+ years of recent experience with Windows and UNIX operating systems; preference was given to those with ‘prior experience working in a military Network Support and/or Intelligence Center Systems Support function position’.⁹⁶³

On 23 February 2012, Leidos advertised for a Network Systems Engineer at Misawa. The primary responsibility was ‘installation of Cisco Routers and full line of switches’. The advertisement said that ‘candidates with CISCO certification and prior experience working in a DoD/US Military environment will receive preference’.⁹⁶⁴

Dell Inc.’s Dell Services Federal Government (DSFG) Inc., Edward Snowden’s former employer at the NSA’s Internet surveillance facility at Yokota, has a related contract at Misawa. For example, on 7 July 2014, DSFG advertised for a Systems Administrator at

⁹⁶² ‘Field Service Engineer Job’, *Engineering.com*, at http://www.engineering.com/Jobs/Engineering_Jobs_Search/jobctl/ViewPost/ID/228260/cntr/JJP.aspx.

⁹⁶³ ‘SAIC: Hardware/Software Field Service Engineer, SAIC – Misawa’, *LinkedIn*, 30 August 2013, at <http://jp.linkedin.com/jobs2/view/7015378>.

⁹⁶⁴ ‘Leidos: Network Systems Engineer (Job Number 302171)’, *ClearedJobs.net*, 23 February 2012, at https://clearedjobs.net/print_job/93074/print.

Misawa. Applicants were required to have ‘5 years Unix/Linux experience’, as well as a TS/SCI [Top Secret/Sensitive Compartmented Intelligence] security clearance.⁹⁶⁵

On 19 September 2013, CACI International, another ‘pure play’ company which works mainly for the NSA, advertised for a Data Entry Operator to work at Misawa. The operator would, ‘under direct supervision, enter, transcribe, and verify a variety of alphanumeric data onto an on-line, batch mode, or personal computer system’ and ‘maintain files, records, and chronologies of entry activities, some moderately complex in nature’. The position provided ‘the opportunity to make an immediate impact by providing the information technology and consulting solutions America needs to defeat global terrorism, secure our homeland and improve government services’.⁹⁶⁶

In the case of the DRSN, as described above with respect to the operation and maintenance of the DRSN/VoIP system at Yokota, several companies are involved. These include Raytheon, the manufacturer of the SDS, RSU, DSS-2 and DSS-2A switching systems used in the Network, as well as ITT Excelsis, SGIS and Serco Inc.⁹⁶⁷

The NSA may also maintain small subsidiary SATCOM interception sites elsewhere in northern Japan. ManTech’s Program Manager in charge of the *Ladylove* Upgrade at Misawa in 1986-88 has said that he also ‘supervised and participated in remote SIGINT operations in northern Japan’ during that period.⁹⁶⁸

⁹⁶⁵ ‘Systems Administrator’, Career Portal, *Military Spouse Employment Partnership*, 7 July 2014, at <https://msejobs.militaryonesource.mil/jobposting/systems-administrator-821>.

⁹⁶⁶ ‘Data Entry Operator 2 Job (Misawa, Aomori, JP)’, *Jobs77*, at http://www.japanjobs77.com/job/DATA_ENTRY_OPERATOR_2_Job_Misawa_AOMORI_JP-17657492.html.

⁹⁶⁷ ‘Raytheon: Sr Field Engineer 1 – DRSN’, *Raytheon Jobs*, at <http://jobs.raytheon.com/jobs/sr-field-engineer-i-drsn-job-pearl-harbor-hawaii-1-4707651>; Harry Wise, *LinkedIn*, ‘Telecom Tech at SGIS’, *Simply Hired*, 22 August 2014; and ‘DRSN/VoIP/VoSIP Operations and Maintenance Technician -- Misawa, Japan’, *Serco Careers*, at http://jobs.serco-na.com/united-states/other/jobid5978227-drsn_voip_vosip-operations-%EF%B9%A0-maintenance-technician%E2%80%93misawa%C2%B8-japan-jobs.

⁹⁶⁸ ‘Resume Details’, at <http://www.activehire.com/show-resume/6119397>.

64. The 3rd Space Surveillance Squadron, Misawa, 1990-2004

The 3rd Space Surveillance Squadron (SPSS), called Project RINGO, was a unit of the 21st Space Wing of the US Air Force Space Command based at Peterson Air Force Base east of Colorado Springs. It was initially formed as Detachment 3 of the 73rd Space Group on 10 August 1990, and became the 3rd SPSS on 1 October 1992. It was transferred from the 73rd Space Group to the 21st Space Wing on 26 April 1995. It functioned as part of the US Air Force's Deep Space Tracking System (DSTS), the mission of which was to detect, precisely track, and identify space objects in geosynchronous orbits by monitoring their signals, in support of the space control mission of the Commander-in-Chief of the US Space Command (USCINCSpace). The National Security Space Road Map (NSSRM) produced by the Pentagon in July 1999 noted, more specifically, that 'the Misawa Passive Radio Frequency (RF) space surveillance site tracks satellites using RF signal emissions to compute angle of arrival observations'.⁹⁶⁹

The Misawa DSTS station was one of two, the other being located at Feltwell Air Base in the UK. The DSTS was complemented by Low Altitude Space Surveillance (LASS) stations at Edzell in Scotland and Osan in South Korea which monitored the signals of low earth orbit (LEO). Command and control of the DSTS and LASS systems was exercised by the 2nd Command and Control Squadron (2CACS) located at Schriever Air Force Base, about 15 km east of Peterson AFB. Data was also forwarded to Detachment 3 of the 18th Intelligence Squadron at Schriever AFB, which provided 'specialized intelligence information necessary for the 3rd SPSS to perform its deep space surveillance mission', including maintenance of a catalogue of all objects in space.⁹⁷⁰

The Misawa DSTS facility consisted of three 39-metre (about 100-foot) diameter radomes, containing large parabolic dishes, situated on a 37-acre site on the northern side of the main air base. The contract for the first two radomes was awarded on 27 August 1989 and construction of these, together with an operations building and a 'support building', was completed on 16 March 1991. Construction of the third radome began on 31 October 1991

⁹⁶⁹ '3rd Space Surveillance Squadron [3rd SPSS]', *GlobalSecurity.org*, at <http://www.globalsecurity.org/space/agency/3spss.htm>; and 'Misawa', *National Security Space Road Map (NSSRM)*, [Federation of American Scientists], at <http://www.fas.org/spp/military/program/nssrm/initiatives/misawa.htm>.

⁹⁷⁰ '3rd Space Surveillance Squadron [3rd SPSS]', *GlobalSecurity.org* and 'National Security Space Road Map (NSSRM): Misawa'.

and was completed on 31 May 1992. The initial operating capability (IOC) was achieved in April 1994, and construction of 'the last site building' was completed August 1994.⁹⁷¹ A photograph taken of one of the first two parabolic dishes in November 1990, before it was covered with its radome, shows it had a diameter of 18 metres (about 60 feet). The Squadron was sometimes colloquially called the 'Home of the Great Pumpkin' because of the practice, begun in 1992, of decorating one of the enormous radomes to make it look like a pumpkin, using internal lights to make it appear orange, every Halloween.⁹⁷²

A member of the Squadron, Senior Airman Ronald Januszki, was named the '1999 Outstanding Airman of the Year' for the US Air Force's Air Intelligence Agency (AIA). He was described as 'a space systems operator' who had been the 'first in [the] space community to detect and report vital secondary emanation procedures on foreign platforms', significantly enhancing 'entity identification' analysis.⁹⁷³

The DSTS system was evidently also capable of tracking objects at relatively low altitudes. According to an article by the Misawa Bureau Chief of *Stars and Stripes*, for example, the 3rd SPSS tracked North Korea's *Taepodong-1* inter-continental ballistic missile (ICBM) test launch that overflew Japan on 31 August 1998.⁹⁷⁴

The Pentagon's NSSRM produced in July 1999 stated that the 'loss of Misawa would have a dramatic impact on the deep space surveillance mission and maintenance of the space catalogue'.⁹⁷⁵ However, the 3rd SPSS was inactivated on 20 February 2002 and the DSTS radomes dismantled soon afterwards.⁹⁷⁶ Terraserver imagery dated 1 October 2003 and GoogleEarth imagery dated 17 June 2004 shows the site completely bereft of all radomes and other buildings.

⁹⁷¹ '3rd Space Surveillance Squadron [3rd SPSS]', *GlobalSecurity.org*.

⁹⁷² 'The Great Pumpkin Spotted', *Spokesman*, October 1997, p. 19.

⁹⁷³ 'AIA Announces Airman of the Year', *Spokesman On-line*, August 1999, [Federation of American Scientists], at <http://www.fas.org/irp/agency/aia/cyberspokesman/99-08/januszki.htm>.

⁹⁷⁴ Wayne Specht, 'Eyes Shift Towards Heavens as Russian Space Station's Demise Approaches', *Stars and Stripes*, 26 January 2001, at <http://pstripes.com/jan01/ed012601j.html>.

⁹⁷⁵ 'Misawa', *National Security Space Road Map (NSSRM)*.

⁹⁷⁶ *21st Space Wing: Heritage of Honor*, History Office, 21st Space Wing, Peterson Air Force Base, Colorado, July 2003), at <http://chambleyab.com/PDF%20Files/21st%20Wing%20History.pdf>.

Plate 151
18-metre Deep Space Tracking System (DSTS) antenna,
Misawa, 6 November 1990



Source: Photo courtesy of Owen Wilkes.

Plate 152
Radome with 18-metre Deep Space Tracking System (DSTS) antenna,
Misawa, 1991



Source: Photo courtesy of Owen Wilkes.

Plate 153
3rd Space Surveillance Squadron, Misawa, 29 April 1997



Source: 「三沢基地・Misawa AB・米空軍・海軍、自衛隊」
[Misawa Base, Misawa AB, USAF, USN, SDF], Rimpeace,
at <http://www.rimpeace.or.jp/jrp/misawa/mindex.html>.

Plate 154
Three DSTS radomes,
3rd Space Surveillance Squadron, Misawa, 1999



Source: *Air Force Magazine*, September 1999, p. 62.

Plate 155
3rd Space Surveillance Squadron, Misawa, October 2006



Source: Neil Schwanitz, at
<http://www.pbase.com/alwaysomewhere/image/69478211>.

65. Project ICEBox at Amagamori, Misawa

With respect to satellite surveillance, the US Navy maintained for many years a Naval Ocean Surveillance System (NOSS) which consisted of constellations of small satellites deployed in circular low earth orbits (LEOs) with an altitude of about 450 km to detect and record the electronic emissions from vessels at sea, especially Soviet ships and submarines. These satellites were initially called *White Cloud*, *Parcae* and *Advanced Parcae*, with the associated ground stations called *Classic Wizard*. The current generation of US Navy LEO ELINT satellites, the first of which was launched on 8 September 2001, is code-named *Intruder*, with *Ranger* being the unclassified designation. The *Intruder* satellites detect and record land-based radars and other electronic emissions as well as sea-based emissions; the *Advanced Parcae* satellites also had this dual capability, but the detection systems aboard the *Intruders* are evidently considerably more advanced. Since the mid-1980s, there has been increasing participation of Army and Air Force SIGINT personnel in the program.⁹⁷⁷ The *Ranger/Intruder* satellites also have a ‘COMINT Mapping’ capability for systematically mapping the locations of communications transmitters in designated areas around the globe.⁹⁷⁸

A *Ranger* Training Department was established at Buckley Air Force Base in Denver, Colorado, in 1998 ‘to develop curriculum and address the burgeoning set of requirements associated with the 1999 standup of a large scale training effort’, in anticipation of the launch of the first *Intruder* satellite.⁹⁷⁹

The ground segment of the *Intruder* system consists of four ground stations code-named *ICEBox* (with ‘ICE’ being an acronym for Improved Collection Equipment), located at Vandenberg Air Force Base in California, in Germany, at Diego Garcia in the Indian Ocean, and at Amagamori, about two km northeast of the northeast corner of Lake Ogawara, or about 16 km north of Misawa.⁹⁸⁰

⁹⁷⁷ Jeffrey T. Richelson, *The US Intelligence Community*, pp. 209-211.

⁹⁷⁸ Michael K. Buckingham, ‘Resume’, at <http://www.mikesbawx.org/resume.doc>.

⁹⁷⁹ Memorandum from the Commanding Officer, Naval Security Group Activity, Denver, ‘Annual Command History Report for 1998’, (OPNAV Instruction 5450, Department of the Navy, 12 February 1999).

⁹⁸⁰ ‘ECHELON Station Griesheim with Darmstadt’, *Die Raven Homepage*, at <http://hp.kairaven.de/miniwahr/darmstadt-griesheim.html>; Jeffrey T. Richelson, *The US Intelligence Community*, p. 211; and ‘K-Engineering Services and Technical Support of the Single Consolidated Baseline (SCB) Equipment Suite’, *FedBizOps*, 29 October 2004, at https://www.fbo.gov/index?s=opportunity&mode=form&id=34708387d7cfe2178d03f78917479e38&tab=core&_cvview=0.

The *ICEBox* system was developed by the Naval Research Laboratory (NRL) in Maryland in 1995-96. The system has been described by the NRL as follows: ‘The Improved Collection Equipment in an enclosure (ICEbox) system is a transportable shelter-based national system collection capability’; it is used for ‘data collection, processing, and dissemination’. The Network Management Protocol was developed using Bridgeway Corporation’s EventIX software.⁹⁸¹ A contract was awarded to Mnemonics Inc for the design, development and testing of software for ICEBox’s UNIX/LINUX network-based system in 1995-96, after which it was transferred to Blazeware.⁹⁸² Technical assistance was provided by Allied Signal Technical Services Corporation, which designed the High Speed Data Distribution Unit and the Signal Boards in 1996, and which provided training on the ICEBox equipment.⁹⁸³ In 1998-2000, the training contract was given to XEN Corporation in Fairfax, Virginia.⁹⁸⁴

The *ICEBox* station at Misawa was established in 1995-97. For a brief period there was a sign at the entrance to the station which identified the facility as ‘NSGA Misawa ICEBox Compound’.⁹⁸⁵ (The authors have a photograph of this sign taken on 10 November 1997). In 1998, an employee of Allied Signal Technical Services Corporation who was working at the NRL, John G. MacDougall, received a ‘letter of appreciation’ from Captain Rand H. Fisher, the LEO Systems Program Manager at the NRO’s Program C (Navy ELINT satellites), for his ‘contributions to the recent successful upgrade of the deployed Improved Communications Equipment enclosure (ICEbox) system at Misawa Japan’. Captain Fisher noted that ‘the Misawa upgrade [was] a smoothly-executed operation’, and

⁹⁸¹ ‘Naval Research Lab: Special Facilities and Equipment Capability Data Cell’, at <http://digital.library.unt.edu/ark:/67531/metadc26865/m1/114/>; and Daniel C. Lee and M. Edwin Johnson, ‘Network and System Management of ICEbox through SNMP’, (Naval Research Laboratory, Washington, D.C., NRL/MR/8140-97-7945, 30 April 1997), at handle.dtic.mil/100.2/ADA325447.

⁹⁸² Blasé DiSano, *LinkedIn*, at <http://www.linkedin.com/pub/blase-disano/a/4a4/582>.

⁹⁸³ John Gordon MacDougall, ‘ICEbox System Board’, *MacHistory*, at <http://jmacbeaner.com/history/view.php?id=99&si=3&pg=1&dr=45>.

⁹⁸⁴ ‘John’s Employment Offer From XEN Corporation’, *MacHistory*, at <http://www.jmacbeaner.com/history/documents.cfm?srh=classic+wizard&bsrch=SEARCH>; and Memorandum from Cathy Swartz to Edwin Nesburg, XEN Corporation, 18 March 1998, *MacHistory*, at http://jmacbeaner.com/history/letters/20130902_2038_1.pdf.

⁹⁸⁵ Young Spiegel, ‘U.S. Listening Stations at Misawa Designed to Uncover Russian and DPRK Military Secrets’, at <http://www.globalview.cn/ReadNews.asp?NewsID=30553>.

said that it ‘was a major program effort and a significant step in improving support to DoD tactical forces and national strategic initiatives’.⁹⁸⁶

The Misawa station had two 10.5-metre diameter radomes.⁹⁸⁷ Three radomes are shown in a photograph taken in July 2000. Foundations for a third radome were completed in December 2004.⁹⁸⁸ By around 2006 it had five radomes, four of which were for *ICEBox* data reception and one of which housed a satellite communications dish. These had all been removed by 2007-08. However, GoogleEarth imagery dated 12 September 2012 shows that two new *ICEBox* radomes had been restored, on the foundations which had been built for the third and fourth *ICEBox* radomes. The 2010 edition of the Misawa Air Base Telephone Directory lists *ICEBox* Operations at the *ICEBox* ground station (0176-59-3458) and the *ICEBox* Operations Chief at the Misawa Air Base (226-2607).⁹⁸⁹

Operation of the ICEBox system involves substantial corporate support, beginning with the involvement of Allied Signal Technical Services Corporation and XEN Corporation at the outset, and Blazeware subsequently. In May 2001, a company called Exelis Inc was awarded a 15-year life-cycle contract to provide ‘operational maintenance and support’ of the system through to 23 May 2016. More specifically, ‘Exelis Inc resolves hardware, firmware, software, and database malfunctions or anomalies which affect ICEbox system performance or impact the collection of information or influence the transmission and reception of command and control data’.⁹⁹⁰

On 29 October 2004, the NRL advertised a contract for ‘engineering services and the continuing technical support’ for a Single Consolidated Baseline (SCB) for the LEO ELINT satellite system for the 5-year period until 30 September 2009. The SCB encompassed not only ICEbox, which it described as a ‘legacy system’, but also the

⁹⁸⁶ ‘Letter of Appreciation for John G. MacDougall’, *MacHistory*, at http://jmacbeaner.com/history/letters/20131121_59794_1.pdf.

⁹⁸⁷ 「増殖するピンポン玉 三沢について真実」東奥日報、2000年5月2日, [‘The Truth About Misawa: The Ping-pong Balls Which Multiply’, *Touou Nippon*, 2 May 2000], at <http://www.toonippo.co.jp/rensai/ren2000/misawa/msw0502.html>.

⁹⁸⁸ Grant Sattler, “‘Icebox’ Project Receives a “Warm” Navy Welcome”, *Pacific Engineer*, April 2005, pp. 16-17, at http://www.pod.usace.army.mil/News/Pacific_Engineer_1_.pdf.

⁹⁸⁹ ‘2010 Telephone Directory, Misawa Air Base, Japan’, p. 31.

⁹⁹⁰ Exelis Inc., ‘Professional Engineering Services’, *GSA Advantage*, March 2013, pp. 18-20, at https://www.gsaaadvantage.gov/ref_text/GS23F0190L/GS23F0190L_online.htm.

Improved Collection Equipment-Reduced (ICEcube) and the Simplified Improved Collection Equipment (SLICE).⁹⁹¹

⁹⁹¹ 'K-Engineering Services and Technical Support of the Single Consolidated Baseline (SCB) Equipment Suite', 29 October 2004.

Plate 156
Project ICEbox, Misawa, September 1998



Source: 東奥日報 [To O Daily] <http://www.toonippo.co.jp/rensai/ren2000/misawa/msw0502.html>.

Plate 157
Project ICEbox (three radomes), Misawa, July 2000



Source: Duncan Campbell.

Plate 158
Project ICEbox (three radomes), Misawa,
GoogleEarth imagery, 9 October 2003



Plate 159
Foundation for fourth radome,
Project ICEbox, Misawa, December 2004



Source: Photo by US Navy, in *Pacific Engineer*, 1,
at http://www.pod.usace.army.mil/News/Pacific_Engineer_1_.pdf.

Plate 160
Project ICEbox (radomes dismantled), Misawa, 2008



Plate 161
Project ICEbox (two radomes), Misawa,
GoogleEarth imagery, 12 September 2012



66. Deactivation of the AN/FLR-9 CDAA at Misawa, 2013

In November 2008, the *Asahi Shimbun* reported that the US was considering dismantling the AN/FLR-9 CDAA at Misawa, which it described as ‘a relic of the Cold War’. It said that the antenna system was used to intercept the radio communications of the former Soviet Union, China and North Korea, but ‘the end of the Cold War, along with the shift to digital communications, has rendered the [CDAA] obsolete’.⁹⁹²

In October 2012, the US announced that operation of the CDAA would cease ‘early’ in 2013 and that it would be dismantled sometime later in 2013, although it said that ‘no firm date has yet been established to begin physical demolition’.⁹⁹³ Terraserver imagery dated 10 June 2013 shows it still intact. US authorities at Misawa said that the ‘primary purpose [of the CDAA] during the Cold War was to receive and locate high frequency radio transmissions’, and that: ‘While it has performed its mission well for the last 46 years, worldwide communications have changed immensely during this time’.⁹⁹⁴

In late 2012, a US company, OTIE [Oneida Total Integrated Enterprises], was awarded a contract for \$299,985 to produce an engineering design package for the demolition. This included ‘plans and specifications for abatement and demolition of 142 antenna towers; over 1,500 pilings; two large steel and wood antenna support structures reaching 120 feet in height; a 5,000 square-foot concrete building; a 1,000 foot-long concrete tunnel; miles of coaxial cabling and communication lines; 7 transformers; and multiple vaults’, as well as cost estimates and a proposed schedule for the demolition work.⁹⁹⁵ Decommissioning of the CDAA was managed by staff from the Logistics Maintenance Branch of the Directorate of Logistics, Installations and Mission Support (A4) of the Air Force ISR Agency.⁹⁹⁶

⁹⁹² “‘Elephant Cage’: U.S. Considers Scrapping Misawa Cold War Antenna’, *Asahi Shimbun*, 3 November 2008.

⁹⁹³ Armando R. Limon, ‘Misawa to Tear Down Massive “Elephant Cage” Antennae’, *Stars and Stripes*, 19 November 2012; and ‘U.S. Military’s “Elephant Cage” Antenna to be Razed’, *Japan Times*, 22 November 2012, at http://www.japantimes.co.jp/news/2012/11/22/national/u-s-militarys-elephant-cage-antenna-to-be-razed/#.Uj_kUX-Kq9J.

⁹⁹⁴ “‘Elephant Cage’ Antennas to be Axed’, *Japan Times*, 8 October 2012.

⁹⁹⁵ OTIE, ‘Engineering Design Support for Demolition of the FLR 9 Antenna Array (“Elephant Cage”), Misawa AB, Japan’, at <http://otie.com/projects/infrastructure-and-structural-engineering/structural-engineering/infrastructure-and-structural-engineering-structural-engineering-misawa-ab-japan/>; and OTIE, *Marketing Booklet 2014*, p. 19, at <http://otie.com/wp-content/uploads/2013/03/OTIE-Marketing-Booklet-2014.pdf>.

⁹⁹⁶ Harold P. Myers, John P. Williamson, Gabriel G. Marshall and Justin M. Henderson, *History of the Air Force Intelligence, Surveillance, and Reconnaissance Agency, 1 January – 31 December 2013. Volume 1: Narrative and Appendices*, (25th Air Force History Office, Lackland Air Force Base, San Antonio, Texas), p. 127.

Dismantling of the AN/FLR-9 began on 15 October 2014. Officials said that it had been delayed by ‘contracting and funding issues’. It was reported that ‘the demolition project will bring an additional \$4.97 million into the Japanese economy and employ more than 250 Japanese nationals’, and that the process was expected to be completed in September 2015.⁹⁹⁷ The CDAA was dismantled in January 2015, but the site would take many months to restore.⁹⁹⁸

⁹⁹⁷ Erik Slavin, ‘Misawa Begins Dismantling Its “Elephant Cage”’, *Stars and Stripes*, 15 October 2014, at <http://www.stripes.com/news/pacific/japan/misawa-begins-dismantling-its-elephant-cage-1.308446>; and Airman Jordyn Rucker, ‘Iconic “Elephant Cage” Laid to Rest’, *U.S. Air Force*, 17 October 2014, at <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/518691/iconic-elephant-cage-laid-to-rest.aspx>.

⁹⁹⁸ Ronald F. Stark, ‘The Last Warrior Falls: Misawa AN/FLR-9 Demolition’, *YouTube*, 14 January 2015, at https://www.youtube.com/watch?v=KMCF_McXfAg.

Plate 162
Dismantlement of the CDAA, Misawa, 9 January 2015



Source: Ronald F. Stark, 'The Last Warrior Falls: Misawa AN/FLR-9 Demolition', *YouTube*, 14 January 2015, at https://www.youtube.com/watch?v=KMCF_McXfAg.

Plate 163
Dismantlement of the CDAA, Misawa, 9 January 2015



Source: Ronald F. Stark, 'The Last Warrior Falls: Misawa AN/FLR-9 Demolition', *YouTube*, 14 January 2015, at https://www.youtube.com/watch?v=KMCF_McXfAg.

67. Installation of a ZENGARDEN antenna system at Misawa, 2011

In 2011, the Logistics Maintenance Branch of the Air Force ISR Agency's A4 Directorate 'successfully tested a ZENGARDEN antenna... as the replacement system for the AN/FLR-9'. According to the Air Force Intelligence, Surveillance and Reconnaissance Agency's (AFISRA) official history for 2013, 'plans called for the MSOC and AF ISR Agency's 301 IS to fully transition to the ZENGARDEN/L-array antenna system by the end of calendar year 2013 to replace the AN/FLR-9 CDAA'.⁹⁹⁹

⁹⁹⁹ Harold P. Myers, John P. Williamson, Gabriel G. Marshall and Justin M. Henderson, *History of the Air Force Intelligence, Surveillance, and Reconnaissance Agency, 1 January – 31 December 2013*, p. 127.

68. Project *Assett* at Misawa, 1997-present

Project *Assett* was a new antenna system constructed in 1997-98. It used some of the cables from the defunct *Landway* antennas.¹⁰⁰⁰ It is a circularly-disposed array, located on the western side of the *Ladylove* radomes, and consisting of two concentric circles, each with sixteen 10.4 metre poles. The diameter of the outer ring is about 50 metres. The fenced, square compound, was first visible in GoogleEarth imagery dated 30 September 2003. The antenna elements are clearly shown in GoogleEarth imagery dated 5 April 2011. Terraserver imagery dated 10 June 2013 shows a new building just outside the northeast part of the CDAA compound. It had not been there in June 2012.¹⁰⁰¹

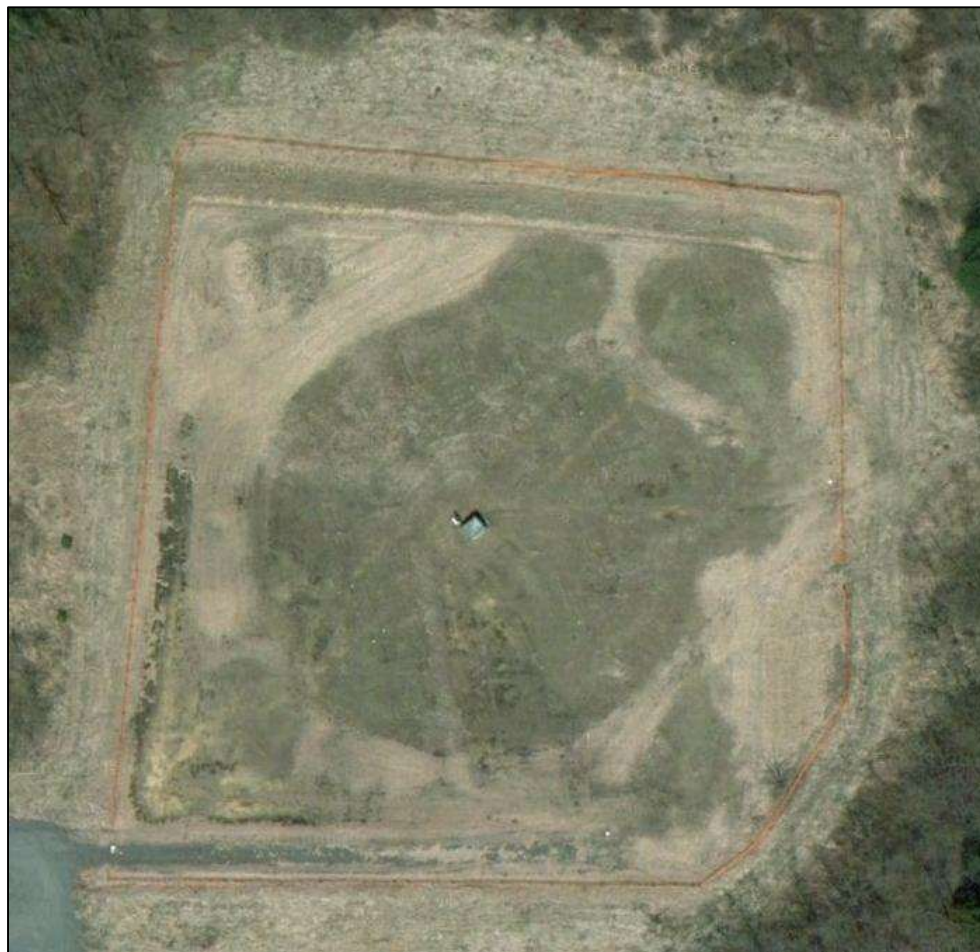
In addition, a small radome, about 5.5 metres in diameter, was installed south of the CDAA at the beginning of the 2000s. It is visible in GE imagery dated 30 September 2003 and 5 April 2011, and Terraserver imagery dated 28 June 2012, but is gone in Terraserver imagery dated 10 June 2013.¹⁰⁰²

¹⁰⁰⁰ 'Google Earth', *Ruminations of a Preacher*.

¹⁰⁰¹ Correspondence from Bill Robinson, 4 July 2014 and 5 July 2014.

¹⁰⁰² Correspondence from Bill Robinson, 4 July 2014.

Plate 164
Project Assett, Misawa, GoogleEarth imagery, 5 April 2011



69. Yokosuka

The US Navy base at Yokosuka housed the Navy's largest and most important SIGINT facility, maintained by Naval Communications Unit-35 (NCU-35), from April 1946 until December 1952, when it moved to Kami Seya. It has never since been bereft of SIGINT activities of some sort or another. NCU-38, which maintained a Signal Analysis Center, was stationed at Yokosuka from 1951 to 1956.¹⁰⁰³ A Naval Communications Facility (NAVCOMMFAC) was established on 15 January 1960; it became Naval Communications Station (NCS) Yokosuka in 1961. A COMSEC unit, called COMSEC 702, was established in September-October 1962.¹⁰⁰⁴

On 1 August 1969, all NSG elements at Yokosuka were consolidated into one Detachment, assigned to NSGA Kami Seya for command purposes. In June 1971, when the NSG Activity was established at Misawa and Kami Seya was downgraded to a Detachment, Yokosuka became a Detachment of NSGA Misawa. It became a Detachment of Kami Seya again in January 1989. The detachment was upgraded to an NSGA by order of the US Navy's Chief of Operations on 9 February 1995, with effect on 1 June 1995. Several other SIGINT-related units were also transferred from the deactivated station at Kami Seya, such as the Signals Analysis Laboratory (30 Department).¹⁰⁰⁵

Two officers and 34 men were stationed at NSGA Yokosuka in September 1999. The NSGA also maintained an Electronic Counter-counter Measures (ECCM) Section, a Cryptologic Shore Support Detachment and a Direct Support unit at Yokosuka at that time.¹⁰⁰⁶ A detachment from Yokosuka was established at Yongsan Garrison, Seoul, on 1 October 1997.¹⁰⁰⁷

The NSG Command at NSA HQ at Fort Meade was inactivated on 30 September 2005, to be replaced by the Information Operations Directorate of the Naval Network Warfare Command (NAVNETWARCOM) on 1 October 2005. The NSGAs were redesignated Naval Information Operations Commands (NIOCs). NIOC Yokosuka's detachment at Seoul was renamed NIOD Seoul. The mission of the NIOC at Yokosuka is

¹⁰⁰³ Bill Lockert, 'Yokosuka, Japan NCU-38, 1951-1956; Tokyo, Japan NCU-38, 1957-59'.

¹⁰⁰⁴ 'Naval Security Group Station History', *The Worldwide CT Community and Our Naval Security Group*.

¹⁰⁰⁵ Jay R. Browne, 'Kami Seya – The Last Years', *NCVA Cryptolog*, (Kami Seya Special Edition, Fall 1997), pp. 45-46.

¹⁰⁰⁶ United States Department of the Navy, 'NAVSECGRUACT Yokosuka', 9 September 1999.

¹⁰⁰⁷ 'Naval Security Group Station History', *The Worldwide CT Community and Our Naval Security Group*.

‘to support Signals Intelligence (SIGINT) and Information Operations (IO) for Naval surface, sub-surface, and Coalition forces’; to ‘operate and maintain a Global Signals Analysis Lab (GSAL)’; and to ‘provide signals analysis and IO support for units operating in the Western Pacific theater’.¹⁰⁰⁸

On 29 January 2010, the US Tenth Fleet was recommissioned as Fleet Cyber Command (FLTCYBERCOM), located at NSA HQ at Fort Meade, with the mission ‘to serve as central operational authority for networks, cryptologic/signals intelligence, information operations, cyber, electromagnetic and space domains’.¹⁰⁰⁹ NIOC Yokosuka was then also designated CTG 1070.2, responsible for Fleet and Theater cyber-warfare operations, subordinate to CTF 1070 in Hawaii (and organisationally comparable to CTG 1070.3 at Misawa).¹⁰¹⁰

On 19 July 2013, Commander Michael Elliot was appointed commander of NIOC Yokosuka (CTG 1070-2), replacing Commander Mike Douglas.¹⁰¹¹ He had previously served at the US Cyber Command at Fort Meade (2012-2013), and had been chief of the Operations Department of the Direct Support (DIRSUP) Division at Yokosuka in 1998-2001.¹⁰¹² On 10 July 2014, Commander Elliot was also appointed commander of NIOC Misawa, which effectively became a temporary detachment of NIOC Yokosuka, until the planned closure of the Misawa unit ‘in the autumn of 2014’.¹⁰¹³

On 29 September 2014, the Chief of Naval Operations directed that the FLTCYBERCOM be renamed the Navy Information Dominance Force (NAVIDFOR), which also subsumed the Office of Naval Intelligence, with effect from 1 October 2014. The FLTCYBERCOM unit at Yokosuka was renamed NAVIDFOR FIAF [Fleet Intelligence Adaptive Force] Detachment.¹⁰¹⁴

¹⁰⁰⁸ ‘Welcome to Navy Information Operations Command Yokosuka’, *NIOC Yokosuka Ja*, at <http://www.nioc-yokosuka.navy.mil/>.

¹⁰⁰⁹ *U.S. Fleet Cyber Command, U.S. Tenth Fleet*, at <http://www.fcc.navy.mil/>.

¹⁰¹⁰ ‘Tenth Fleet Standing Forces’, *U.S. Fleet Cyber Command, U.S. Tenth Fleet* at <http://www.fcc.navy.mil/>.

¹⁰¹¹ ‘U.S. NIOC Yokosuka Change of Command’, *I Like The Cut Of His Jib*, 19 July 2013, at <http://navycaptain-therealnavy.blogspot.com.au/2013/07/us-nioc-yokosuka-change-of-command.html>.

¹⁰¹² Mike Elliot, *LinkedIn*, at <http://www.linkedin.com/pub/mike-elliott/88/978/395>.

¹⁰¹³ Kenneth Takada, ‘NIOC Misawa Changes Command’, *DVIDS*, 11 July 2014.

¹⁰¹⁴ Memorandum from the Chief of Naval Operations, ‘Rename Navy Cyber Forces, Suffolk, VA and Detachments and Modify Mission’, (OPNAV Note 5400, Department of the Navy, 29 September 2014), at <http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-400%20Organization%20and%20Functional%20Support%20Services/5400.2308.pdf>; and Memorandum from the Chief of Naval Operations, ‘Realignment of Administrative Command of U.S. Fleet

A Center for Information Dominance (CID) is also located at Yokosuka. Its mission is ‘to deliver full spectrum Cyber Information Warfare and Intelligence Training to achieve decision superiority’. Its *Facebook* site says that it provides the ‘Seventh Fleet with the finest trained, highly professional and dedicated Information Warfare Professionals’.¹⁰¹⁵

Cyber Command Subordinate Activities’, (OPNAV Note 5400, Department of the Navy, 29 September 2014), at

<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-400%20Organization%20and%20Functional%20Support%20Services/5400.2316.pdf>.

¹⁰¹⁵ ‘Welcome to CID Learning Site Yokosuka’, *CID Learning Site Yokosuka*, at <http://www.netc.navy.mil/centers/ceninfodom/yokosuka/>; and ‘Center for Information Dominance Learning Site Yokosuka’, *Facebook*, at <https://www.facebook.com/CIDLSYokosuka?ref=stream>.

Plate 165
NIOC Yokosuka, 2005-present



Plate 166
NIOC/US Tenth Fleet, Yokosuka, 2010-present



70. The closure of Camp Hanza, 1996-2007

The Navy initially considered closing NSGA Hanza in the early 1980s. Captain Donald L. Currie, the commanding officer from October 1983 to August 1985, has said that he ‘was ordered to Hanza to close it down’, but that ‘shortly after my arrival, NSA decided to make a major investment in Hanza’s future, and instead of closing Hanza down, we were very busy expanding the mission’.¹⁰¹⁶ By 1993, NSGA Hanza had been converted to a ‘Remote Collection Facility’, whereby it was operationally controlled by the Regional SIGINT Operational Center (RSOC) at Kunia, Hawaii, where all the processing and analysis was also undertaken.¹⁰¹⁷ In the mid-1990s, it had 11 officers, approximately 250 enlisted personnel, and four ‘U.S. civilian personnel’, as well as 32 Japanese Nationals.¹⁰¹⁸

However, the high profile site became a casualty of the rising discontent among the Okinawan people about the disproportionate US military presence on the island. More than half the US forces in Japan were based on Okinawa, and about 75 per cent of the land occupied by US forces was on Okinawa. In November 1995, a US-Japan Special Action Committee on Okinawa (SACO) was established to develop recommendations for the US and Japanese Governments concerning ways to ‘realign, consolidate and reduce US facilities and areas’ on Okinawa, in order ‘to reduce the burden on the people of Okinawa’.¹⁰¹⁹

Hanza was particularly vulnerable to closure because of its peculiar land lease conditions. In 1976, the Japanese Government had arranged 20-year leases with numerous owners of small parcels of land that comprised the site; these expired on 31 March 1996. An anti-base activist, Chibana Shoichi, owned a 236 square metre plot, or 0.05 per cent of the station site, and refused to renew his lease. He said that he objected to ‘the one-sided use’ of the station. Chibana was already famous (or infamous to the Japanese right) for burning the Hinomaru flag at the National Athletic Meet in 1987.¹⁰²⁰ His stand over the Hanza land was

¹⁰¹⁶ Donald L. Currie, ‘1983-1985’, p. 8, at *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 3, at http://www.navycthistory.com/images/Oki_page_8_big.jpg.

¹⁰¹⁷ David Starling, *LinkedIn*, at <https://www.linkedin.com/in/azence>.

¹⁰¹⁸ ‘Our Mission’, *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 3.

¹⁰¹⁹ ‘The SACO Final Report by Minister for Foreign Affairs Ikeda, Minister of State for Defense Kyuma, Secretary of Defense Perry, Ambassador Mondale’, 2 December 1996, at <http://www.mofa.go.jp/region/n-america/us/security/96saco1.html>.

¹⁰²⁰ See Norma Field, *In the Realm of a Dying Emperor*, (New York: Vintage, 1991), Part 1; and Chibana’s statement to the court in his subsequent trial in Norbert Preining, ‘Chibana Shoichi – Burning the Rising Sun’,

supported by the Yomitan Town Council and the Governor of Okinawa, Masahide Ota. The Japanese Government was revised the Special Land Use Law to force Chibana to accept continuation of the lease, for which he was paid 676 yen per day.¹⁰²¹ While Chibana protested, security at the site was enhanced. An additional security fence was erected around the outer perimeter of the CDAA ground plane on 1 April.¹⁰²²

On 14 May, Chibana was allowed a 2-hour visit his property. He said that he was ‘finally able to hold my head up and go in through the front gates’, and that he was ‘very happy’. He took his shoes off as he ‘set foot on land that neither he nor his relatives had been allowed on for forty years’. He was accompanied by about 200 supporters, who had to remain outside the new fence.¹⁰²³

The SACO released an Interim Report on 15 April 1996, which stated that the Sobe Communications Site would be returned ‘once a new site is constructed at Camp Hansen (Central Training Area) in the next five years’.¹⁰²⁴ The SACO Final Report, released on 2 December 1996, included the decision to ‘relocate antenna facilities and associated support facilities [from the Sobe Communications Site] to Camp Hansen by the end of FY 2000’, i.e., 31 March 2001.¹⁰²⁵

The official Hanza decommissioning ceremony took place on 10 September 1997. It was attended by Rear Admiral Thomas F. Stevens, Commander of the NSG, who said that ‘NSGA Hanza has helped preserve many years of peace by providing timely support to Fleet and national consumers’, and that NSGA Hanza’s ‘trademark’ was an ‘exceptional level of

There and back Again, 6 January 2015, at <https://www.preining.info/blog/2015/01/chibana-shoichi-burning-the-rising-sun/>.

¹⁰²¹ David Allen, ‘U.S. to Continue Using Okinawa Site Pending Suit’, *Stars and Stripes*, 7 February 1996, p. 3; David Allen, ‘Japan Offers Rent, But Protesting Landowner Refuses’, *Stars and Stripes*, 3 April 1996.

¹⁰²² ‘Fortress Hanza – Teamwork’, *NCVA Cryptolog*, (Vol. 18, No. 1), Winter 1997, p. 1.

¹⁰²³ Nicholas D. Kristof, ‘Okinawan Landlords Seek to Evict U.S Military Bases’, *New York Times*, 15 May 1996, p. 10; David Allen, ‘Protestors Picnic on Oki Base’, *Stars and Stripes*, 16 May 1996, p. 1; and ‘Landowner Visits Property on Base; Thorny Legal Question Remains’, *Okinawa Times*, 20 May 1996, at <http://www.okinawatimes.co.jp/eng/19960520.html>.

¹⁰²⁴ ‘Special Action Committee on Okinawa (SACO) Interim Report April 15, 1996 by Minister for Foreign Affairs Ikeda, Minister of State for Defense Usui, Secretary of Defense Perry, Ambassador to Japan Mondale’, at <http://www.mofa.go.jp/region/n-america/us/security/seco.html>.

¹⁰²⁵ 「S A C O の最終報告における土地の返還等」第2章 基地の整理・縮小 『沖縄の米軍基地平成20年3月』、沖縄県、更新日：2014年7月31日, [‘Land Reversion and Other Items in the SACO Final Report’, Ch. 2. Consolidation and Reduction of Bases, *US Bases in Okinawa, March 2008*, Okinawa Prefectural Government, updated 31 July 2014], at <http://www.pref.okinawa.jp/site/chijiko/kichitai/17870.html>.

performance'.¹⁰²⁶ There were 52 personnel assigned, comprised of 46 US military personnel and six Japanese Nationals, at that time.¹⁰²⁷

A 'small crew' of about 10 Navy personnel stayed behind 'to complete transition of the facility to civilian control under contract by the United States Department of Defense'. The Navy personnel departed on 1 June 1998. The Department of Defense civilians at the site were designated Defense Communications Detachment Okinawa (DCDO).¹⁰²⁸ The initial contract to maintain the station was awarded to Lockheed Martin Corporation, which 'came in and took over in 1997'; the station was officially turned over to the company on 1 June 1998. Honeywell Technology was awarded the contract in 2002. A 'crew of less than 15' people maintained the station in September 2003. By that time, according to one of the maintenance technicians, 'the [Operations] building is slowly falling apart. The majority of the building is now empty'.¹⁰²⁹ The CDAA, which had dominated the local landscape for 45 years, was demolished in May 2007.¹⁰³⁰

¹⁰²⁶ 'Excerpts from Admiral Stevens (CNSG) Closure Ceremony Remarks', *Closing Ceremony NSGA Hanza: 53 Years of Faithful Service, The Worldwide CT Community and Our Naval Security Group*, p. 61, at http://www.navycthistory.com/images/Oki_page_61_big.jpg

¹⁰²⁷ 'Kadena Air Base', *GlobalSecurity.org*, at <http://www.globalsecurity.org/military/facility/kadena.htm>.

¹⁰²⁸ 'Hanza Decommissioning', *NCVA Cryptolog*, (Vol. 18, No. 2), Spring 1997, p. 1; Kenny Ehman, 'Final Good Byes Said at NSGA Hanza', *Japan Update*, 12 June 1998, at <http://japanupdate.com/en/?id=4052>; and Ed Marciniak and David Doyle, 'Hanza, Okinawa: Closing Ceremony Booklet – June 1998', at http://www.anzwers.org/free/nsgaokinawa/oki_decom_book.html.

¹⁰²⁹ Steuart Rosenfield, 'Hanza Reunion', *SECGRU History Reunions's Message Board*, 9 September 2003, at <http://b4.boards2go.com/boards/board.cgi?action=read&id=1063111905&user=navyscpo2>.

¹⁰³⁰ David Hughes, 'Hanza, Okinawa – May 2007', *The Worldwide CT Community and Our Naval Security Group*, at <http://www.navycthistory.com/okihughes01.html>.

Plate 167
Demonstration at Camp Hanza site, Okinawa, 1997



Source: 'Okinawa: Claiming Its Birthright', *National Geographic Magazine*, June 1997, at <http://www.oocities.org/tokyo/flats/3244/torii.htm>.

Plate 168
Demolition of the AN/FRD-10 CDAA at Camp Hanza, Okinawa, May 2007



Source: 'Hanza, Okinawa - May 2007: Demolition of Hanza CDAA March 13 - June 30, 2007',
The Worldwide CT Community and Our Naval Security Group,
at <http://www.navycthistory.com/images2/CIMG0960-CIMG0962big.jpg>.

Plate 169
Demolition of the AN/FRD-10 CDAA at Camp Hanza, Okinawa, May 2007



Source: 'Hanza, Okinawa - May 2007: Demolition of Hanza CDAA March 13 - June 30, 2007',
The Worldwide CT Community and Our Naval Security Group,
at <http://www.navycthistory.com/images2/CIMG1191big.jpg>.

Plate 170
Demolition of the AN/FRD-10 CDAA at Camp Hanza, Okinawa, May 2007



Source: 'Hanza, Okinawa - May 2007: Demolition of Hanza CDAA March 13 - June 30, 2007',
The Worldwide CT Community and Our Naval Security Group,
<http://www.navycthistory.com/images2/CIMG1100big.jpg>.

Plate 171
Demolition of the AN/FRD-10 CDAA at Camp Hanza, Okinawa, May 2007



Source: 'Hanza, Okinawa - May 2007: Demolition of Hanza CDAA March 13 - June 30, 2007',
The Worldwide CT Community and Our Naval Security Group,
<http://www.navycthistory.com/images2/CIMG1218-CIMG1222big.jpg>.

71. Project Camelus, Camp Hansen, Okinawa

Camp Hansen is a large US Marine Corps base located in Kin village in the middle of Okinawa, about a kilometer east of the R104, primarily used for training exercises. Planning for the new station began in the mid-1990s. The Okinawan people first learned of the prospect with the release of the SACO Interim Report on 15 April 1996, which stated that a new site to replace the CDAA at Camp Hanza would be constructed at Camp Hansen ‘in the next five years’.¹⁰³¹ The SACO Final Report, issued on 2 December 1996, stated ‘the antenna facilities and associated support facilities’ at Camp Hanza would be relocated to Camp Hansen ‘by the end of March 2001’.¹⁰³²

However, the project suffered numerous delays occasioned by a variety of political, environmental and technical issues. The political issues proved to be the easiest to resolve. To begin with, there was considerable opposition to the proposed relocation among local residents. In 1996, following the Interim SACO Report, the proposal was twice rejected by the Kin Town Council. On 30 March 1999, however, the Council approved the proposition. The acceptance was conditional on agreement by Tokyo to demands by the local Chamber of Commerce for ‘central government assistance in economic development’ and ‘economic promotion’ activities in the Kin area.¹⁰³³

In May 2000, the director of the Naha Self-Defense Facilities Administration Bureau stated that the project had been delayed because ‘the new location of the facility within Camp Hansen’ had still not been decided.¹⁰³⁴ In March 2001, the US and Japanese authorities were still discussing basic construction matters. According to an Okinawa Kencho (Prefecture) official, the US had ‘not decided whether to relocate [the CDAA from Camp Hanza] or to build a new one yet’.¹⁰³⁵ This must have been decided soon, as preliminary construction at the new site began in early 2002.

¹⁰³¹ ‘Special Action Committee on Okinawa (SACO) Interim Report’.

¹⁰³² 「SACOの最終報告における土地の返還等」第2章 基地の整理・縮小『沖縄の米軍基地 平成20年3月』沖縄県、更新日：2014年7月31日 [‘Land Reversion and Other Items in the SACO Final Report’, Ch. 2. Consolidation and Reduction of Bases, *US Bases in Okinawa, March 2008*, Okinawa Prefectural Government, updated 31 July 2014], at <http://www.pref.okinawa.jp/site/chijiko/kichitai/17870.html>.

¹⁰³³ ‘Using Economic Carrots for Hard to Eat Bases’, *Okinawa Times Weekly Times*, 3 April 1999, at <http://www.okinawatimes.co.jp/eng/19990403.html>; and ‘Kin Opts for Elephant Cage’, *Ryukyu Shimpo Internet Weekly News*, 12 April 1999, at <http://www.ryukyushimpo.co.jp/english/enews/e990412.htm>.

¹⁰³⁴ ‘“Elephant Cage” Site Move Delayed’, *Japan Update*, 4 May 2000, at <http://japanupdate.com/previous/00/05/04/story22.shtml>.

¹⁰³⁵ Private correspondence to Desmond Ball, 21 March 2001.

Contracts for the design and construction of the new station, now code-named Project *Camelus*, were awarded to several US companies. These included Lockheed Martin, for management and operation of the station; SRI International, also for operations; and Project Developers, Inc, and Williams Notaro & Associates, for the engineering design of the station, including both the antenna farm and the Administration/Operations compound. The 2-storey Operations Building (later called Building 2940), which contained 1,152 square metres of floor space, was designed as a Secure Compartmented Information Facility (SCIF), with an ‘ultra-high security SCIF Data Center’. The construction cost of the building was US\$9.3 million.¹⁰³⁶

In May 2002, however, while site preparation was underway, concerns were raised by some local residents about a possible health hazard posed by electromagnetic radiation propagated from the station. The Kin Mayor said that ‘of course the residents’ health is foremost in my mind’, but that ‘this project has been in the plans [a] long time, and the Town Assembly and all other concerned parties agreed to it, so it would be very difficult to stop the construction work at this stage’.¹⁰³⁷ The Japan Defense Agency conducted a series of radiation tests at the site from 28 January to 12 February 2004, but said that ‘nothing dangerous to human health’ had been found. It said, however, that it would ‘test one more time before the facility begins operating’.¹⁰³⁸

‘Preliminary construction’ was completed at the site on 23 October 2002. Officials at the Naha Self-Defense Facilities Administration Bureau said that ‘office buildings at the new site [were] scheduled to be ready in December 2003, and the facility should be operational in May 2004’.¹⁰³⁹ As at 22 February 2003, when the authors visited the site, major earth works were underway, with a hill-top being flattened to hold the new antenna farm. It was reported in July 2003 that construction would be ‘completed by next summer’ and that ‘operations at the new base will start in the autumn’, i.e., around September 2004.¹⁰⁴⁰ On December 2004,

¹⁰³⁶ ‘Project Description: Camelus - SCIF Base Building MEP Design’, *Williams Notaro – MEP Engineering and Consulting*, at <http://www.wnainc.com/projects/camelus.html>; and Williams Notaro, ‘High Security and SCIF Projects’, *Williams Notaro – MEP Engineering and Consulting*, at <http://www.wnainc.com/projects/scif.html>.

¹⁰³⁷ ‘New Hansen Elephant Cage Faces Opposition’, *Japan Update*, 29 May 2002, at <http://japanupdate.com/previous/02/05/29/story2.shtml>.

¹⁰³⁸ ‘New American Communications Facility Stirs Health Worries’, *Japan Update*, 11 March 2004, at <http://www.japanupdate.com/?id=5577>.

¹⁰³⁹ ‘Sobe “Elephant Cage” Preparing to Move to Hansen’, *Japan Update*, 14 November 2002, at <http://japanupdate.com/previous/02/11/14/story7.shtml>.

¹⁰⁴⁰ ‘Elephant Cage to Start Operations Next Autumn: Demand for Kisenbaru District Electromagnetic Wave Survey’, *Okinawa Times*, 18 July 2003.

however, the Self-Defense Facilities Administration Bureau announced that the Camp Hansen station was unlikely to be ready before April or May 2006. The Okinawa governor said that the delay was ‘extremely regrettable’.¹⁰⁴¹

The Camp Hansen *Camelus* CDAA is a completely new design, although still limited to HF and VHF radio interception and DF capabilities. In April 2003, the JDA provided local residents with schematic views of the proposed antenna system. They showed eighteen 12-metre high poles in a circle 200 metres in diameter, and an inner ring of 12 shorter poles with a diameter of about 40 metres.¹⁰⁴² The antenna system is smaller than the former AN/FRD-10 at Camp Hanza. The diameter of the outer antenna circle is about 60 metres less than that of the Hanza array, while the 12-metre poles are just over half the height of the low-band antenna elements at Hanza; moreover, the Camp Hansen array lacks the obtrusive reflector screens of the AN/FRD-10. Nevertheless, JDA officials reportedly said in February 2005 that it would ‘have a greater interception capability’. The total project cost was reported to be 23.6 billion yen.¹⁰⁴³

The construction of the new facility was mostly complete in December 2004. A photograph published by *Asahi Shimbun* on 13 February 2005 showed that the antenna system had been installed. However, technical problems caused further delays. A spokesperson for US Forces Japan said that ‘a key communications system being developed in the [United States] has not satisfactorily passed its tests’.¹⁰⁴⁴

Construction was finally completed in September 2006. However, it was reported in October that ‘software glitches in a computer system have delayed [the station] becoming operational’, and that ‘Japan and the U.S. are working to iron out problems between the joint use computer system’.¹⁰⁴⁵

The Camp Hansen SIGINT station is officially called the Defense Communications Detachment Okinawa (DCDO) *Camelus*. The Operations Compound is housed in Building 2940. The four senior positions listed in the US Forces Okinawa telephone directory are the

¹⁰⁴¹ 「象のオリ返還遅れ 知事『非常に残念』」、朝日新聞 Digital, 2004 年 12 月 16 日 [‘Handback of Elephant Cage Delayed’, *Asahi Shimbun*, 16 December 2004], at <http://www.asahi.com/area/okinawa/articles/MTW20999999480150647.html>.

¹⁰⁴² Yamashiro Hiroaki, ‘Camp Hansen Communications Station’, at http://dugong2003.fc2web.com/04_4_5.html.

¹⁰⁴³ ‘Construction of a New “Elephant Cage”: Camp Hansen’, *Asahi Shimbun*, 13 February 2005.

¹⁰⁴⁴ Ibid.; and David Allen, ‘Anti-base Activist Forced to Rent Out Land for Use by U.S. Navy on Okinawa’, *Stars and Stripes*, 6 March 2005, at <http://www.caab.org.uk/artic2005-1/2005-03-06Anti-base.htm>.

¹⁰⁴⁵ ‘Elephant Cage Land to be Returned to Owners’, *Japan Update*, 18 October 2006, at <http://japanupdate.com/?id=7163>.

Site Chief (Tel. 623-8550), the Deputy Site Chief (623-8551), the Contractor's Senior Site Representative (CSSR) (623-8547), and the Special Security Office (SSO) (623-8515).¹⁰⁴⁶ As of December 2004, the station was to be operated by only 26 civilian contact personnel.¹⁰⁴⁷ Contracts are regularly awarded to local companies for ground maintenance, sewage treatment plant maintenance, cleaning services, refuse collection, etc.¹⁰⁴⁸

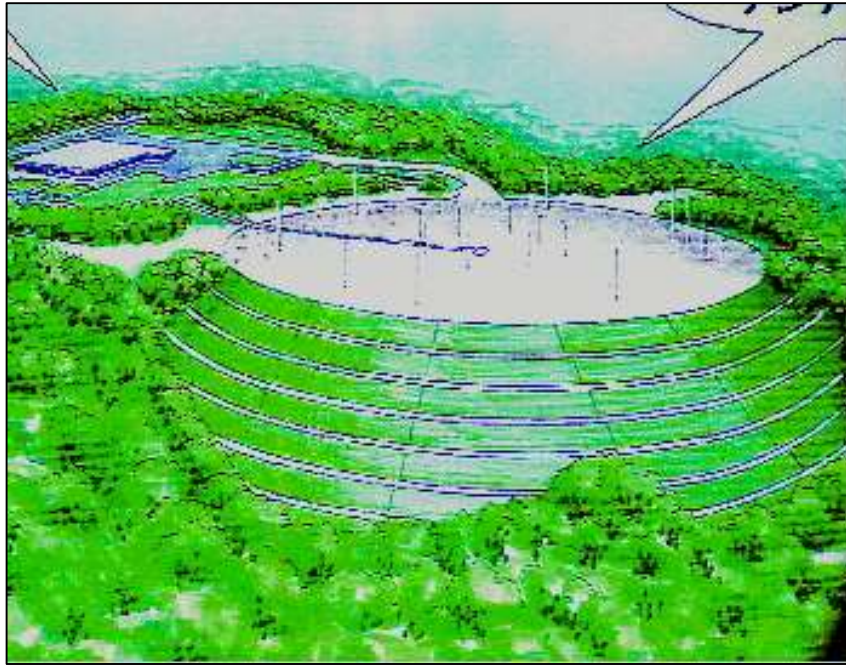
Three small satellite dishes were installed in the northeast part of the *Camelus* compound in 2013-14. One is covered by a white radome with a diameter of about 7.5 metres; another is covered by a dark green radome with a diameter of about 5.5 metres; and the third, without a radome, measures about two metres in diameter. They were not there in GoogleEarth imagery dated 7 March 2013. However, site preparation can be seen in Terraserver images dated 30 November 2013 and 31 January 2014. They can be seen, although not well, through thin cloud in a GoogleEarth image dated 16 October 2014. They are clearly shown in GoogleEarth imagery dated 3 January 2015.

¹⁰⁴⁶ *U.S Forces Okinawa, Japan: Telephone Directory, 2012 Electronic Version 1st Quarter*, p. 186.

¹⁰⁴⁷ David Cobb, *LinkedIn*, at <http://www.linkedin.com/pub/david-cobb/36/365/b56>.

¹⁰⁴⁸ 'Ground Maintenance at DCDO Camelus, Okinawa, Japan', *FedBizOps*, 12 June 2010, at https://www.fbo.gov/index?s=opportunity&mode=form&id=2b71f740c136425fcc77945efbf0abfe&tab=core&_cview=1; 'Septic Tank and Sewage Treatment Plant Maintenance Service', *Fedvondor*, 11 August 2012, at http://www.fedvondor.com/government_bids/preview.htm?dataid=9662110&mode=cached; 'Custodial Service at DCDO', Solicitation Number: FA5270-12-T-0104, *GovCB.com*, 21 August 2012, at <http://www.govcb.com/Custodial-Service-at-DCDO-ADP13456049540002656.htm>; and 'Refuse Collection Service', *FedBizOps*, 8 August 2013, at https://www.fbo.gov/?s=opportunity&mode=form&id=5071a103b6c13a48cf6b62609c6bb872&tab=core&_cview=0.

Plate 172
Schematic of new CDAA, Camp Hansen, Okinawa, 2002



Source: Williams Notaro MEP Engineering and Consulting, 'SCIF Base Building MEP Design', at <http://www.wnainc.com/projects/camelus.html>.

Plate 173
Construction at new CDAA site, Camp Hansen, Okinawa, February 2003



Source: Photo by Richard Tanter.

Plate 174
CDAA at Camp Hansen, Okinawa, January 2009



Source: Photo by Desmond Ball.

Plate 175
Camp Hansen, GoogleEarth imagery, 3 January 2015



72. Japanese involvement in US SIGINT activities

There has been no Japanese involvement in the US SIGINT activities, and no direct cooperation between US and Japanese SIGINT stations, apart from limited cooperation with respect to particular crises, and with the partial exception of *Camelus* at Camp Hansen since 2007. Japan is a Third Party to the UKUSA Agreements, code-named *Ishtar*,¹⁰⁴⁹ under which the US and Japan exchange certain designated intercept materials, including HF/VHF DF bearings, but excluding higher level cryptologic material. The exchange process involves liaison mechanisms centred around the office of the Department of Defense Special Representative Japan (DSRJ) at Yokota Air Base and, at the operational level, the HQ of the 5th Air Force also at Yokota and the JMSDF Fleet HQ and the HQ of the US Navy's Commander Naval Forces Japan co-located at Yokosuka Naval Base.

Japanese nationals have been employed at US SIGINT stations since the 1950s. Annual ASA reports provide details for several of the ASA stations in the mid-1960s. More than 700 were employed at seven places in 1964. For example, Camp Zama, then home of the HQ ASAPAC, had 118 authorised Japanese nationals and 146 actually employed there on 30 June 1964.¹⁰⁵⁰ North Camp Drake, one of the ASAPAC's Primary Communications Relay Stations (PCRSs) within the Critical Intelligence Communications (CRITICOM) Network, had 57 local nationals authorised on 1 July 1964. It had 41 authorised and 36 actually employed on 30 June 1965, and 38 authorised and assigned as at 30 June 1967.¹⁰⁵¹ At Torii Station in Okinawa, the HQ and Service Company of the 51st USASA Special Operations Command had 368 locals assigned on 1 July 1964 and 391 on 30 June 1965. However, it had only 28 authorised and assigned on 30 June 1966, and 43 on 30 June 1967.¹⁰⁵² The 104th USASA Security Detachment at Torii Station had eight locals on 1 July 1964 and six on 30 June 1965.¹⁰⁵³ The US Army Signal Research Unit No. 4 at Misawa had 13 on 1 July 1964 and 12 on 30 June 1965. It had 12 on 1 July 1966 but only five on 30 June

¹⁰⁴⁹ William M. Arkin, *Code Names: Deciphering U.S. Military Plans, Programs, and Operations in the 9/11 World*, p. 348.

¹⁰⁵⁰ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 265.

¹⁰⁵¹ *Ibid.*, p. 272; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1967, p. 322.

¹⁰⁵² U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 293; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1967, p. 337.

¹⁰⁵³ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, pp. 337-338.

1972.¹⁰⁵⁴ The 14th Field Station at Hakata had 96 authorised and 73 assigned on 1 July 1964, 77 authorised and 76 assigned on 30 June 1965, 41 authorised and 69 assigned on 30 June 1967, and 46 authorised and 47 assigned on 30 June 1966.¹⁰⁵⁵ The US Army Signal Research Unit No. 3 at Itazuke Air Base had six locals assigned on 1 July 1964.¹⁰⁵⁶

An unknown number of Japanese nationals were also employed at the 12th Field Station at Chitose during the 1960s. When Chitose was transferred to Japan in 1971, 'several Japanese civilians' found jobs under the new administration, but 'many others were not so fortunate and were, at least temporarily, unemployed'.¹⁰⁵⁷ In the case of NSG stations, there were 319 'Japanese National civilians' working at the Kami Seya station in 1966.¹⁰⁵⁸

However, none of these were engaged in operational matters. Rather, they provided perimeter security, maintained the utilities such as power, water and sewage, and worked as grounds-keepers, cleaners, drivers, waste removalists, etc.

There was very little operational cooperation between US and Japanese SIGINT activities. In the 1960s, the only place where there was any was Wakkanai, where the JASDF had established a SIGINT station by the late 1950s. According to a USAFSS officer who served at Wakkanai in 1963-65, there was very limited cooperation between the US and JASDF operations. He recalls working with Japanese counterparts 'on reporting Soviet submarines when they passed the Soya Strait'; allowing 'our [USAFSS] repair technicians to go up to the Japanese intercept operations and fixing their equipment in emergencies'; and exchanging 'some information one night [in December 1963] when the Russians desperately tried to shoot down one of our RB-47s in an ELINT ferret mission in the Sea of Okhotsk'.¹⁰⁵⁹

The USAFSS unit at Wakkanai also had limited cooperation with the JASDF radar station on Hill 3 in the 1960s. As already described, the unit had a telephone line tapped into the JASDF's operations centre, which forwarded 'radar plots' of all aircraft it was tracking,

¹⁰⁵⁴ Ibid., p. 359; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1967, p. 325.

¹⁰⁵⁵ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, p. 361; and U.S. Army Security Agency, *Annual Historical Summary*, FY 1967, p. 331.

¹⁰⁵⁶ U.S. Army Security Agency, *Annual Historical Summary*, FY 1965, pp. 365-366.

¹⁰⁵⁷ Walt Moran, '1971 – ASA Closes Out', *ASA Chitose Association*, at <http://asachitose.com/page18.htm>.

¹⁰⁵⁸ Memorandum from the Commanding Officer, NSGA Kamiseya, to the Chief of Naval Operations, 'Command History for Calendar Year 1966', 14 February 1967, p. 4.

¹⁰⁵⁹ Bill Person, 'War Stories: Wakkanai', at <http://members.xoom.com/XMCM/youngsr/6920th/warstories.htm>.

allowing this information to be correlated with ELINT and voice intercepts collected by the US SIGINT station.¹⁰⁶⁰

The convoluted and disjointed mechanisms for sharing SIGINT at the second echelon processing and analysis level was well illustrated by the events associated with the shoot-down of KAL 007 on 1 September 1983. It was not until around 8.15 a.m. Tokyo time, more than four hours after the shoot-down, that a liaison officer with the 5th Air Force at Yokota informed the 6920th Security Wing at Misawa that ‘the Japanese voice-activated system [at Wakkanai] had picked up evidence of some kind of Soviet military activity over Sakhalin’.¹⁰⁶¹

It is likely that more direct liaison arrangements were instituted between Japanese authorities and the major US facilities soon after the KAL 007 affair. The chief of the Ground Staff Office of the Chobetsu, Colonel Fujiwara, visited the ASA Field Station at Misawa in April 1985. He accompanied Major General Kuga, Director of the Intelligence Department of the Ground Staff Office of the JSDF HQ.¹⁰⁶²

Other important changes have been instituted with respect to the nature of the Japanese involvement in US SIGINT activities since the 1990s, and especially since September 2001. As US communications and communications interception activities have increasingly moved to the Internet, the Japanese work-force has increased at many US facilities, where they are increasingly employed in providing IT support, including maintaining connectivity with Japanese Internet service providers (ISPs) and telecommunications carriers. The 349th Signal Company at Torii Station in Okinawa, responsible for Network operations and security, had 25 ‘Japanese Master Labor Contractor’ personnel in 2012-14, or 40 per cent of its total personnel.¹⁰⁶³

In some instances, Japanese authorities now have direct access to the US collection activities. This is evidently the case with, for example, the Project *Camelus* HF/VHF interception and DF capability at Camp Hansen, where it was reported in October 2006 that Japan and the US were ‘working to iron out problems between the joint use computer system’.¹⁰⁶⁴ Cooperation at this level of SIGINT activities (radio interception and DF) is

¹⁰⁶⁰ Bill Person, *Critic Makers: The Ironworks Incident*, p. 255.

¹⁰⁶¹ Seymour Hersh, “*The Target is Destroyed*”, p. 68

¹⁰⁶² *United States Army Field Station Misawa, Unit History FY 85*, p. 14.

¹⁰⁶³ Alec Kinczewski, *LinkedIn*.

¹⁰⁶⁴ ‘Elephant Cage Land to be Returned to Owners’, *Japan Update*, 18 October 2006.

fairly standard between the US and its Third Party partners, although the latter do not always enjoy such real-time access.

Table 3
Japanese Personnel
Army Security Agency Stations, Japan
(End of Fiscal Year; Authorized and Assigned)

	FY 1964*		FY 1965		FY 1966		FY 1967	
	Auth.	Ass.	Auth.	Ass.	Auth.	Ass.	Auth.	Ass.
ASA Communications Unit, Camp Drake	57		41	36	38	38	38	38
Signal Research Unit No.4, Misawa		13		12		12		5
14 th ASA Field Station, Hakata	96	73	77	76	41	69	46	47
51st ASA Special Operations Command Torii Station, Sobe		368		391	28	28	43	43
HQ USASA Pacific, Camp Zama	118	149						
104 th ASA Security Detachment, Torii Station		8		6				
Signal Research Unit No.3, Itazuke	6	6						
12 th USASA Field Station, Chitose								

* More than 700 assigned to seven Army Security Agency stations in FY 1964.