



**(S//SI) VICTORY GARDEN -- 'Growing' a Norwegian National FORNSAT Capability**

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(S//SI) Though the Norwegian climate does not encourage year-round gardening, NSA and the Norwegian Intelligence Service (NIS) are "growing" a Norwegian national FORNSAT capability outside of Oslo. Leveraging previous NSA developments, NIS funds these "SIGINT gardens."

(S//SI) When VICTORY GARDEN, which provides the NIS with the capability to process commercial satellite communications such as IBS/IDR (Intelsat Business Service and Intermediate Data Rate), reaches Initial Operating Capability (IOC) in December 2005, NIS will have an independent FORNSAT capability that will be comparable to an NSA FORNSAT field site. When the program is fully operational, NIS will be solely responsible for tasking, collection, analysis, and reporting involving the site.

(S//SI) VICTORY GARDEN's components include WINTERGARDEN, ROCKGARDEN, FLOWERGARDEN, TOPIARYGARDEN, and GREENGARDEN.

- (S//SI) WINTERGARDEN, the initial system, provided NIS with an INMARSAT collection capability. Initial capabilities included two 13-meter antennas and INMARSAT voice/telex collection and processing capability. System upgrades keep pace with new INMARSAT communications. Upgrades include the ability to collect new INMARSAT standard communications (SEADIVER) and upgraded voice and fax processing systems (SEMITONE, NUCLEON, BLACKNIGHT and CADENCE).
- (U//FOUO) ROCKGARDEN, deployed in November 2004, provided an initial survey capability. The system consists of an automated analysis of the signal environment and a WEALTHYCLUSTER to look deeper into signals of interest.
- (U//FOUO) FLOWERGARDEN, contracted to Lockheed Martin, provides front-end collection capabilities and includes three 18m antennas, one 13m antenna (all antennas are C/Ku and with dual polarity), RF and IF switching systems, downconverters and modems.
- (U//FOUO) GREENGARDEN leverages existing NSA/CES developments to process FLOWERGARDEN collection using Digital Circuit Multiplication Equipment (DCME) selection before decompression (FENESTRA) and various CES systems necessary to select/process voice, fax, and dial-up modems. VSAT collection (FALLOWHAUNT) and digital video processing (CONTROLAND/NEXTGEN) are also included.
- (U//FOUO) TOPIARYGARDEN provides various mission management, analysis and reporting tools to include OCTAVE, RENOIR, and the UIS toolset.

(S//SI) Lockheed Martin is responsible for installation and integration of FLOWERGARDEN and GREENGARDEN at site. Integration of NSA-developed capabilities is conducted in the FAD integration lab (located in CANX). By conducting testing at the Foreign Affairs Directorate lab (vice contracting this), NSA saved NIS over one million dollars. The savings were reinvested into additional processing capabilities. As a Norwegian national capability, NIS is responsible for life-cycle support after IOC. NSA, however, will remain involved, as NIS remains one of NSA's closest SIGINT allies.

(S//SI) In the end, NSA and NIS are working together to identify and refine mission requirements and potential areas of cooperation. VICTORY GARDEN will provide NIS a FORNSAT capability to collect and share with NSA reporting in areas of mutual interest.

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