

4.4 (S//TK) Mission 7500 (MERCURY/MC) Program Overview

(S//TK) Mission 7500 is a geosynchronous satellite system designed to provide concentrated coverage of the Eurasian landmass. The geosynchronous (GEO) orbit provides the capability to focus on target areas of interest for up to 24 hours a day. This means the satellite appears to loiter around a particular point above the equator. The primary target is strategic level communications, although operational characteristics make it useful in a wide variety of operational and tactical roles as well.

(S//TK) Potential coverage areas can be modified through satellite repositioning (lateral movement of the satellites central loiter point, east or west along the equator). This capability provides System 7500 the flexibility to focus coverage as necessary in response to crisis/contingency requirements. The amount of time it takes to reposition a satellite depends on how far the satellite is to be moved and other technological factors.

(S//TK) Mission 7500 has the capability to geolocate a stationary emitter if its signal is collected by two of the system's satellites simultaneously. Geolocation accuracy ranges [REDACTED] and depends on the technical characteristics of the signal being collected and spacecraft geometry (look angle, etc.) Emitter Location Data (ELD) reports can be disseminated via the Integrated Broadcast System (IBS) [REDACTED].

(S//TK) Data collected by Mission 7500 satellites is digitized and encrypted on the satellite and downloaded to the MGS (RAF Menwith Hill Station, Harrogate, UK). Exploitation of the intercepted data can be performed at the MGS if appropriate linguistic personnel, or appropriate technical capabilities are present. The data is relayed to National Security Agency (NSA) and the Regional SIGINT Operations Centers, in either real-time or via recording, for initial or follow-on exploitation.

4.4.1 (U) Primary System Mission

(S//TK) Mission 7500 is primarily designed to collect strategic and tactical military, scientific, political, and economic communications signals. Its main targets are high-capacity, microwave emitters.

4.4.2 (U) Secondary System Missions

(S//SI/TK) As secondary missions, Mission 7500 has the capacity to collect against the following target types:

- a. ELINT (primarily TECHELINT)
- b. RUTLEY transmissions (command and control)
- c. Pulse position modulator/pulse code modulation signals (missile guidance systems)
- d. PROFORMA transmissions (machine to machine)
- e. FISINT
- f. RSBN (Russian short-range air navigation system)
- g. Troposcatter emitters
- h. Search and rescue beacon emitters
- i. Cellular telephone signals

4.5 (S//TK) Mission 7600 (ORION/RIO) Program Overview

SECRET//COMINT//TALENT KEYHOLE//REL TO USA, AUS, and GBR//25X1

(S//TK) Mission 7600 is a versatile SIGINT collection system designed to downlink unprocessed SIGINT data. Mission 7600 satellites are in geostationary orbits designed to allow near continuous coverage of the majority of the Eurasian landmass. Signals processed at the Mission 7600 MGSs (RAF Menwith Hill Station, UK and the Joint Defense Facility Pine Gap, Alice Springs, Australia) are primarily military COMINT targets located on the Eurasian landmass, although a variety of non-communications emitters can be processed as well. Some analysis of the collected data is done at the MGS, but the great majority of the collected signals are forwarded to NSA for exploitation. Dissemination of intelligence from the collection is primarily through NSA reporting channels.

(S//TK) The geostationary orbit of the Mission 7600 satellites allows them to provide continuous coverage of the majority of the Eurasian landmass and Africa. [REDACTED] (Movement of the satellite within its orbit results in partial daily coverage [REDACTED].)

(S//TK) The satellites' configuration of fixed and steerable feeds allows simultaneous collection against multiple signal types (COMINT, ELINT, MASINT, etc.) located across a broad geographic area.

(S//TK) Geolocation computations can be performed at the MGS against signals which are simultaneously collected by at least two satellites. Currently geolocation is possible against signals [REDACTED]. Geolocation accuracy varies [REDACTED].

(S//TK) Unprocessed SIGINT signal intercepts are downlinked to the MGS in real-time for processing, recording and/or dissemination as required. High priority COMINT data is forwarded in real-time to NSA, with some data also sent to the Kunia Regional SIGINT Operations Center (RSOC) for immediate processing by NSA analysts and reporting as a TACREP. Lower priority data is forwarded to NSA for later processing.

4.5.1 (U) Primary System Mission

(S//TK) Mission 7600 was designed originally as a FISINT collector but now is primarily used as a COMINT collection system against known targets of high intelligence value. Currently, about 85% of Mission 7600 collection is against these COMINT targets.

4.5.2 (U) Secondary System Missions

(S//SI/TK) Mission 7600 also has the capability to collect against the following target types:

- a. FISINT
- b. MASINT
- c. Technical ELINT
- d. PROFORMA/RSBN
- e. Other COMINT
- f. Satellite links (uplinks, cross-links, and downlinks)

SECRET//COMINT//TALENT KEYHOLE//REL TO USA, AUS, and GBR//25X1

5.1.6 (S//TK) Harrogate Mission Ground Station (HMGS)

5.1.6.1 (U) Facility Name: RAF Menwith Hill Station (MHS)

5.1.6.2 (S//TK) **Cover Story:** The fact of a cover story is S//TK, the cover story itself is unclassified.

(U) MHS provides rapid radio relay and conduct communications research.

5.1.6.3 (S//TK) It is important to know the established cover story for MHS and to protect the fact that MHS is an intelligence collection facility. Any reference to satellites being operated or any connection to intelligence gathering is strictly prohibited. Upon entering the United Kingdom and passing through customs you may tell the customs official that you are a (US government civilian, US military member, or US contractor) going to Menwith Hill to work.

- 1) The term RAF Menwith Hill or Menwith Hill Station=**UNCLASSIFIED**. Note: No association with the NRO.
- 2) The term Harrogate Mission Ground Station (HMGS)=**S//TK**.
- 3) The Fact that the NRO has a MGS at RAF Menwith Hill, United Kingdom=**S//TK**.
- 4) The fact that RAF Menwith Hill Station, U.K. is the SBIRS European Relay Ground Station location=**UNCLASSIFIED**. Note: No association with the NRO.
- 5) Association of NSA personnel with RAF Menwith Hill, U.K.=**U//FOUO**. Note: No association with the NRO.
- 6) Association of CIA personnel with RAF Menwith Hill, U.K.=**S//TK**.